



One Identity Manager 8.1.5

Administration Guide for Connecting to SAP R/3

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Legend

 **WARNING:** A WARNING icon highlights a potential risk of bodily injury or property damage, for which industry-standard safety precautions are advised. This icon is often associated with electrical hazards related to hardware.

 **CAUTION:** A CAUTION icon indicates potential damage to hardware or loss of data if instructions are not followed.

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Managing SAP R/3 environments

One Identity Manager offers simplified user administration for SAP R/3 environments. One Identity Manager concentrates on setting up and processing user accounts as well as groups, roles, and profiles assignments. External identifiers and parameters can also be assigned to user accounts. The necessary data for system measurement is also mapped. The system measurement data is available in One Identity Manager, but the measurement itself takes place in the SAP R/3 environment.

One Identity Manager provides company employees with the user accounts required to allow you to use different mechanisms for connecting employees to their user accounts. You can also manage user accounts independently of employees and therefore set up administrator user accounts.

Groups, roles, and profiles are mapped in One Identity Manager, in order to provide the necessary permissions for user accounts. Groups, roles, and profiles can be grouped into products and assigned to employees. One Identity Manager ensures that the right group memberships are created for the employee's user account.

If user accounts are managed through the central user administration (CUA) in SAP R/3, access to the child client can be guaranteed for or withdrawn from user accounts in One Identity Manager.

Architecture overview

In One Identity Manager, the following servers play a role in managing SAP R/3:

- SAP R/3 application server
Application server on which synchronization is executed The synchronization server connects to this server in order to access SAP R/3 objects.
- SAP R/3 database server
Server on which the SAP R/3 application database is installed.
- Synchronization server

The synchronization server for synchronizing data between One Identity Manager and SAP R/3. The One Identity Manager Service with the SAP R/3 connector is installed on this server. The synchronization server connects to the SAP R/3 application server.

- SAP R/3 router

Router which provides a network port to the SAP connector for communicating with the SAP R/3 application server.

- SAP R/3 message server

Server with which the SAP R/3 connector communicates during login if a direct connection to application servers is not permitted.

The SAP R/3 One Identity Manager connector executes synchronization and provision of data between SAP R/3 and the One Identity Manager database. The SAP R/3 connector uses the SAP connector for Microsoft .NET (NCo 3.0) for 64-bit systems for communicating with the target system.

The One Identity Manager Service is responsible for synchronizing data between the One Identity Manager database and SAP R/3. The application server ABAP must be installed as a prerequisite for synchronization. An SAP R/3 system that is only based on a Java application server cannot be accessed with the SAP connector.

Figure 1: Architecture for synchronization - Direct communication

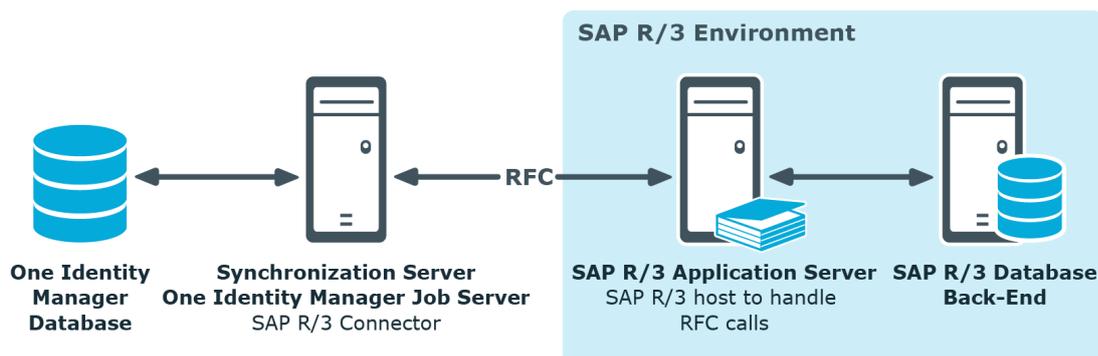


Figure 2: Architecture for synchronization - Communication through message server

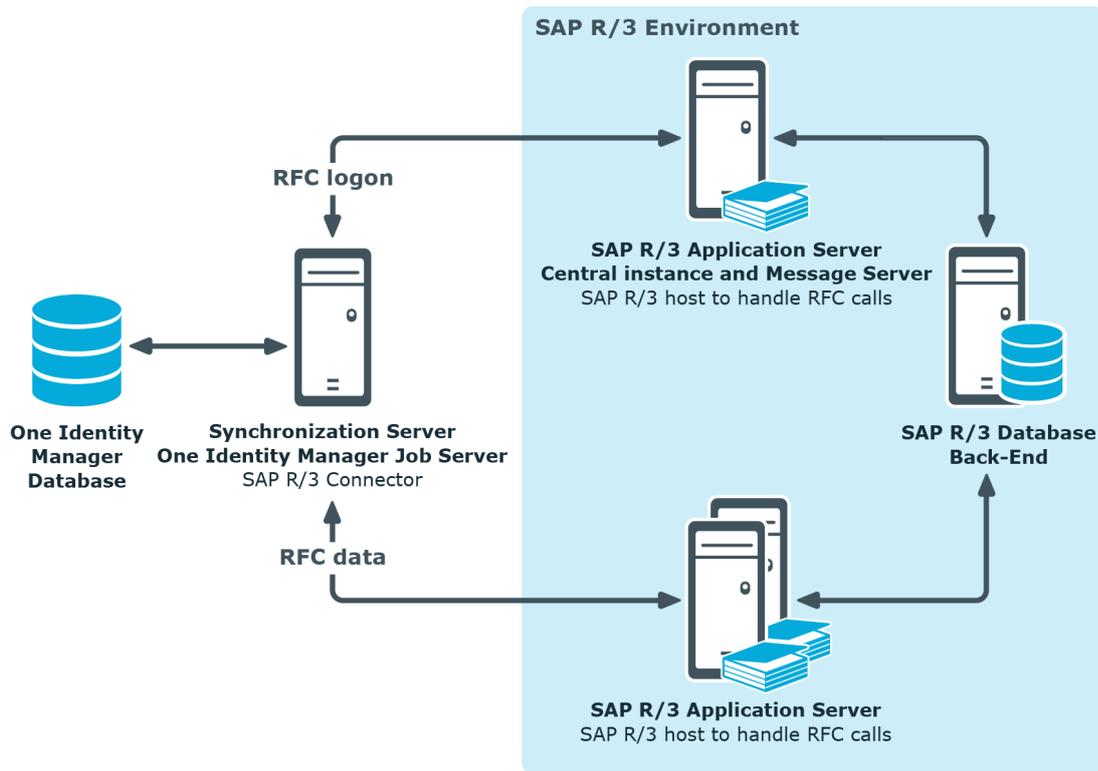
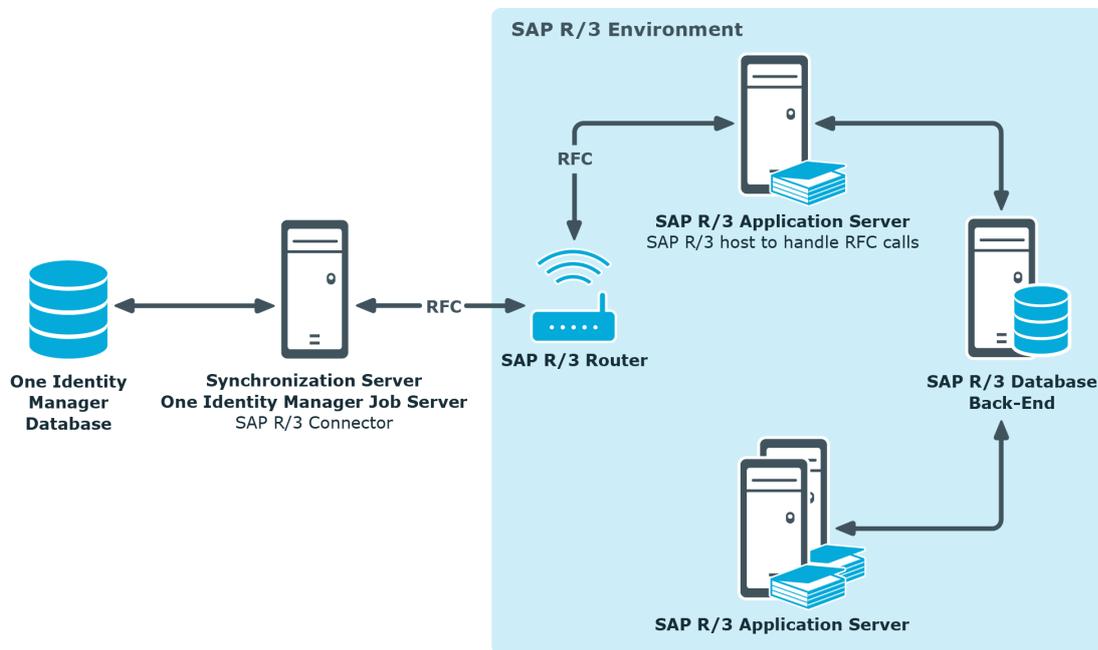


Figure 3: Architecture for synchronization - Communication through router



One Identity Manager users for managing SAP R/3

The following users are used for setting up and administration of SAP R/3.

Table 1: Users

User	Tasks
Target system administrators	<p>Target system administrators must be assigned to the Target systems Administrators application role.</p> <p>Users with this application role:</p> <ul style="list-style-type: none">• Administer application roles for individual target system types.• Specify the target system manager.• Set up other application roles for target system managers if required.• Specify which application roles for target system managers are mutually exclusive.• Authorize other employees to be target system administrators.• Do not assume any administrative tasks within the target system.
Target system managers	<p>Target system managers must be assigned to the Target systems SAP R/3 application role or a child application role.</p> <p>Users with this application role:</p> <ul style="list-style-type: none">• Assume administrative tasks for the target system.• Create, change, or delete target system objects like user accounts or groups.• Edit password policies for the target system.• Prepare system entitlements to add to the IT Shop.• Can add employees who have an other identity than the Primary identity.• Configure synchronization in the Synchronization Editor and define the mapping for comparing target systems and One Identity Manager.• Edit the synchronization's target system types and outstanding objects.• Authorize other employees within their area of

User	Tasks
One Identity Manager administrators	<p data-bbox="619 264 1393 331">responsibility as target system managers and create child application roles if required.</p> <ul data-bbox="587 353 1393 790" style="list-style-type: none"> <li data-bbox="587 353 1345 454">• Create customized permissions groups for application roles for role-based login to administration tools in the Designer as required. <li data-bbox="587 472 1393 573">• Create system users and permissions groups for non role-based login to administration tools in the Designer as required. <li data-bbox="587 591 1366 658">• Enable or disable additional configuration parameters in the Designer as required. <li data-bbox="587 676 1329 705">• Create custom processes in the Designer as required. <li data-bbox="587 723 1206 752">• Create and configure schedules as required. <li data-bbox="587 770 1310 799">• Create and configure password policies as required.
Administrators for the IT Shop	<p data-bbox="539 819 1337 887">Administrators must be assigned to the Request & Fulfillment IT Shop Administrators application role.</p> <p data-bbox="539 904 962 934">Users with this application role:</p> <ul data-bbox="587 952 1281 981" style="list-style-type: none"> <li data-bbox="587 952 1281 981">• Assign system entitlements to IT Shop structures.
Administrators for organizations	<p data-bbox="539 1010 1393 1077">Administrators must be assigned to the Identity Management Organizations Administrators application role.</p> <p data-bbox="539 1090 962 1120">Users with this application role:</p> <ul data-bbox="587 1137 1385 1205" style="list-style-type: none"> <li data-bbox="587 1137 1385 1205">• Assign system entitlements to departments, cost centers, and locations.
Business roles administrators	<p data-bbox="539 1234 1393 1301">Administrators must be assigned to the Identity Management Business roles Administrators application role.</p> <p data-bbox="539 1314 962 1344">Users with this application role:</p> <ul data-bbox="587 1361 1225 1393" style="list-style-type: none"> <li data-bbox="587 1361 1225 1393">• Assign system entitlements to business roles.

Setting up SAP R/3 synchronization

One Identity Manager supports synchronization with SAP systems for the following versions:

- SAP Web Application Server 6.40
- SAP NetWeaver Application Server 7.00, 7.01, 7.02, 7.10, 7.11, 7.20, 7.31, 7.40, 7.40 SR 2, 7.41, 7.50, 7.51, 7.52, 7.54, and 7.69
- SAP ECC 5.0 and 6.0
- SAP S/4HANA On-Premise edition

Central User Administration is supported for all versions named here.

NOTE: The application server ABAP must be installed as a prerequisite for synchronization. An SAP R/3 system that is only based on a Java application server cannot be accessed with the SAP connector.

To load SAP R/3 objects into the One Identity Manager database for the first time

1. Prepare a user account with sufficient permissions for synchronizing in SAP R/3.
2. Install the One Identity Manager Business Application Programming Interface in the SAP R/3 system.
3. The One Identity Manager parts for managing SAP R/3 systems are available if the "TargetSystem | SAPR3" configuration parameter is set.
 - In the Designer, check if the configuration parameter is set. Otherwise, set the configuration parameter and compile the database.
 - Other configuration parameters are installed when the module is installed. Check the configuration parameters and modify them as necessary to suit your requirements.
4. Download the installation source for the SAP .Net Connector for .NET 4.0 on x64, with at least version 3.0.15.0.
5. Install and configure a synchronization server and declare the server as a Job server in One Identity Manager.
6. Create a synchronization project with the Synchronization Editor.

Detailed information about this topic

- [Users and authorizations for synchronizing with SAP R/3](#) on page 15
- [Installing the One Identity Manager Business Application Programming Interface](#) on page 17
- [Setting up the synchronization server](#) on page 19
- [Creating a synchronization project for initial synchronization of an SAP client](#) on page 22

Users and authorizations for synchronizing with SAP R/3

The following users are involved in synchronizing One Identity Manager with SAP R/3.

Table 2: Users for synchronization

User	Authorizations
One Identity Manager Service user account	<p>The user account for One Identity Manager Service requires permissions to carry out operations at file level. For example, assigning permissions and creating and editing directories and files.</p> <p>The user account must belong to the Domain users group.</p> <p>The user account must have the Login as a service extended user permissions.</p> <p>The user account requires access permissions to the internal web service.</p> <p>NOTE: If One Identity Manager Service runs under the network service (NT Authority\NetworkService), you can issue access permissions for the internal web service with the following command line call:</p> <pre>netsh http add urlacl url=http://<IP address>:<port number>/ user="NT AUTHORITY\NETWORKSERVICE"</pre> <p>The user account needs full access to the One Identity Manager Service installation directory in order to automatically update One Identity Manager.</p> <p>In the default installation, One Identity Manager is installed under:</p> <ul style="list-style-type: none">• %ProgramFiles(x86)%\One Identity (on 32-bit operating systems)• %ProgramFiles%\One Identity (on 64-bit operating systems)
User for accessing the target system	<p>You must provide a user account with the following authorizations for full synchronization of SAP R/3 objects with the supplied One Identity Manager default configuration.</p> <p>Required authorization objects and their meanings:</p>

User Authorizations

- S_TCODE with a minimum of transaction codes SU01, SU53, PFCG
- S_ADDRESS1 (address services) with activities 01, 02, 03, 06 and valid address groups (at least BC01)
- S_USER_AGR (role maintenance) with activities 02, 03, 22, 78 possibly with restrictions in name ranges (for example Z*)
- S_USER_GRP (group maintenance) with activities 01, 02, 03, 22
- S_USER_AUT (authorizations) with activities 03, 08
- S_USER_PRO (profile) with activities 01, 02, 03, 22
- S_USER_SAS (system specific assignments) with activities 01, 06, 22
- S_RFC (authorization check by RFC access) with activity 16 at least for function groups ZVI, /VIAENET/ZVI0, /VIAENET/ZVI_L, /VIAENET/Z_HR, SU_USER, SYST, SDTX, RFC1, RFC_METADATA, SDIFRUNTIME, SYSU,
- S_TABU_DIS (use of standard tools like SM30 for maintaining tables) with activity 03

Apart from the authorizations listed, the user account has to get all objects from the authorization classes ZVIH_AUT, ZVIA_AUT, and ZVIL_AUT that are installed by the transport package for synchronization. These authorization objects are there to guarantee principal authorization for running function modules.

In addition, the authorization objects ZVIH_OP, ZVIA_OP, ZVIL_OP need to be assigned. This regulates the type of access to SAP R/3 data using the ACTVT authorization field. Possible values are **01 add or create, 02 change, 03 display, 06 delete**. The respective activity is checked before accessing data. If only the **03 display** activity has been assigned, it means that absolutely no write operations can be carried out with this user account using the One Identity Manager Business Application Programming Interface.

The following authorization objects are required in addition for the child system in order to synchronize central user administration:

- S_RFC with the function group SUU6
- S_TCODE with the transaction code SU56

User for accessing the One Identity Manager database The **Synchronization** default system user is provided to execute synchronization with an application server.

TIP: The transport file provided by default, SAPRo1e.zip, includes a transport package with a role that the base authorization object already possesses. This role can be

assigned to the user account. You will find the transport files on the One Identity Manager installation medium in the `Modules\SAP\dvd\AddOn\Bapi` directory.

The named authorizations are required so that the SAP R/3 connector has read and write access to the SAP R/3 system. If only read access should be permitted, setting up a profile which has executable permission for transactions SU01 and PFCG but prevents writing at activity or field level is recommended. Also be aware of granting authorizations for activities regarding the authorization objects ZVIH_OP, ZVIA_OP, ZVIL_OP. If access is read-only, only the **02 display** activity is enabled.

The user account requires the user type **dialog**, **communication**, or **system** to load more information.

NOTE: In SAP R/3 versions up to and including SAP Web Application Server 6.40, the password and user input are not case-sensitive. This no longer applies to the password for SAP NetWeaver Application Server 7.0 and later. Passwords are case sensitive.

All SAP's own tools that are supplied up to SAP Web Application Server 6.40, apart from the SAP GUI (RFC-SDK, SAP .Net Connector), therefore change the password to capital letters before passing them to SAP R/3. You must set the password in capital letters for the user account used by the SAP .Net Connector to authenticate itself on the SAP R/3 system. If this is done, all the usual tools can be accessed on SAP NetWeaver Application Server 7.0 by RFC.

Related topics

- [Referenced SAP R/3 table and BAPI calls](#) on page 216

Installing the One Identity Manager Business Application Programming Interface

NOTE: The Business Application Programming Interface in One Identity Manager is certified.

Certificates:

- Integration with SAP S/4HANA
- Powered by SAP NetWeaver

For detailed information, see <https://www.sapappcenter.com/apps/5513#!overview>.

In order to access One Identity Manager data and business processes with the SAP R/3, you must load the Business Application Programming Interface (BAPI) into the SAP R/3 system. You will find the required transport files on the One Identity Manager installation medium in the `Modules\SAP\dvd\AddOn\Bapi` directory.

TIP: Instead of installing `SAPTRANSPORT_70.ZIP`, you can also install the Assembly Kit `T070020759523_0000006.PAT`. For more information, see [Uninstalling BAPI transports](#) on

Install the BAPI transport in the following order:

Table 3: BAPI transport

Transport	Explanation
1 SAPRepository.zip	Creates the /VIAENET/ in the SAP system repository.
2 SAPTable.zip	Defines the table structure for /VIAENET/USERS in the SAP system dictionary.
3 SAPTRANSPORT_70.ZIP	Contains the functions defined in the /VIAENET/ environment. Select the transport package that suits your SAP system. Archive directory UNICODE: Transports for systems that support unicode; transports for copies Archive directory NON_UNICODE: Transports for systems not supporting unicode Archive directory UNICODE_WORKBENCH: Transports for systems that support unicode; workbench transports

Set the following import options for the transport:

- Overwrite Originals
- Overwrite Objects in Unconfirmed Repairs
- Ignore Non-Matching Component Versions

The SAP R/3 connector uses other BAPI SAP R/3s in parallel. For more information, see [Referenced SAP R/3 table and BAPI calls](#) on page 216.

Uninstalling BAPI transports

The SAP Add-On Assembly Kit allows SAP to support deinstallation of a BAPI. An uninstallable Assembly Kit is proved for this.

Prerequisites

- SAP NetWeaver Application Server 7.00 or later
- SAP ECC 6.0
- SAP Add-On Assembly Kit 5.0 or later
- Unicode is supported.

To uninstall a BAPI transport at a later date

- Install the Assembly Kit T070020759523_0000006.PAT instead of the transport file SAPTRANSPORT_70.ZIP.

You will find the kit on the One Identity Manager installation medium in the Modules\SAP\dvd\AddOn\Bapi directory.

The kit contains the functions that are defined in the /VIAENET/ environment. The kit has the deinstall_allowed option set.

Related topics

- [Installing the One Identity Manager Business Application Programming Interface on page 17](#)

Setting up the synchronization server

To set up synchronization with an SAP R/3 environment, a server has to be available that has the following software installed on it:

- Windows operating system

The following versions are supported:

- Windows Server 2008 R2 (non-Itanium based 64-bit) service pack 1 or later
- Windows Server 2012
- Windows Server 2012 R2
- Windows Server 2016
- Windows Server 2019
- Microsoft .NET Framework Version 4.7.2 or later
 - | **NOTE:** Take the target system manufacturer's recommendations into account.
- Windows Installer
- SAP .Net Connector for .NET 4.0 on x64, with at least version 3.0.15.0
- One Identity Manager Service, Synchronization Editor, SAP R/3 connector
 - Install One Identity Manager components with the installation wizard.
 1. Select the **Select installation modules with existing database** option.
 2. Select the **Server | Job server | SAP R/3** machine role.

Further requirements

- Following files must either be in the Global Assemblies Cache (GAC) or in the One Identity Manager installation directory.

- libicodecnumber.dll
- rscp4n.dll
- sapnco.dll
- sapnco_utils.dll
- Following files must either be in the Global Assemblies Cache (GAC) or in C:\Windows\System32 or in the One Identity Manager's installation directory.
 - msvcpl100.dll
 - msvcr100.dll

All One Identity Manager Service actions are executed against the target system environment on the synchronization server. Data entries required for synchronization and administration with the One Identity Manager database are processed by the synchronization server. The synchronization server must be declared as a Job server in One Identity Manager.

NOTE: If several target system environments of the same type are synchronized under the same synchronization server, it is recommended that you set up a Job server for each target system for performance reasons. This avoids unnecessary swapping of connections to target systems because a Job server only has to process tasks of the same type (re-use of existing connections).

Use the One Identity Manager Service to install the Server Installer. The program executes the following steps:

- Sets up a Job server.
- Specifies machine roles and server function for the Job server.
- Remotely installs One Identity Manager Service components corresponding to the machine roles.
- Configures the One Identity Manager Service.
- Starts the One Identity Manager Service.

NOTE: To generate processes for the Job server, you need the provider, connection parameters, and the authentication data. By default, this information is determined from the database connection data. If the Job server runs through an application server, you must configure extra connection data in the Designer. For detailed information about setting up Job servers, see the *One Identity Manager Configuration Guide*.

NOTE: The program performs a remote installation of the One Identity Manager Service. Local installation of the service is not possible with this program. Remote installation is only supported within a domain or a trusted domain.

To remotely install the One Identity Manager Service, you must have an administrative workstation on which the One Identity Manager components are installed. For detailed information about installing a workstation, see the *One Identity Manager Installation Guide*.

To remotely install and configure One Identity Manager Service on a server

1. Start the Server Installer program on your administrative workstation.
2. On the **Database connection** page, enter the valid connection credentials for the One Identity Manager database.
3. On the **Server properties** page, specify the server on which you want to install the One Identity Manager Service.

- a. Select a Job server from the **Server** menu.

- OR -

To create a new Job server, click **Add**.

- b. Enter the following data for the Job server.
 - **Server:** Name of the Job server.
 - **Queue:** Name of the queue to handle the process steps. Each One Identity Manager Service within the network must have a unique queue identifier. The process steps are requested by the Job queue using this unique queue identifier. The queue identifier is entered in the One Identity Manager Service configuration file.
 - **Full server name:** Full server name in accordance with DNS syntax.

Syntax:

<Name of servers>.<Fully qualified domain name>

NOTE: You can use the **Extended** option to make changes to other properties for the Job server. You can also edit the properties later with the Designer.

4. On the **Machine roles** page, select **SAP R/3**.
5. On the **Server functions** page, select **SAP R/3 connector**.
6. On the **Service Settings** page, enter the connection data and check the One Identity Manager Service configuration.

NOTE: The initial service configuration is predefined. If further changes need to be made to the configuration, you can do this later with the Designer. For detailed information about configuring the service, see the *One Identity Manager Configuration Guide*.

- For a direct connection to the database:
 - a. Select **Process collection | sqlprovider**.
 - b. Click the **Connection parameter** entry, then click the **Edit** button.
 - c. Enter the connection data for the One Identity Manager database.
- For a connection to the application server:
 - a. Select **Process collection**, click the **Insert** button and select **AppServerJobProvider**.
 - b. Click the **Connection parameter** entry, then click the **Edit** button.
 - c. Enter the connection data for the application server.

- d. Click the **Authentication data** entry and click the **Edit** button.
 - e. Select the authentication module. Depending on the authentication module, other data may be required, such as user and password. For detailed information about the One Identity Manager authentication modules, see the *One Identity Manager Authorization and Authentication Guide*.
7. To configure remote installations, click **Next**.
 8. Confirm the security prompt with **Yes**.
 9. On the **Select installation source** page, select the directory with the install files.
 10. On the **Select private key file** page, select the file with the private key.
| NOTE: This page is only displayed when the database is encrypted.
 11. On the **Service access** page, enter the service's installation data.
 - **Computer:** Name or IP address of the server that the service is installed and started on.
 - **Service account:** User account data for the One Identity Manager Service.
 - To start the service under the **NT AUTHORITY\SYSTEM** account, set the **Local system account** option.
 - To start the service under another account, disable the **Local system account** option and enter the user account, password and password confirmation.
 - **Installation account:** Data for the administrative user account to install the service.
 - To use the current user's account, set the **Current user** option.
 - To use another user account, disable the **Current user** option and enter the user account, password and password confirmation.
 - To change the install directory, names, display names, or description of the One Identity Manager Service, use the other options.
 12. Click **Next** to start installing the service.
Installation of the service occurs automatically and may take some time.
 13. Click **Finish** on the last page of the Server Installer.
| NOTE: In a default installation, the service is entered in the server's service management with the name **One Identity Manager Service**.

Creating a synchronization project for initial synchronization of an SAP client

Use the Synchronization Editor to configure synchronization between the One Identity Manager database and SAP R/3 environment. The following describes the steps for initial

configuration of a synchronization project.

After the initial configuration, you can customize and configure workflows within the synchronization project. Use the workflow wizard in the Synchronization Editor for this. The Synchronization Editor also provides different configuration options for a synchronization project.

Have the following information available for setting up a synchronization project.

Table 4: Information required for setting up a synchronization project

Data	Explanation
SAP R/3 application server	Name of the application server used to RFC communication.
System number	Number of the SAP system for connecting the SAP R/3 connector.
System ID	System ID of this SAP system.
Client	Number of the client to be synchronized. You need the central system's client number to synchronize central user administration (CUA).
Login name and password	The name and password of the user account used by the SAP R/3 connector to log in to the SAP R/3 system. Make a user account available with sufficient permissions. If the network connection must be secure, you require the user account's SNC name.
Login language	Login language for logging the SAP R/3 connection into the SAP R/3 system.
Synchronization server	All One Identity Manager Service actions are executed against the target system environment on the synchronization server. Data entries required for synchronization and administration with the One Identity Manager database are processed by the synchronization server. Installed components: <ul style="list-style-type: none">• SAP .Net Connector for .NET 4.0 on x64, with at least version 3.0.15.0• One Identity Manager Service (started)• Synchronization Editor• SAP R/3 connector The synchronization server must be declared as a Job server in One Identity Manager. Use the following properties when you set up the Job server.

Data	Explanation
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Table 5: Additional properties for the Job server

Property	Value
Server function	SAP R/3 connector
Machine role	Server/Job server/SAP R/3

For more information, see [Setting up the synchronization server](#) on page 19.

One Identity Manager database connection data	<ul style="list-style-type: none"> • Database server • Database • SQL Server login and password • Specifies whether integrated Windows authentication is used. This type of authentication is not recommended. If you decide to use it anyway, ensure that your environment supports Windows authentication.
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Remote connection server	<p>To configure synchronization with a target system, One Identity Manager must load the data from the target system. One Identity Manager communicates directly with the target system to do this. Sometimes direct access from the workstation, on which the Synchronization Editor is installed, is not possible. For example, because of the firewall configuration or the workstation does not fulfill the necessary hardware and software requirements. If direct access is not possible from the workstation, you can set up a remote connection. The remote connection server and the workstation must be in the same Active Directory domain.</p> <p>Remote connection server configuration:</p> <ul style="list-style-type: none"> • One Identity Manager Service is started • RemoteConnectPlugin is installed • SAP R/3 connector is installed <p>The remote connection server must be declared as a Job server in One Identity Manager. The Job server name is required.</p> <p>TIP: The remote connection server requires the same configuration as the synchronization server (with regard to the installed software and entitlements). Use the synchronization as remote connection server at the same time, by simply installing the RemoteConnectPlugin as well.</p> <p>For more detailed information about setting up a remote connection, see the <i>One Identity Manager Target System Synchronization Reference Guide</i>.</p>
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Additional information about setting up the synchronization project may be required depending on the configuration of the SAP R/3 system.

Table 6: Information for setting up a synchronization project

Data	Explanation
SAP R/3 router	Name of the router that provides a network port for the SAP R/3 connector for communicating with the application server.
SAP R/3 message server	Name of the message server with which the SAP R/3 connector communicates when logging in.
Login group	Name of the login group used by the SAP R/3 connector for logging in when communication is working over a message server within the SAP R/3 environment.
SNC host name	SNC name of the host for the secure network connection.
SNC Name	SCN name of the user account with which the SAP R/3 connector logs into the SAP R/3 system if a secure network connection is required. The SNC name must be entered using the same syntax as in the user account in SAP R/3.
SNC client API	API containing SNC encryption. Enter the file name and path of the synchronization server. Only file name is required if the file is in the default search path of the operating system. If encryption has been applied to the operating system, the file is located in the operating system directory and can be found through the default search path. If a third-party product was used for encryption, the file can only be found if the installation directory of this product was added to the default search path (PATH variable).

NOTE: The following sequence describes how to configure a synchronization project if the Synchronization Editor is both:

- Executed in default mode
- Started from the Launchpad

If you execute the project wizard in expert mode or directly from the Synchronization Editor, additional configuration settings can be made. Follow the project wizard instructions through these steps.

To set up an initial synchronization project for an SAP client

1. Start the Launchpad and log in to the One Identity Manager database.

NOTE: If synchronization is executed by an application server, connect the database through the application server.

2. Select the **Target system type SAP R/3** entry and click **Start**.
This starts the Synchronization Editor's project wizard.
3. On the **System access** page, specify how One Identity Manager can access the target system.
 - If access is possible from the workstation on which you started the Synchronization Editor, do not change any settings.
 - If access is not possible from the workstation on which you started the Synchronization Editor, you can set up a remote connection.
Enable the **Connect using remote connection server** option and select the server to be used for the connection under **Job server**.
4. Select a connection type on **Connection type**.

Table 7: Connector types

Property	Description
SAP R/3 application server or SAP R/3 router	Specifies whether the connection is to be established through an application server or router
SAP R/3 message server	Specifies whether the connection is to be established through a message server

- Enter the connection data for connection type "SAP R/3 application server or SAP R/3 router" on **Connection data**.

Table 8: System connection

Property	Description
SAP R/3 host or router	Name of the application server or router used by the SAP R/3 connector for communication.
System number	Number of the SAP system.
System ID	System ID of the SAP system. This is used as the display name in One Identity Manager tools.

- Enter the connection data for the "SAP R/3 message server" connection type on the **Message server** page.

Table 9: System connection

Property	Description
SAP R/3	Name of the message server used to establish the connec-

Property	Description
message server	tion
Login group	Name of the login group used by the SAP R/3 connector for logging in.
SAP R/3 router	Name of the router if the SAP R/3 connector communicates through a router.
System number	Number of the SAP system.
System ID	System ID of the SAP system. This is used as the display name in One Identity Manager tools.

5. Enter the network settings on **Secure network communication**.

Table 10: Network settings

Property	Description
Program ID	Identifier for the connection established by the SAP R/3 connector with the SAP R/3 system.
SNC login	Specifies whether the SNC user account name is to be used when the SAP R/3 connector logs in on the SAP R/3 system.

6. If you have enabled **SNC login** on **Secure connection**, **SNC connection configuration** opens. Enter the data required for logging into the target system using a secure network connection.

Table 11: SNC system connection

Property	Description
Client	Number of the client to be synchronized. Enter the central system's client number if central user administration is to be synchronized.
SNC host name	SNC name of the host for the secure network connection.
SNC Name	SNC name of the user account used by the SAP R/3 connector to log in on to the SAP R/3 system.
SNC client API	API containing the SNC encryption

Property	Description
Authentication	
Integrity protection	Select a security level for logging in to the SAP R/3 system.
Encryption	
Highest available	
SNC login with user name and password	User name and password are given explicitly during SNC login. If this option is not set, single sign-on is used for logging in.
Login language	Login language for logging the SAP R/3 connection in on the SAP R/3 system. The language selected determines the language for captions for all SAP objects of this client. If you select "EN", all texts from SAP groups, roles, profiles and start menus are synchronized in English.

7. Enter data for logging into the target system on **Login data**.

Table 12: Login data

Property	Description
Client	Number of the client to be synchronized. Enter the central system's client number if central user administration is to be synchronized.
Login name	Name of the user account used by the SAP R/3 connector to login to the SAP R/3 system. If you have enabled the option SNC login on the Secure connection page, enter the SNC name of this user account.
Login password	User account's password that is used by the SAP R/3 connector to log in to the SAP R/3 system.
Login language	Login language for logging the SAP R/3 connection into the SAP R/3 system. The language selected determines the language for captions for all SAP objects of this client. If you select "EN", all texts from SAP groups, roles, profiles, and start menus are synchronized in English.

8. Supply additional information about synchronizing objects and properties on **Additional settings**. You can check the connection settings.
 - In **Central user administration (CUA)**, specify whether the connection to a central user administration's central system should be established. In this case, set **CUA central system**.

- You can test the entered connection data in **Verify connection settings**. Click on **Verify project**.

The system tries to connect to the server. If **CUA central system** is set, the given client is tested to see if it is the central system of a CUA.

| **NOTE:** There is no check on whether the supplied BAPI is installed.

- Click **Finish**, to end the system connection wizard and return to the project wizard.

9. Click **Next** on SAP **HCM settings**.

This page is only needed for synchronizing additional personnel planning data in the SAP R/3 Structural Profiles Add-on Module.

10. Click **Next** on SAP **connector schema**.

| **TIP:** You can enter a file with additional schema types on this page. The connector schema is extended by these custom schema types. You can also enter this data after saving the synchronization project. For more information, see [Adding other schema types](#) on page 40.

11. On the **One Identity Manager Connection** tab, test the data for connecting to the One Identity Manager database. The data is loaded from the connected database. Reenter the password.

| **NOTE:** If you use an unencrypted One Identity Manager database and have not yet saved any synchronization projects to the database, you need to enter all connection data again. This page is not shown if a synchronization project already exists.

12. The wizard loads the target system schema. This may take a few minutes depending on the type of target system access and the size of the target system.

13. Select a project template on the **Select project template** page to use for setting up the synchronization configuration.

Table 13: Standard project templates

Project template	Description
SAP R/3 (CUA subsystem)	Use this project template for initially setting up the synchronization project for a CUA's child systems that belong to another SAP system than the central system.
SAP R/3 synchronization (base administration)	Use this project template for initially setting up the synchronization project for individual clients or a CUA's central system.

| **NOTE:** A default project template ensures that all required information is added in One Identity Manager. This includes mappings, workflows, and the synchronization base object. If you do not use a default project template you must declare the synchronization base object in One Identity Manager yourself. Use a default project template for initially setting up the synchronization project. For custom

implementations, you can extend the synchronization project with the Synchronization Editor.

14. On the **Restrict target system access** page, specify how system access should work. You have the following options:

Table 14: Specify target system access

Option	Meaning
Read-only access to target system.	<p>Specifies that a synchronization workflow is only to be set up for the initial loading of the target system into the One Identity Manager database.</p> <p>The synchronization workflow has the following characteristics:</p> <ul style="list-style-type: none">• Synchronization is in the direction of One Identity Manager.• Processing methods in the synchronization steps are only defined for synchronization in the direction of One Identity Manager.
Read/write access to target system. Provisioning available.	<p>Specifies whether a provisioning workflow is to be set up in addition to the synchronization workflow for the initial loading of the target system.</p> <p>The provisioning workflow displays the following characteristics:</p> <ul style="list-style-type: none">• Synchronization is in the direction of the Target system.• Processing methods are only defined in the synchronization steps for synchronization in the direction of the Target system.• Synchronization steps are only created for such schema classes whose schema types have write access.

This page is only shown if the project template **SAP® R/3® synchronization (basic administration)** was selected. If the **SAP® R/3® (child CUA system)** project template was selected, the **Read-only access to target system** option is automatically enabled.

15. On the **Synchronization server** page, select a synchronization server to execute synchronization.

If the synchronization server is not declared as a Job server in the One Identity Manager database yet, you can add a new Job server.

- a. Click  to add a new Job server.
- b. Enter a name for the Job server and the full server name conforming to DNS syntax.
- c. Click **OK**.

The synchronization server is declared as a Job server for the target system in the One Identity Manager database.

NOTE: After you save the synchronization project, ensure that this server is set up as a synchronization server.

16. To close the project wizard, click **Finish**.

This creates and allocates a default schedule for regular synchronization. Enable the schedule for regular synchronization.

The synchronization project is created, saved, and enabled immediately.

NOTE: If enabled, a consistency check is carried out. If errors occur, a message appears. You can decide whether the synchronization project can remain activated or not.

Check the errors before you use the synchronization project. To do this, in the **General** view on the Synchronization Editor's start page, click **Verify project**.

NOTE: If you do not want the synchronization project to be activated immediately, disable the **Activate and save the new synchronization project automatically** option. In this case, save the synchronization project manually before closing the Synchronization Editor.

Disable this option, if you want to add your own schema types in this synchronization project.

NOTE: The connection data for the target system is saved in a variable set and can be modified in the **Configuration | Variables** category in the Synchronization Editor.

To configure the content of the synchronization log

1. Open the synchronization project in the Synchronization Editor.
2. To configure the synchronization log for target system connection, select the **Configuration | Target system** category.
3. To configure the synchronization log for the database connection, select the **Configuration | One Identity Manager connection** category.
4. Select the **General** view and click **Configure**.
5. Select the **Synchronization log** view and set **Create synchronization log**.
6. Enable the data to be logged.

NOTE: Some content generates a particularly large volume of log data. The synchronization log should only contain data required for troubleshooting and other analyses.

7. Click **OK**.

To synchronize on a regular basis

1. Open the synchronization project in the Synchronization Editor.
2. Select the **Configuration | Start up configurations** category.
3. Select a start up configuration in the document view and click **Edit schedule**.
4. Edit the schedule properties.
5. To enable the schedule, click **Activate**.
6. Click **OK**.

To start initial synchronization manually

1. Open the synchronization project in the Synchronization Editor.
2. Select the **Configuration | Start up configurations** category.
3. Select a start up configuration in the document view and click **Execute**.
4. Confirm the security prompt with **Yes**.

NOTE:

Following a synchronization, employees are automatically created for the user accounts in the default installation. If an account definition for the client is not yet known at the time of synchronization, user accounts are linked with employees. However, account definitions are not assigned. The user accounts are therefore in a **Linked** state.

To manage the user accounts using account definitions, assign an account definition and a manage level to these user accounts.

To select user accounts through account definitions

1. Create an account definition.
2. Assign an account definition to the client.
3. Assign a user account in the **Linked** state to the account definition. The account definition's default manage level is applied to the user account.
 - a. In the Manager, select the **SAP R/3 | User accounts | Linked but not configured | <Client>** category.
 - b. Select the **Assign account definition to linked accounts** task.
 - c. In the **Account definition** menu, select the account definition.
 - d. Select the user accounts that contain the account definition.
 - e. Save the changes.

Detailed information about this topic

- One Identity Manager Target System Synchronization Reference Guide

Related topics

- [Setting up the synchronization server on page 19](#)
- [Users and authorizations for synchronizing with SAP R/3 on page 15](#)
- [Displaying synchronization results on page 36](#)
- [Customizing the synchronization configuration on page 37](#)
- [Speeding up synchronization with revision filtering on page 51](#)
- [Default project templates for synchronizing an SAP R/3 environment on page 212](#)
- [Setting up account definitions on page 60](#)
- [Automatic assignment of employees to SAP user accounts on page 143](#)
- [Adding other schema types on page 40](#)

Special features of synchronizing with a CUA central system

NOTE:

- Only child system roles and profiles that match the login language of the administrative user account for synchronization are mapped in One Identity Manager.
- Maintain all child system roles and profile in the target system in the language set as login language in the synchronization project for the central system in the system connection.

If a central user administration is connected to One Identity Manager, regular synchronization is only required with the central system. The synchronization configuration is created for the client labeled as central system. The CUA Application Link Enabling (ALE) distribution model is loaded during synchronization and tries to assign all clients, which are configured as child systems to the central system in One Identity Manager. All clients in the same SAP system as the central system are automatically added in One Identity Manager in the process and assigned to the central system (in **CUA central system**). All clients in another SAP system must already exist in One Identity Manager at this point in time.

If a text comparison of roles and profiles between child and central systems was executed the target system in the target system, the child system roles and profiles are taken into account by synchronization. These roles and profiles are assigned to the originating client in One Identity Manager.

Roles and profile are saved in USRSYSACTT with respect to language by text comparison of roles and profiles in the target system. Only roles and profile matching the login language of the administrative account for synchronization are read from the USRSYSACTT during synchronization with One Identity Manager. If single roles and profiles are not maintained in this language, they are not transferred to One Identity Manager. In order to map all

roles and profiles from child systems in One Identity Manager, they must all be all maintained in the language specified as login language in the central system.

To set up an initial synchronization project for central user administration

1. Create synchronization projects the child systems, not in the same SAP system as the central system.

Follow the steps described in [Creating a synchronization project for initial synchronization of an SAP client](#) on page 22. The following special features apply:

- a. In **Select project template** in the project wizard, select the "SAP R/3 (CUA subsystem)" project template.
- b. The **Restrict target system access** page is not displayed. The target system is only loaded.
- c. Start synchronization manually to load the required data.

All clients from the selected system and their license data are loaded.

NOTE: Do not synchronize using schedules. Re-synchronizing is only necessary if the active price lists for charging licenses were changed in the target system.

2. Repeat step 1 for all child system in other SAP subsystems.
3. Create a synchronization project for the central system.

Follow the steps described in [Creating a synchronization project for initial synchronization of an SAP client](#) on page 22. The following special features apply:

- a. On the **Additional settings** page, enable the **Central User Administration (CUA) instance** option.
- b. On the **Select project template** page, select the "SAP R/3 synchronization (base administration)" project template.
- c. Configure the scheduled synchronization.

4. Start central system synchronization, after all child systems have been loaded in the SAP database from One Identity Manager subsystems.

Related topics

- [General master data for SAP clients](#) on page 113
- [Excluding a child system from synchronization](#) on page 34

Excluding a child system from synchronization

Certain administrative task in SAP R/3 required that the child system is temporarily excluded from the central user administration. If these child systems are synchronized during this period, the SAP roles and SAP profile of the temporarily excluded child system

are marked as outstanding or deleted in the One Identity Manager database. To prevent this, remove the child system from the synchronization scope.

SAP roles and profiles are removed from the synchronization scope by deleting the ALE model name in the client. The client properties are synchronized anyway. To ensure that the ALE model name is not reintroduced, disable the rule for mapping this schema property.

To exclude a child system from synchronization

1. Select the **SAP R/3 | Clients** category.
2. Select the child system in the result list. Select the **Change master data** task.
3. Delete the entry in the **ALE model name** field.
4. Save the changes.
5. Open the synchronization project in the Synchronization Editor.
6. Select the **Workflows** category.
7. Select the workflow to use for synchronizing the central system in the navigation view.
8. Double-click on the synchronization step "client" in the workflow view.
9. Select **Rule filter**.
10. Select "ALEModelName_ALEModelName" in the **Excluded rules** pane.
11. Click **OK**.
12. Save the changes.

NOTE: Unsuccessful database operations for assigning SAP roles and profiles to user account that originate from the temporarily excluded child system are logged depending on the setting in the synchronization log. You can ignore these messages. Once the child system is available again, the memberships are handled properly.

You must reactivate synchronization of the child system's SAP roles and profiles the moment it becomes part of the central user administration again.

To re-include a child system in synchronization

1. Select the **SAP R/3 | Clients** category.
2. Select the child system in the result list. Select the **Change master data** task.
3. Enter the ALE model name of the central system's CUA in the **ALE model name** field.
The child system is only synchronized if the same ALE model named is entered in the central system and the child system.
4. Save the changes.
5. Open the synchronization project in the Synchronization Editor.
6. Select the **Workflows** category.
7. Select the workflow in the navigation, to use for synchronizing the central system (default is "Initial Synchronization").

8. Double-click on the synchronization step "client" in the workflow view.
9. Select **Rule filter**.
10. Deselect "ALEModelName_ALEModelName" in the **Excluded rules** pane.
11. Click **OK**.
12. Save the changes.

For more information about editing synchronization steps, see One Identity Manager Target System Synchronization Reference Guide.

Related topics

- [General master data for SAP clients](#) on page 113

Displaying synchronization results

Synchronization results are summarized in the synchronization log. You can specify the extent of the synchronization log for each system connection individually. One Identity Manager provides several reports in which the synchronization results are organized under different criteria.

To display a synchronization log

1. Open the synchronization project in the Synchronization Editor.
2. Select the **Logs** category.
3. Click  in the navigation view toolbar.
Logs for all completed synchronization runs are displayed in the navigation view.
4. Select a log by double-clicking it.
An analysis of the synchronization is shown as a report. You can save the report.

To display a provisioning log

1. Open the synchronization project in the Synchronization Editor.
2. Select the **Logs** category.
3. Click  in the navigation view toolbar.
Logs for all completed provisioning processes are displayed in the navigation view.
4. Select a log by double-clicking it.
An analysis of the provisioning is shown as a report. You can save the report.

The log is marked in color in the navigation view. This mark shows you the status of the synchronization/provisioning.

TIP: The logs are also displayed in the Manager under the **<target system> | synchronization log** category.

Synchronization logs are stored for a fixed length of time.

To modify the retention period for synchronization logs

- In the Designer, enable the **DPR | Journal | LifeTime** configuration parameter and enter the maximum retention period.

Customizing the synchronization configuration

Having used the Synchronization Editor to set up a synchronization project for initial synchronization of an SAP client, you can use the synchronization project to load SAP objects into the One Identity Manager database. If you manage user accounts and their authorizations with One Identity Manager, changes are provisioned in the SAP environment.

You must customize the synchronization configuration to be able to regularly compare the database with the SAP R/3 environment and to synchronize changes.

- To use One Identity Manager as the master system during synchronization, create a workflow with synchronization in the direction of the **Target system**.
- To specify which SAP objects and database objects are included in synchronization, edit the scope of the target system connection and the One Identity Manager database connection. To prevent data inconsistencies, define the same scope in both systems. If no scope is defined, all objects will be synchronized.
- You can use variables to create generally applicable synchronization configurations that contain the necessary information about the synchronization objects when synchronization starts. Variables can be implemented in base objects, schema classes, or processing methods, for example.
- Use variables to set up a synchronization project for synchronizing different clients. Store a connection parameter as a variable for logging in to the clients.
- Update the schema in the synchronization project if the One Identity Manager schema or target system schema has changed. Then you can add the changes to the mapping.
- Add your own schema types if you want to synchronize data, which does not have schema types in the connector schema.

IMPORTANT: As long as a synchronization process is running, you must not start another synchronization process for the same target system. This especially applies, if the same synchronization objects would be processed.

- If another synchronization process is started with the same start up configuration, the process is stopped and is assigned **Frozen** status. An error message is written to the One Identity Manager Service log file.
 - Ensure that start up configurations that are used in start up sequences are not started individually at the same time. Assign start up sequences and start

up configurations different schedules.

- Starting another synchronization process with different start up configuration that addresses same target system may lead to synchronization errors or loss of data. Specify One Identity Manager behavior in this case, in the start up configuration.
 - Use the schedule to ensure that the start up configurations are run in sequence.
 - Group start up configurations with the same start up behavior.

For more detailed information about configuring synchronization, see the One Identity Manager Target System Synchronization Reference Guide.

Detailed information about this topic

- [How to configure SAP R/3 synchronization](#) on page 38
- [Configuring synchronization of different clients](#) on page 39
- [Updating schemas](#) on page 39
- [Adding other schema types](#) on page 40

How to configure SAP R/3 synchronization

The synchronization project for initial synchronization provides a workflow for initial loading of target system objects (initial synchronization) and one for provisioning object modifications from the One Identity Manager database to the target system (provisioning). To use One Identity Manager as the master system during synchronization, you also require a workflow with synchronization in the direction of the **Target system**.

To create a synchronization configuration for synchronizing SAP R/3

1. Open the synchronization project in the Synchronization Editor.
2. Check whether existing mappings can be used for synchronizing the target system. Create new maps if required.
3. Create a new workflow with the workflow wizard.
This creates a workflow with **Target system** as its synchronization direction.
4. Create a new start up configuration. Use the new workflow to do this.
5. Save the changes.
6. Run a consistency check.

Related topics

- [Configuring synchronization of different clients](#) on page 39

Configuring synchronization of different clients

Prerequisites

- The target system schema of both clients are identical.
- All virtual schema properties used in the mapping must exist in the extended schema of both clients.

To customize a synchronization project for synchronizing another client

1. Prepare a user account with sufficient permissions for synchronizing in the other client.
2. Open the synchronization project in the Synchronization Editor.
3. Create a new base object for the other clients. Use the wizard to attach a base object.
 - In the wizard, select the SAP connector and declare the connection parameters. The connection parameters are saved in a special variable set. A start up configuration is created that uses the newly created variable set.
4. Change other elements of the synchronization configuration as required.
5. Save the changes.
6. Run a consistency check.

Related topics

- [How to configure SAP R/3 synchronization](#) on page 38

Updating schemas

All the schema data (schema types and schema properties) of the target system schema and the One Identity Manager schema are available when you are editing a synchronization project. Only a part of this data is really needed for configuring synchronization. If a synchronization project is finished, the schema is compressed to remove unnecessary data from the synchronization project. This can speed up the loading of the synchronization project. Deleted schema data can be added to the synchronization configuration again at a later point.

If the target system schema or the One Identity Manager schema has changed, these changes must also be added to the synchronization configuration. Then the changes can be added to the schema property mapping.

To include schema data that have been deleted through compression and schema modifications in the synchronization project, update each schema in the synchronization project. This may be necessary if:

- A schema was changed by:
 - Changes to a target system schema
 - Customizations to the One Identity Manager schema
 - A One Identity Manager update migration
- A schema in the synchronization project was shrunk by:
 - Enabling the synchronization project
 - Saving the synchronization project for the first time
 - Compressing a schema

To update a system connection schema

1. Open the synchronization project in the Synchronization Editor.
2. Select the **Configuration | Target system** category.
- OR -
Select the **Configuration | One Identity Manager connection** category.
3. Select the **General** view and click **Update schema**.
4. Confirm the security prompt with **Yes**.
This reloads the schema data.

To edit a mapping

1. Open the synchronization project in the Synchronization Editor.
2. Select the **Mappings** category.
3. Select a mapping in the navigation view.
Opens the Mapping Editor. For more detailed information about mappings, see the *One Identity Manager Target System Synchronization Reference Guide*.

NOTE: The synchronization is deactivated if the schema of an activated synchronization project is updated. Reactivate the synchronization project to synchronize.

Adding other schema types

Add your own schema types if you want to synchronize data, which does not have schema types in the connector schema. You can let your own schema types be added when setting up the initial synchronization project with the project wizard, However, you can also add them after saving the synchronization project. This method is described here.

You can obtain an overview of which schema types are defined in the connector schema in the Synchronization Editor target system browser.

IMPORTANT: Both used and unused schema types are displayed in the Target System Browser. If the synchronization project is set, unused system types are deleted from the schema. Then they are longer appear in the Target System Browser.

| Check the schema type list before you enable the synchronization project.

To start the Target System Browser

1. Open the synchronization project in the Synchronization Editor.
2. Select **Configuration | Target system**.
3. Select the **General** view and click **Browse....**

This opens the Target System Browser. You will see all the schema types used in this synchronization project in the upper pane of the **Schema types** view. The lower pane contains the list of unused schema types

To extend the connector schema with your own schema types

1. Find which out schema types you require.
2. Create a schema extension file. Save this file and keep the file name and path at the ready.

For more information, see [Creating a schema extension file](#) on page 42.

3. Open the synchronization project in the Synchronization Editor.
4. Select **Configuration | Target system**.
5. Click **Edit connection**.
6. Verify the data.
7. Enter the name and path of your schema extension file on the **SAP connector schema** page.

- a. To check the schema extensions file for logical errors, click **Test file**.

All defined schema types are listed.

- b. Click **Next**.

8. Click **Finish** to end the system connection wizard.
9. Select the view **General** and click **Update schema**.
10. Confirm the security prompt with **Yes**.
The schema types, including your new schema types, are loaded.
11. Open the Target System Browser and check whether the schema types have been added.
The schema types are displayed in the list of used schema types.
12. Select the **Mapping** category and create mappings for the your new schema types. Take note of whether these are read-only or whether read/write access is permitted.
For detailed information about setting up mapping and schema classes, see the *One Identity Manager Target System Synchronization Reference Guide*.
13. Select the **Workflows** category and edit the worklows. Create additional synchronization steps for the new mappings. Take note of whether the schema types

are read-only or whether read/write access is permitted.

For detailed information about setting up synchronization steps, see the *One Identity Manager Target System Synchronization Reference Guide*.

14. Save the changes.
15. Run a consistency check.
16. Activate the synchronization project.

Creating a schema extension file

Define all the schema types you want to use to extend the connector schema in the schema extension file. The schema extension file is an XML file with a structure identical to the connector schema. It describes the definitions for table queries and BAPI calls for the new schema types. If a new schema type has the same name as an already existing schema type, the extension is ignored.

The file is divided into three main sections:

- Table section
- Functions section
- Schema types section

Basically, tables, and functions required to access data for defined schema types, must be declared first. Then you can define new schema types in the schema types section. Use 'functions and tables in different schema type definitions in this case. A schema type definition must contain at least one call for an object list.

Schema extension file structure

```
<?xml version="1.0" encoding="utf-8" ?>
<SAP>
  <Tables>
    ...
  </Tables>
  <Functions>
    ...
  </Functions>
  <SAPExtendedSchematypes>
    ...
  </SAPExtendedSchematypes>
</SAP>
```

Predefined variables

You can use variables in the table and function sections. These can be all the system variables known to the SAP module RFC_READ_TABLE.

Table 15: System variable examples

Variable	Description
sy-langu	Currently selected login language.
sy-datum	Current date.
sy-mandant	Current client.

You can also use variables known to the SAP R/3 connector, for example, from the process parameter definition.

Table 16: Predefined SAP R/3connector variables

Variable	Description
\$Value\$	Input parameter for the One Identity Manager Service call.
\$Mandt\$	Current client's number.
\$Date\$	Current date.

Detailed information about this topic

- [Defining tables](#) on page 43
- [Defining functions](#) on page 46
- [Defining schema types](#) on page 47
- [Example of a schema extension file](#) on page 220

Defining tables

In the section for tables (Tables), you can select tables and columns required for accessing the data for the schema types that will be defined. The SAP R/3 connector requires a definition for each table to load the slim object list. To do this, you define exactly those columns the SAP R/3 connector required when it loaded the synchronization objects. All columns in the table are loaded when single objects are accessed.

Table 17: Table definition

Attribute	Description
Definition	Symbolic name for using the definition.

Attribute	Description
TableName	Name of the table in the SAP database.
Key	Key term for formatting the distinguished name. Multiple values can be entered in a comma delimited list.
X500	Abbreviation for the key term in the attribute Key. Multiple values can be entered in a comma delimited list.
SQL	<p>Limiting WHERE clause.</p> <p>NOTE: There are a number of restrictions for parsing SQL operators in the SAP R/3 system. Take the following rules into account to ensure correctness:</p> <ul style="list-style-type: none"> • The column name must be in front of the operator in a comparison and the comparison value after it (for example, BEGDA LT sy-datum). • The comparison operators "<" and ">" cause parsing errors in XML. Use the operators LT and GT instead. For more information, see Permitted operators in the SQL attribute on page 45.
Distinct	Counts the columns that the Distinct filter applies to (as comma delimited list).
Load	<p>Columns to load when the object list is loaded. These columns can be for can be used to format the schema type's display name (DisplayPattern) as revision counters, for example, or as input parameters in a function,</p> <p>If the object list is loaded from a table but single objects from a function, all the columns used within the synchronization project mapping must be given here.</p> <p>IMPORTANT: Each column, which must be additionally loaded when the object list is loaded, creates extra load for One Identity Manager. This can make synchronization much slower if there is a lot of data. Only enter columns that you really need for further object processing.</p> <p>No data is required for single object access.</p>

Advice

- Several table definitions with different symbolic names can be defined that refer to the same table in the SAP database.
- Key columns are always loaded. They should not, therefore, be given in the Load attribute.
- The Load attribute only works when loading the object list. All columns of the table are always loaded for single object access.
- The following operators are permitted in the WHERE clause:

Table 18: Permitted operators in the SQL attribute

Operator	Function/Example
EQ	=
NE	<>
GT	>
LT	<
GE	>=
LE	<=
BETWEEN	ENDDA BETWEEN '20090101' AND '20090131'

- A table definition can also contain a mapping block. This block is used to replace parameters that are supposed to be used in WHERE clauses but were selected with another name in the object list.

In the example, every occurrence of the \$BNAME\$ variable was replaced with the current value in the USERNAME column when single objects were loaded from the RSECUSERAUTH table before SQL selection was run. The column USERNAME must be loaded into an object list beforehand.

Table definitions with a mapping are primarily used to load single objects.

- Predefined variables can be used as well as custom defined parameters in the WHERE clause. For more information, see [Creating a schema extension file](#) on page 42.

Example:

<Tables>

```

<TABLE Definition = "HRP1001-Table" TableName="HRP1001"
Key="OTJID,SUBTY,BEGDA,ENDDA" X500="CN,OU,OU,OU" SQL="MANDT = sy-mandt"
Load="VARYF" Distinct="OTJID,SUBTY,VARYF" />
<TABLE Definition = "HRP1000-Table" TableName="HRP1000"
Key="OTJID,LANGU,BEGDA,ENDDA" X500="CN,OU,OU,OU" SQL="MANDT = sy-mandt" Load=""
Distinct="OTJID" />
<TABLE Definition = "RSECUSERAUTH-SingleUser" TableName="RSECUSERAUTH" Key="AUTH"
X500="CN" SQL="UNAME = '$BNAME$'" Load="" >
    <Mapping>
        <Data ParameterName = "$BNAME$" PropertyName = "USERNAME" />
    </Mapping>
</TABLE>

```

</Tables>

Defining functions

In the section for functions (Functions), you can describe the interfaces to BAPI functions required for accessing the data for the schema types, which will be defined.

Table 19: Function definition

Attribute	Description
Definition	Symbolic name for using the definition.
FunctionName	Function name in the SAP R/3 system.
OutStructure	Name of an SAP structure given as a return value. (Optional)
Key	Key term for formatting the distinguished name. Multiple values can be entered in a comma delimited list.
X500	Abbreviation for the key term in the attribute Key. Multiple values can be entered in a comma delimited list.

In the optional mapping block, you define how the values are passed to the function call parameters. To do this, an object list must be created before the function call. The parameters for the function call can be filled from this object list's properties. In the example below, BNAME is a property, which is determined from the object list of the table USR02.

Predefined variables can be passed to the parameters. For more information, see [Creating a schema extension file](#) on page 42. Apart from that, it is possible to pass a fixed value to a function parameter. The following notation is provided for this.

```
<Data ParameterName = "<Name>" PropertyName = "VALUE=<fixed value>" />
```

Example:

```
<Tables>
  <TABLE Definition = "USR02-Table" TableName="USR02" Key="BNAME" X500="CN"
    SQL="MANDT = '$MANDT$'" Load="" />
</Tables>
<Functions>
  <Function Definition = "USER GET" FunctionName="BAPI_USER_GET_DETAIL"
    OutStructure = "" Key ="USERNAME" X500 ="CN">
    <Mapping>
      <Data ParameterName = "USERNAME" PropertyName = "BNAME" />
    </Mapping>
  </Function>
</Functions>
```

Related topics

- [Example of a schema extension file](#) on page 220

Defining schema types

In the section for schema types (SAPExtendedSchematypes), you can define schema types that exist in the SAP schema and can be used to extend the connector schema. The identifier given in the Name attribute is used as the name. This identifier must be unique in the extended connector schema.

Table 20: Schema type definition

Attribute	Description
Bem	Internal description
Name	Name of the schema type in the extended connector schema.
DisplayPattern	Definition of a display pattern for displaying objects in the Synchronization Editor (for example, in the target system browser or defining schema classes). (Optional) Only columns that are loaded in the table definition (Key or Load attribute) can be used. IMPORTANT: Each column, which must be additionally loaded when the object list is loaded, creates extra load for One Identity Manager. This can make synchronization much slower if there is a lot of data. Only enter columns that you really need for further object processing.
AddRevisionTimeOffset	Specifies whether the revision counter adds the time as 23:59:00 . (Optional) You can use this attribute if the revision counter only contains a change date but no timestamp. This allows objects that were changed after the previous synchronization run but on the same day, to be included in the next synchronization run.
RevisionProperty	Name of a property contain the revision counter. (Optional)
ListObjectsDefinition	Function or table definition for calling an object list.
ReadObjectDefinition	Function or table definition for calling a single object.
WriteObjectDefinition	Function definition for writing an object. (Optional)
DeleteObjectDefinition	Function definition for deleting an object. (Optional)
ParentType	Context of the schema type. (Optional) By default, the schema types are client-related (ParentType="SAPMANDANT"). If the new schema type is valid in all

Attribute	Description
	SAP R/3 system clients, enter ParentType with the value "SAPSYSTEM".
	If this attribute is not defined, the schema type is client-related.

A schema type definition must contain at least one object list call (attribute ListObjectsDefinition). In this case, you can enter a table or a function definition. To call a single object (attribute ReadObjectDefinition), the object list must have been loaded previously. The list call and single object call can refer to different tables, however the key columns for identifying single objects must either have the same name or have been mapped in the table definition for the single object call. In the example below, the single objects from table RSECUSERAUTH are determined for an object from the table USR02. The key columns for identifying the objects are USR02.BNAME and RSECUSERAUTH.UNAME. The columns have different names and are therefore mapped using the parameter \$BNAME\$.

If is possible to define a Properties block for declaring any number of other object properties and the types of access to them. P One single property is defined by the Property tag, which can have the following attributes.

Table 21: Property definition

Attribute	Description
Name	Name of the property. It must be unique within the schema type.
Description	Property description.
ListFunction	Function or table for calling all values.
AddFunction	Function for adding a value. (Optional)
DelFunction	Function for deleting a value. (Optional)
ReplaceFunction	Replaces the entire contents of the property. (Optional)
IsMultivalued	Specifies whether the property has multiple values. (Optional) If this attribute is not defined, the property does not have multiple values.

Example:

<Tables>

```
<TABLE Definition = "USR04-Table" TableName="USR04" Key="BNAME,MANDT"
X500="CN,OU" SQL="MANDT = sy-mandt" Load="" />
```

```
<TABLE Definition = "USR02-Table" TableName="USR02" Key="BNAME" X500="CN"
SQL="MANDT = sy-mandt" Load="MANDT,TRDAT" />
```

```
<TABLE Definition = "RSECUSERAUTH-SingleUser" TableName="RSECUSERAUTH" Key="AUTH"
X500="CN" SQL="UNAME = '$BNAME$'" Load="" >
```

<Mapping>

```

        <Data ParameterName = "$BNAME$" PropertyName = "BNAME" />
    </Mapping>
</TABLE>
</Tables>
<Functions>
    <Function Definition = "USER GET" FunctionName="BAPI_USER_GET_DETAIL"
    OutStructure = "" Key ="USERNAME" X500 ="CN">
        <Mapping>
            <Data ParameterName = "USERNAME" PropertyName = "BNAME" />
        </Mapping>
    </Function>
    <Function Definition = "USER SET" FunctionName="BAPI_USER_CHANGE" OutStructure
    ="" Key ="USERNAME" X500 ="CN">
        <Mapping>
            <Data ParameterName = "USERNAME" PropertyName = "BNAME" />
        </Mapping>
    </Function>
    <Function Definition = "USER DEL" FunctionName="BAPI_USER_DELETE" OutStructure
    ="" Key ="USERNAME" X500 ="CN" >
        <Mapping>
            <Data ParameterName = "USERNAME" PropertyName = "BNAME" />
        </Mapping>
    </Function>
    <Function Definition = "USER PROFILE SET" FunctionName="BAPI_USER_PROFILES_
    ASSIGN" OutStructure ="" Key ="USERNAME" X500 ="CN">
        <Mapping>
            <Data ParameterName = "USERNAME" PropertyName = "BNAME" />
            <Data ParameterName = "BAPIPROF~BAPIPROF" PropertyName = "$Value$" />
        </Mapping>
    </Function>
    <Function Definition = "BWProfileDelFkt" FunctionName="/VIAENET/SAPHR_
    RSECUSERAUT_DEL" OutStructure ="" Key ="ZUSRNAME,ZHIER" X500 ="CN,OU">
        <Mapping>
            <Data ParameterName = "ZUSRNAME" PropertyName = "BNAME" />
            <Data ParameterName = "ZHIER" PropertyName = "$VALUE$" />
        </Mapping>
    </Function>

```

```

<Function Definition = "BWProfileAddFkt" FunctionName="/VIAENET/SAPHR_
RSECUSERAUT_ADD" OutStructure = "" Key = "ZUSRNAME,ZHIER" X500 = "CN,OU">
  <Mapping>
    <Data ParameterName = "ZUSRNAME" PropertyName = "BNAME" />
    <Data ParameterName = "ZHIER" PropertyName = "$VALUE$" />
  </Mapping>
</Function>
</Functions>
<SAPExtendedSchematypes>
  <SAPExtendedSchematype Bem = "all users" Name = "UserFunctionTable"
  DisplayPattern="%BNAME% (%MANDT%)" RevisionProperty="TRDAT" ListObjectsDefinition
  = "USR02-Table" ReadObjectDefinition = "USER GET" WriteObjectDefinition = "USER
  SET" DeleteObjectDefinition = "USER DEL">
    <Properties>
      <Property Name = "SAPBWP" Description="all the user's BW
      profiles" ListFunction="RSECUSERAUTH-SingleUser"
      AddFunction="BWProfileAddFkt" DelFunction="BWProfileDelFkt"
      ReplaceFunction="" IsMultivalued = "true" />
      <Property Name = "USERPROFILE" Description="all the user's profiles"
      ListFunction="USR04-Table" AddFunction="" DelFunction=""
      ReplaceFunction="USER PROFILE SET" IsMultivalued = "true" />
    </Properties>
  </SAPExtendedSchematype>
  <SAPExtendedSchematype Bem = "Asset, asset value" Name = "Asset_ANLA"
  DisplayPattern="%ANLN1% %BUKRS%" AddRevisionTimeOffset="true"
  RevisionProperty="AEDAT" ListObjectsDefinition = "ANLA table"
  ReadObjectDefinition = "ANLA table" InsertObjectDefinition = ""
  WriteObjectDefinition = "" DeleteObjectDefinition = "" />
</SAPExtendedSchematypes>

```

Explanation:

The list of UserFunctionTable schema type objects is created by using the USR02 table. Reading, writing, and deleting is done with USER-BAPI functions, which each have been declared as a Function.

The schema type has a properties block. Two properties are defined here that are neither returned through the list call's table definition nor through the single object call's function definition. A multi-value property SAPBWP is defined, whose value is taken from the RSECUSERAUTH table. The single objects are identified by the columns USR02.BNAME and RSECUSERAUTH.UNAME. BAPI calls, which are defined as functions, are used for inserting and deleting values.

The property Userprofile is an example of a multi-value property, which has values read from a table (USR04) and a Replace function. Therefore, all values that need to remain in

the property must always be given when changes are made. The write function is the original USER-BAPI function for setting profiles in the user (function definition for BAPI_USER_PROFILES_ASSIGN). Single objects are identified using the USR02.BNAME and USR04.BNAME columns. There is no mapping required for the table definition because the key columns have the same name.

The Asset_ANLA schema type uses the AESAT revision counter, which only contains a change date. The connector adds a time of **23.59:00** to this revision counter (AddRevisionTimeOffset="true").

Speeding up synchronization with revision filtering

When you start synchronization, all synchronization objects are loaded. Some of these objects have not be modified since the last synchronization and, therefore, must not be processed. Synchronization is accelerated by only loading those object pairs that have changed since the last synchronization. One Identity Manager uses revision filtering to accelerate synchronization.

SAP R/3 supports revision filtering. The SAP objects' date of last change is used as revision counter. Each synchronization saves its last execution date as a revision in the One Identity Manager database (DPRRevisionStore table, Value column). This value is used as a comparison for revision filtering when the same workflow is synchronized the next time. When this workflow is synchronized the next time, the SAP objects' change date is compared with the revision saved in the One Identity Manager database. Only those objects that have been changed since this date are loaded from the target system.

NOTE: SAP roles are given the last date the role was generated in the target system. Only SAP roles that have be regenerated since the last synchronization are updated in the database on synchronization with revision filtering.

The revision is found at start of synchronization. Objects modified by synchronization are loaded and checked by the next synchronization. This means that the second synchronization after initial synchronization is not significantly faster.

Revision filtering can be applied to workflows and start up configuration.

To permit revision filtering on a workflow

- Open the synchronization project in the Synchronization Editor.
- Edit the workflow properties. Select the **Use revision filter** item from **Revision filtering** menu.

To permit revision filtering for a start up configuration

- Open the synchronization project in the Synchronization Editor.
- Edit the start up configuration properties. Select the **Use revision filter** item from the **Revision filtering** menu.

Detailed information about this topic

- One Identity Manager Target System Synchronization Reference Guide

Synchronizing composite roles

Only directly assigned single and composite roles are mapped in `SAPUserInSAPRole`. Assignments of single roles to composite roles are mapped in `SAPCollectionRPG`. You can establish which single roles are indirectly assigned to a user account through both tables.

By default, the following applies to inheritance of single roles by user accounts: If a single role is assigned to a user account and the single role is part of a composite role, which is also assigned to the user account the single role is not inherited by the user account as well. This removes membership of user accounts in single roles when group memberships are provisioned in SAP R/3. This membership is deleted from the One Identity Manager database by the next synchronization or marked as outstanding, depending on the synchronization's configuration.

To prevent memberships being removed from single roles when single roles are part of composite roles

- In the Designer, set the "TargetSystem | SAP | KeepRedundantProfiles" configuration parameter.

Restricting synchronization objects using user permissions

One Identity Manager offers the ability to restrict user account and groups for synchronization by using user permissions. In this case, the only user accounts and groups that are synchronized are those used by the SAP R/3 connector to log into the target system. All other groups and user accounts are filtered out of the user lists and the groups list of the function module `"/VIAENET/U"`. If only a small part of the user account in the SAP R/3 environment should be synchronized with the One Identity Manager then the synchronization can be accelerated with this method.

Prerequisites

- The user account used by the SAP R/3 connector to log into the target system is assigned exactly those groups in the SAP R/3 authorization object `S_USER_GRP`, characteristic `CLASS`, that should be synchronized.
- There are user accounts that one of these groups is assigned to in the SAP R/3 environment as user group for testing authorization (in the login data).

During synchronization, the groups are loaded into the One Identity Manager database that the user account used by the SAP R/3 connector to log into the target system has access to in the authorization object SUSER_GRP. All user accounts that are assigned one of these groups as user group for authorization testing, are also synchronized. All other groups and user accounts are handled as non-existent objects in the target system during synchronization.

Post-processing outstanding objects

Objects, which do not exist in the target system, can be marked as outstanding in One Identity Manager by synchronizing. This prevents objects being deleted because of an incorrect data situation or an incorrect synchronization configuration.

Outstanding objects:

- Cannot be edited in One Identity Manager.
- Are ignored by subsequent synchronizations.
- Are ignored by inheritance calculations.

This means, all memberships and assignments remain intact until the outstanding objects have been processed.

Start target system synchronization to do this.

To post-process outstanding objects

1. In the Manager, select the **SAP R/3 | Target system synchronization: SAP R/3** category.

All the synchronization tables assigned to the **SAP R/3** target system type are displayed in the navigation view.

2. On the **Target system synchronization** form, in the **Table / object** column, open the node of the table for which you want to post-process outstanding objects.

All objects that are marked as outstanding are shown. The **Last log entry** and **Last method run** columns display the time at which the last entry was made in the synchronization log and which processing method was executed. The **No log available** entry can mean the following:

- The synchronization log has already been deleted.
- OR -
- An assignment from a member list has been deleted from the target system.
The base object of the assignment was updated during the synchronization. A corresponding entry appears in the synchronization log. The entry in the assignment table is marked as outstanding, but there is no entry in the synchronization log.
- An object that contains a member list has been deleted from the target system.

During synchronization, the object and all corresponding entries in the assignment tables are marked as outstanding. However, an entry in the synchronization log appears only for the deleted object.

TIP:

To display object properties of an outstanding object

- a. Select the object on the target system synchronization form.
 - b. Open the context menu and click **Show object**.
3. Select the objects you want to rework. Multi-select is possible.
 4. Click on one of the following icons in the form toolbar to execute the respective method.

Table 22: Methods for handling outstanding objects

Icon	Method	Description
	Delete	The object is immediately deleted from the One Identity Manager database. Deferred deletion is not taken into account. The Outstanding label is removed from the object. Indirect memberships cannot be deleted.
	Publish	The object is added to the target system. The Outstanding label is removed from the object. The method triggers the HandleOutstanding event. This runs a target system specific process that triggers the provisioning process for the object. Prerequisites: <ul style="list-style-type: none"> • The table containing the object can be published. • The target system connector has write access to the target system.
	Reset	The Outstanding label is removed for the object.

5. Confirm the security prompt with **Yes**.

NOTE: By default, the selected objects are processed in parallel, which speeds up execution of the selected method. If an error occurs during processing, the action is stopped and all changes are discarded.

Bulk processing of objects must be disabled if errors are to be localized, which means the objects are processed sequentially. Failed objects are named in the error message. All changes that were made up until the error occurred are saved.

To disable bulk processing

- In the form's toolbar, click  to disable bulk processing.

You must customize your target system synchronization to synchronize custom tables.

To add custom tables to target system synchronization

1. In the Manager, select the **SAP R/3 | Basic configuration data | Target system types** category.
2. In the result list, select the **SAP R/3** target system type.
3. Select the **Assign synchronization tables** task.
4. In the Add assignments pane, assign **custom** tables to the outstanding objects you want to handle.
5. Save the changes.
6. Select the **Configure tables for publishing** task.
7. Select the custom tables that contain the outstanding objects that can be published in the target system and set the **Publishable** option.
8. Save the changes.

NOTE: The target system connector must have write access to the target system in order to publish outstanding objects that are being post-processed. That means, the **Connection is read-only** option must not be set for the target system connection.

Configuring the provisioning of memberships

Memberships, such as user accounts in groups, are saved in assignment tables in the One Identity Manager database. During provisioning of modified memberships, changes made in the target system may be overwritten. This behavior can occur under the following conditions:

- Memberships are saved in the target system as an object property in list form (Example: List of role assignments in the AGR_NAME property of the SAP R/3 user).
- Memberships can be modified in either of the connected systems.
- A provisioning workflow and provisioning processes are set up.

If one membership in One Identity Manager changes, by default, the complete list of members is transferred to the target system. Therefore, memberships that were previously added to the target system are removed in the process and previously deleted memberships are added again.

To prevent this, provisioning can be configured such that only the modified membership is provisioned in the target system. The corresponding behavior is configured separately for each assignment table.

To allow separate provisioning of memberships

1. In the Manager, select the **SAP R/3 | Basic configuration data | Target system types** category.

2. In the result list, select the **SAP R/3** target system type.
3. Select the **Configure tables for publishing** task.
4. Select the assignment tables that you want to set up for single provisioning. Multi-select is possible.
 - This option can only be enabled for assignment tables that have a base table with an XDateSubItem column.
 - Assignment tables that are grouped together in a virtual schema property in the mapping must be marked identically.
5. Click **Merge mode**.
6. Save the changes.

For each assignment table labeled like this, the changes made in One Identity Manager are saved in a separate table. During modification provisioning, the members list in the target system is compared to the entries in this table. This means that only modified memberships are provisioned and not the entire members list.

NOTE: The complete members list is updated by synchronization. During this process, objects with changes but incomplete provisioning are not handled. These objects are logged in the synchronization log.

You can restrict single provisioning of memberships with a condition. Once merge mode has been disabled for a table, the condition is deleted. Tables that have had the condition deleted or edited are marked with the following icon: . You can restore the original condition at any time.

To restore the default condition

1. Select the auxiliary table for which you want to restore the condition.
2. Right-click on the selected row and select the **Restore original values** context menu item.
3. Save the changes.

For more detailed information about provisioning memberships, see the One Identity Manager Target System Synchronization Reference Guide.

NOTE: Changes to user account memberships in single role are **always** provisioned individually. Therefore, single provisioning cannot be configured for the SAPUserInSAPRole table.

Accelerating provisioning and single object synchronization

To smooth out spikes in data traffic, handling of processes for provisioning and single object synchronization can be distributed over several Job servers. This will also accelerate these processes.

NOTE: You should not implement load balancing for provisioning or single object synchronization on a permanent basis. Parallel processing of objects might result in dependencies not being resolved because referenced objects from another Job server have not been completely processed.

Once load balancing is no longer required, ensure that the synchronization server executes the provisioning processes and single object synchronization.

To configure load balancing

1. Configure the server and declare it as a Job server in One Identity Manager.
 - Assign the **SAP R/3 connector** server function to the Job server.

All Job servers must access the same SAP client as the synchronization server for the respective base object.

2. In the Synchronization Editor, assign a custom server function to the base object.

This server function is used to identify all the Job servers being used for load balancing.

If there is no custom server function for the base object, create a new one.

For more information about editing base objects, see the *One Identity Manager Target System Synchronization Reference Guide*.

3. In the Manager, assign this server function to all the Job servers that will be processing provisioning and single object synchronization for the base object.

Only select those Job servers that have the same configuration as the base object's synchronization server.

Once all the processes have been handled, the synchronization server takes over provisioning and single object synchronization again.

To use the synchronization server without load balancing.

- In the Synchronization Editor, remove the server function from the base object.

For detailed information about load balancing, see the *One Identity Manager Target System Synchronization Reference Guide*.

Detailed information about this topic

- [Editing a server](#) on page 78

Help for the analysis of synchronization issues

You can generate a report for analyzing problems that arise during synchronization, inadequate performance for example. The report contains information such as:

- Consistency check results
- Revision filter settings
- Scope applied
- Analysis of the data store
- Object access times in the One Identity Manager database and in the target system

To generate a synchronization analysis report

1. Open the synchronization project in the Synchronization Editor.
2. Select the **Help | Generate synchronization analysis report** menu item and click **Yes** in the security prompt.
The report may take a few minutes to generate. It is displayed in a separate window.
3. Print the report or save it in one of the available output formats.

Disabling synchronization

Regular synchronization cannot be started until the synchronization project and the schedule are active.

To prevent regular synchronization

1. Open the synchronization project in the Synchronization Editor.
2. Select the start up configuration and deactivate the configured schedule.
Now you can only start synchronization manually.

An activated synchronization project can only be edited to a limited extent. The schema in the synchronization project must be updated if schema modifications are required. The synchronization project is deactivated in this case and can be edited again.

Furthermore, the synchronization project must be deactivated if synchronization should not be started by any means (not even manually).

To deactivate the synchronization project

1. Open the synchronization project in the Synchronization Editor.
2. Select the **General** view on the start page.
3. Click **Deactivate project**.

Detailed information about this topic

- [Creating a synchronization project for initial synchronization of an SAP client](#) on page 22

Basic data for managing an SAP R/3 environment

To manage an SAP R/3 environment in One Identity Manager, the following basic data is relevant.

- Configuration parameter

Use configuration parameters to configure the behavior of the system's basic settings. One Identity Manager provides default settings for different configuration parameters. Check the configuration parameters and modify them as necessary to suit your requirements.

Configuration parameters are defined in the One Identity Manager modules. Each One Identity Manager module can also install configuration parameters. In the Designer, you can find an overview of all configuration parameters in the **Base data | General | Configuration parameters** category.

For more information, see [Configuration parameters for managing an SAP R/3 environment](#) on page 208.

- Account definitions

One Identity Manager has account definitions for automatically allocating user accounts to employees during working hours. You can create account definitions for every target system. If an employee does not yet have a user account in a target system, a new user account is created. This is done by assigning account definitions to an employee.

For more information, see [Setting up account definitions](#) on page 60.

- Password policy

One Identity Manager provides you with support for creating complex password policies, for example, for system user passwords, the employees' central password as well as passwords for individual target systems. Password policies apply not only when the user enters a password but also when random passwords are generated.

Predefined password policies are supplied with the default installation that you can use or customize if required. You can also define your own password policies.

For more information, see [Password policies for SAP user accounts](#) on page 98.

- Initial password for new user accounts

You have the different options for issuing an initial password for user accounts. The central password of the assigned employee can be aligned with the user account password, a predefined, fixed password can be used, or a randomly generated initial password can be issued.

For more information, see [Initial password for new SAP user accounts](#) on page 108.

- Email notifications about credentials

When a new user account is created, the login data are sent to a specified recipient. In this case, two messages are sent with the user name and the initial password. Mail templates are used to generate the messages.

For more information, see [Email notifications about login data](#) on page 110.

- Login languages

User accounts can be assigned a default login language. Login languages can be loaded in to the One Identity Manager database through synchronization.

For more information, see [Login languages](#) on page 95.

- Target system types

Target system types are required for configuring target system comparisons. Tables containing outstanding objects are maintained on target system types.

For more information, see [Post-processing outstanding objects](#) on page 53.

- Server

In order to handle SAP R/3 -specific processes in One Identity Manager, the synchronization server and its server functions must be declared.

For more information, see [Editing a server](#) on page 78.

- Target system managers

A default application role exists for the target system manager in One Identity Manager. Assign the employees who are authorized to edit all clients in One Identity Manager to this application role.

Define additional application roles if you want to limit the edit permissions for target system managers to individual clients. The application roles must be added under the default application role.

For more information, see [Target system managers](#) on page 83.

Setting up account definitions

One Identity Manager has account definitions for automatically allocating user accounts to employees during working hours. You can create account definitions for every target system. If an employee does not yet have a user account in a target system, a new user account is created. This is done by assigning account definitions to an employee.

The data for the user accounts in the respective target system comes from the basic employee data. The employee must own a central SAP user account. The assignment of the IT operating data to the employee's user account is controlled through the primary assignment of the employee to a location, a department, a cost center, or a business role. Processing is done through templates. There are predefined templates for determining the data required for user accounts included in the default installation. You can customize templates as required.

For detailed information about account definitions, see the *One Identity Manager Target System Base Module Administration Guide*.

The following steps are required to implement an account definition:

- [Creating an account definition](#)
- [Creating manage levels](#)
- [Creating a formatting rule for IT operating data](#)
- [Collecting IT operating data](#)
- [Assigning account definitions to employees](#)
- [Assigning account definitions to a target system](#)

In SAP R/3, if user accounts are managed through the central user administration (CUA), you can use account definitions to grant user accounts access to the child systems and the central system. For more information, see [Central user administration in One Identity Manager](#) on page 122.

Creating an account definition

To create a new account definition

1. In the Manager, select the **SAP R/3 | Basic configuration data | Account definitions | Account definitions** category.
2. Select an account definition in the result list. Select the **Change master data** task.
-OR-
Click  in the result list.
3. Enter the account definition's master data.
4. Save the changes.

Detailed information about this topic

- [Master data for an account definition](#) on page 61

Master data for an account definition

Enter the following data for an account definition:

Table 23: Master data for an account definition

Property	Description
Account definition	Account definition name.
User account table	Table in the One Identity Manager schema that maps user accounts. For an account definition to create user accounts, select SAPUser . To guarantee access to the clients of central user administration (CUA) system, select SAPUserMandant .
Target system	Target system to which the account definition applies.
Required account definition	Required account definition. Define the dependencies between account definitions. When this account definition is requested or assigned, the required account definition is automatically requested or assigned with it. If you want the account definition to provide access to clients of the CUA system, assign the account definitions with which the user accounts are created in the central system. A user account is then created in the central system if the employee does not yet have a user account. For an account definition to create user accounts, leave this field empty.
Description	Text field for additional explanation.
Manage level (initial)	Manage level to use by default when you add new user accounts. If the account definition is valid for the child system of a CUA system, assign the Unmanaged manage level.
Risk index	Value for evaluating the risk of account definition assignments to employees. Enter a value between 0 and 1. This input field is only visible if the QER CalculateRiskIndex configuration parameter is set. For more detailed information, see the <i>One Identity Manager Risk Assessment Administration Guide</i> .
Service item	Service item through which you can request the account definition in the IT Shop. Assign an existing service item or add a new one.
IT Shop	Specifies whether the account definition can be requested through the IT Shop. The account definition can be ordered by an employee over the Web Portal and distributed using a defined approval process. The account definition can also be assigned directly to employees and roles outside the IT Shop.
Only for use in IT Shop	Specifies whether the account definition can only be requested through the IT Shop. The account definition can be ordered by an employee over the Web Portal and distributed using a defined approval process. This means, the account definition cannot be directly assigned to roles outside the IT Shop.

Property	Description
Automatic assignment to employees	<p>Specifies whether the account definition is assigned automatically to all internal employees. The account definition is assigned to every employee not marked as external, on saving. New employees automatically obtain this account definition as soon as they are added.</p> <p>IMPORTANT: Only set this option if you can ensure that all current internal employees in the database and all pending newly added internal employees obtain a user account in this target system.</p> <p>Disable this option to remove automatic assignment of the account definition to all employees. The account definition cannot be reassigned to employees from this point on. Existing account definition assignments remain intact.</p>
Retain account definition if permanently disabled	<p>Specifies the account definition assignment to permanently disabled employees.</p> <p>Option set: the account definition assignment remains in effect. The user account stays the same.</p> <p>Option not set: the account definition assignment is not in effect. The associated user account is deleted.</p>
Retain account definition if temporarily disabled	<p>Specifies the account definition assignment to temporarily disabled employees.</p> <p>Option set: the account definition assignment remains in effect. The user account stays the same.</p> <p>Option not set: the account definition assignment is not in effect. The associated user account is deleted.</p>
Retain account definition on deferred deletion	<p>Specifies the account definition assignment on deferred deletion of employees.</p> <p>Option set: the account definition assignment remains in effect. The user account stays the same.</p> <p>Option not set: the account definition assignment is not in effect. The associated user account is deleted.</p>
Retain account definition on security risk	<p>Specifies the account definition assignment to employees posing a security risk.</p> <p>Option set: the account definition assignment remains in effect. The user account stays the same.</p> <p>Option not set: the account definition assignment is not in effect. The associated user account is deleted.</p>
Resource type	Resource type for grouping account definitions.
Spare field	Additional company-specific information. Use the Designer to customize

Property	Description
01 - spare field 10	display names, formats, and templates for the input fields.

Creating manage levels

Specify the manage level for an account definition for managing user accounts. The user account's manage level specifies the extent of the employee's properties that are inherited by the user account. This allows an employee to have several user accounts in one target system, for example:

- Default user account that inherits all properties from the employee.
- Administrative user account that is associated to an employee but should not inherit the properties from the employee.

One Identity Manager supplies a default configuration for manage levels:

- **Unmanaged:** User accounts with the **Unmanaged** manage level are linked to the employee but they do not inherit any further properties. When a new user account is added with this manage level and an employee is assigned, some of the employee's properties are transferred initially. If the employee properties are changed at a later date, the changes are not passed onto the user account.
- **Full managed:** User accounts with the **Full managed** manage level inherit defined properties of the assigned employee. When a new user account is created with this manage level and an employee is assigned, the employee's properties are transferred in an initial state. If the employee properties are changed at a later date, the changes are passed onto the user account.

NOTE: The **Full managed** and **Unmanaged** manage levels are analyzed in templates. You can customize the supplied templates in the Designer.

You can define other manage levels depending on your requirements. You need to amend the templates to include manage level approaches.

Specify the effect of temporarily or permanently disabling, deleting, or the security risk of an employee on its user accounts and group memberships for each manage level. For detailed information about manage levels, see the *One Identity Manager Target System Base Module Administration Guide*.

- Employee user accounts can be locked when they are disabled, deleted, or rated as a security risk so that permissions are immediately withdrawn. If the employee is reinstated at a later date, the user accounts are also reactivated.
- You can also define group membership inheritance. Inheritance can be discontinued if desired when, for example, the employee's user accounts are disabled and therefore cannot be members in groups. During this time, no inheritance processes should be calculated for this employee. Existing group memberships are deleted.

To assign manage levels to an account definition

1. In the Manager, select the **SAP R/3 | Basic configuration data | Account definitions | Account definitions** category.
2. Select an account definition in the result list.
3. Select the **Assign manage level** task.
4. In the **Add assignments** pane, assign the manage levels.
- OR -
In the **Remove assignments** pane, remove the manage levels.
5. Save the changes.

IMPORTANT: The **Unmanaged** manage level is assigned automatically when you create an account definition and it cannot be removed.

To edit a manage level

1. In the Manager, select the **SAP R/3 | Basic configuration data | Account definitions | Manage levels** category.
2. Select the manage level in the result list. Select the **Change master data** task.
- OR -
Click  in the result list.
3. Edit the manage level's master data.
4. Save the changes.

Detailed information about this topic

- [Master data for manage levels](#) on page 65

Master data for manage levels

Enter the following data for a manage level.

Table 24: Master data for manage levels

Property	Description
Manage level	Name of the manage level.
Description	Text field for additional explanation.
IT operating data overwrites	Specifies whether user account data formatted from IT operating data is automatically updated. Permitted values are: <ul style="list-style-type: none">• Never: Data is not updated.• Always: Data is always updated.

Property	Description
	<ul style="list-style-type: none"> • Only initially: Data is only determined at the start.
Retain groups if temporarily disabled	Specifies whether user accounts of temporarily disabled employees retain their group memberships.
Lock user accounts if temporarily disabled	Specifies whether user accounts of temporarily disabled employees are locked.
Retain groups if permanently disabled	Specifies whether user accounts of permanently disabled employees retain group memberships.
Lock user accounts if permanently disabled	Specifies whether user accounts of permanently disabled employees are locked.
Retain groups on deferred deletion	Specifies whether user accounts of employees marked for deletion retain their group memberships.
Lock user accounts if deletion is deferred	Specifies whether user accounts of employees marked for deletion are locked.
Retain groups on security risk	Specifies whether user accounts of employees posing a security risk retain their group memberships.
Lock user accounts if security is at risk	Specifies whether user accounts of employees posing a security risk are locked.
Retain groups if user account disabled	Specifies whether disabled user accounts retain their group memberships.

Creating a formatting rule for IT operating data

An account definition specifies which rules are used to form the IT operating data and which default values will be used if no IT operating data can be found through the employee's primary roles.

The following IT operating data is used in the One Identity Manager default configuration for automatically creating user accounts for an employee in the target system and modifying them.

- Groups can be inherited
- Identity
- Privileged user account

To create a mapping rule for IT operating data

1. In the Manager, select the **SAP R/3 | Basic configuration data | Account definitions | Account definitions** category.
2. Select an account definition in the result list.
3. Select the **Edit IT operating data mapping** task and enter the following data.

Table 25: Mapping rule for IT operating data

Property	Description
Column	User account property for which the value is set. In the menu, you can select the columns that use the TSB_ITDataFromOrg script in their template. For detailed information, see the <i>One Identity Manager Target System Base Module Administration Guide</i> .
Source	Specifies which roles to use in order to find the user account properties. You have the following options: <ul style="list-style-type: none">• Primary department• Primary location• Primary cost center• Primary business roles <p>NOTE: Only use the primary business role if the Business Roles Module is installed.</p> <ul style="list-style-type: none">• Empty <p>If you select a role, you must specify a default value and set the Always use default value option.</p>
Default value	Default value of the property for an employee's user account if the value is not determined dynamically from the IT operating data.
Always use default value	Specifies whether user account properties are always filled with the default value. IT operating data is not determined dynamically from a role.
Notify when applying the standard	Specifies whether email notification to a defined mailbox is sent when the default value is used. The Employee - new user account with default properties created mail template is used. To change the mail template, adjust the TargetSystem SAPR3 Accounts MailTemplateDefaultValues configuration parameter.

4. Save the changes.

Collecting IT operating data

To create user accounts with the **Full managed** manage level, the required IT operating data must be determined. The operating data required to automatically supply an employee with IT resources is shown in the business roles, departments, locations, or cost centers. An employee is assigned a primary business role, primary location, primary department, or primary cost center. The necessary IT operating data is ascertained from these assignments and used in creating the user accounts. Default values are used if valid IT operating data cannot be found over the primary roles.

You can also specify IT operating data directly for a specific account definition.

Example

Normally, each employee in department A obtains a default user account in the client A. In addition, certain employees in department A obtain administrative user accounts in the client A.

Create an account definition A for the default user account of the client A and an account definition B for the administrative user account of client A. Specify the "Department" property in the IT operating data formatting rule for the account definitions A and B in order to determine the valid IT operating data.

Specify the effective IT operating data of department A for the client A. This IT operating data is used for standard user accounts. In addition, for department A, specify the effective IT operating data of account definition B. This IT operating data is used for administrative user accounts.

To define IT operating data

1. In the Manager, select the role in the **Organizations** or **Business roles** category.
2. Select the **Edit IT operating data** task.

- Click **Add** and enter the following data.

Table 26: IT operating data

Property	Description
Effects on	<p>IT operating data application scope. The IT operating data can be used for a target system or a defined account definition.</p> <p>To specify an application scope</p> <ol style="list-style-type: none"> Click → next to the field. Under Table, select the table that maps the target system for select the TSBAccountDef table or an account definition. Select the specific target system or account definition under Effects on. Click OK.
Column	<p>User account property for which the value is set.</p> <p>In the menu, you can select the columns that use the TSB_ITDataFromOrg script in their template. For detailed information, see the <i>One Identity Manager Target System Base Module Administration Guide</i>.</p>
Value	Concrete value which is assigned to the user account property.

- Save the changes.

Modify IT operating data

If IT operating data changes, you must transfer the changes to the existing user accounts. To do this, templates must be rerun on the affected columns. Before you can run the templates, you can check what effect a change to the IT operating data has on the existing user accounts. You can decide whether the change is transferred to the One Identity Manager database in the case of each affected column in each affected database.

Prerequisites

- The IT operating data of a department, a cost center, a business role, or a location have been changed.
- OR -
- The default values in the IT operating data template were modified for an account definition.

NOTE: If the assignment of an employee to a primary department, cost center, business role or to a primary location changes, the templates are automatically executed.

To execute the template

1. In the Manager, select the **SAP R/3 | Basic configuration data | Account definitions | Account definitions** category.
2. Select an account definition in the result list.
3. Select the **Execute templates** task.

This displays a list of all user accounts that were created with the selected account definition and whose properties were changed by modifying the IT operating data.

Old value: Current value of the object property.

New value: Value that the object property would have following modification of the IT operating data.

Selection: Specifies whether or not the new value is transferred to the user account.

4. Mark all the object properties in the **selection** column that will be given the new value.
5. Click **Apply**.

The templates are applied to all selected user accounts and properties.

Assigning account definitions to employees

Account definitions are assigned to company employees.

Indirect assignment is the default method for assigning account definitions to employees. Account definitions are assigned to departments, cost centers, locations, or roles. The employees are categorized into these departments, cost centers, locations, or roles depending on their function in the company and thus obtain their account definitions. To react quickly to special requests, you can assign individual account definitions directly to employees.

You can automatically assign special account definitions to all company employees. It is possible to assign account definitions to the IT Shop as requestable products. Department managers can then request user accounts from the Web Portal for their staff. It is also possible to add account definitions to system roles. These system roles can be assigned to employees through hierarchical roles or added directly to the IT Shop as products.

In the One Identity Manager default installation, the processes are checked at the start to see if the employee already has a user account in the target system that has an account definition. If no user account exists, a new user account is created with the account definition's default manage level.

NOTE: If a user account already exists and is disabled, then it is re-enabled. In this case, you must change the user account manage level afterward.

Prerequisites for indirect assignment of account definitions to employees

- Assignment of employees and account definitions is permitted for role classes (departments, cost centers, locations, or business roles).

NOTE: As long as an account definition for an employee is valid, the employee retains the user account that was created by it. If the assignment of an account definition is removed, the user account that was created from this account definition is deleted.

For detailed information about preparing role classes to be assigned, see the *One Identity Manager Identity Management Base Module Administration Guide*.

Detailed information about this topic

- [Assigning account definitions to departments, cost centers, and locations](#) on page 71
- [Assigning an account definition to business roles](#) on page 72
- [Assigning account definitions to all employees](#) on page 72
- [Assigning account definitions directly to employees](#) on page 73
- [Assigning account definitions to a target system](#) on page 75

Assigning account definitions to departments, cost centers, and locations

To add account definitions to hierarchical roles

1. In the Manager, select the **SAP R/3 | Basic configuration data | Account definitions | Account definitions** category.
2. Select an account definition in the result list.
3. Select the **Assign organizations** task.
4. In the **Add assignments** pane, assign the organizations:
 - On the **Departments** tab, assign departments.
 - On the **Locations** tab, assign locations.
 - On the **Cost centers** tab, assign cost centers.

TIP: In the **Remove assignments** pane, you can remove assigned organizations.

To remove an assignment

- Select the organization and double-click .
5. Save the changes.

Assigning an account definition to business roles

Installed modules: Business Roles Module

To add account definitions to hierarchical roles

1. In the Manager, select the **SAP R/3 | Basic configuration data | Account definitions | Account definitions** category.
2. Select an account definition in the result list.
3. Select the **Assign business roles** task.
4. In the **Add assignments** pane, assign business roles.

TIP: In the **Remove assignments** pane, you can remove assigned business roles.

To remove an assignment

- Select the business role and double-click .
5. Save the changes.

Assigning account definitions to all employees

To assign an account definition to all employees

1. In the Manager, select the **SAP R/3 | Basic configuration data | Account definitions | Account definitions** category.
2. Select an account definition in the result list.
3. Select the **Change master data** task.
4. On the **General** tab, enable the **Automatic assignment to employees** option.

IMPORTANT: Only set this option if you can ensure that all current internal employees in the database and all pending newly added internal employees obtain a user account in this target system.

5. Save the changes.

The account definition is assigned to every employee that is not marked as external. New employees automatically obtain this account definition as soon as they are added. The assignment is calculated by the DBQueue Processor.

NOTE: Disable **Automatic assignment to employees** to remove automatic assignment of the account definition to all employees. The account definition cannot be reassigned to employees from this point on. Existing assignments remain intact.

Assigning account definitions directly to employees

To assign an account definition directly to employees

1. In the Manager, select the **SAP R/3 | Basic configuration data | Account definitions | Account definitions** category.
2. Select an account definition in the result list.
3. Select the **Assign to employees** task.
4. In the **Add assignments** pane, add employees.

TIP: In the **Remove assignments** pane, you can remove assigned employees.

To remove an assignment

- Select the employee and double-click .
5. Save the changes.

Assigning account definitions to system roles

Installed modules: System Roles Module

NOTE: Account definitions with the **Only use in IT Shop** option can only be assigned to system roles that also have this option set.

To add account definitions to a system role

1. In the Manager, select the **SAP R/3 | Basic configuration data | Account definitions | Account definitions** category.
2. Select an account definition in the result list.
3. Select the **Assign system roles** task.
4. In the **Add assignments** pane, assign system roles.

TIP: In the **Remove assignments** pane, you can remove assigned system roles.

To remove an assignment

- Select the system role and double-click .
5. Save the changes.

Adding account definitions in the IT Shop

An account definition can be requested by shop customers when it is assigned to an IT Shop shelf. To ensure it can be requested, further prerequisites need to be guaranteed.

- The account definition must be labeled with the **IT Shop** option.
- The account definition must be assigned to a service item.

TIP: In the Web Portal, all products that can be requested are grouped together by service category. To make the account definition easier to find in the Web Portal, assign a service category to the service item.

- If the account definition is only assigned to employees using IT Shop assignments, you must also set the **Only for use in IT Shop** option. Direct assignment to hierarchical roles may not be possible.

NOTE: IT Shop administrators can assign account definitions to IT Shop shelves if login is role-based. Target system administrators are not authorized to add account definitions in the IT Shop.

To add an account definition to the IT Shop

1. In the Manager, select the **SAP R/3 | Basic configuration data | Account definitions | Account definitions** (non role-based login) category.
 - OR -
 - In the Manager, select the **Entitlements | Account definitions** (role-based login) category.
2. Select an account definition in the result list.
3. Select the **Add to IT Shop** task.
4. In the **Add assignments** pane, assign the account definitions to the IT Shop shelves.
5. Save the changes.

To remove an account definition from individual IT Shop shelves

1. In the Manager, select the **SAP R/3 | Basic configuration data | Account definitions | Account definitions** (non role-based login) category.
 - OR -
 - In the Manager, select the **Entitlements | Account definitions** (role-based login) category.
2. Select an account definition in the result list.
3. Select the **Add to IT Shop** task.
4. In the **Remove assignments** pane, remove the account definitions from the IT Shop shelves.
5. Save the changes.

To remove an account definition from all IT Shop shelves

1. In the Manager, select the **SAP R/3 | Basic configuration data | Account definitions | Account definitions** (non role-based login) category.
 - OR -

In the Manager, select the **Entitlements | Account definitions** (role-based login) category.

2. Select an account definition in the result list.
3. Select the **Remove from all shelves (IT Shop)** task.
4. Confirm the security prompt with **Yes**.
5. Click **OK**.

The account definition is removed from all shelves by the One Identity Manager Service. At the same time, any requests and assignment requests with this account definition are canceled.

For more information about requests from company resources through the IT Shop, see the *One Identity Manager IT Shop Administration Guide*.

Related topics

- [Master data for an account definition](#) on page 61
- [Assigning account definitions to departments, cost centers, and locations](#) on page 71
- [Assigning an account definition to business roles](#) on page 72
- [Assigning account definitions directly to employees](#) on page 73
- [Assigning account definitions to system roles](#) on page 73

Assigning account definitions to a target system

NOTE: To use automatic employee assignment for central user administration (CUA) user accounts, assign an account definition to the CUA central system using the **SAPUser** user table.

The following prerequisites must be fulfilled if you implement automatic assignment of user accounts and employees resulting in administered user accounts (**Linked configured** state):

- The account definition is assigned to the target system.
- The account definition has the default manage level.

User accounts are only linked to the employee (**Linked** state) if no account definition is given. This is the case on initial synchronization, for example.

To assign the account definition to a target system

1. In the Manager, select the client in the **SAP R/3 | Clients** category.
2. Select the **Change master data** task.

3. From the **Account definition (initial)** menu, select the account definition for user accounts.
4. Save the changes.

Deleting an account definition

You can delete account definitions if they are not assigned to target systems, employees, hierarchical roles or any other account definitions.

To delete an account definition

1. Remove automatic assignments of the account definition from all employees.
 - a. In the Manager, select the **SAP R/3 | Basic configuration data | Account definitions | Account definitions** category.
 - b. Select an account definition in the result list.
 - c. Select the **Change master data** task.
 - d. On the **General** tab, disable the **Automatic assignment to employees** option.
 - e. Save the changes.
2. Remove direct assignments of the account definition to employees.
 - a. In the Manager, select the **SAP R/3 | Basic configuration data | Account definitions | Account definitions** category.
 - b. Select an account definition in the result list.
 - c. Select the **Assign to employees** task.
 - d. In the **Remove assignments** pane, remove the employees.
 - e. Save the changes.
3. Remove the account definition's assignments to departments, cost centers, and locations.
 - a. In the Manager, select the **SAP R/3 | Basic configuration data | Account definitions | Account definitions** category.
 - b. Select an account definition in the result list.
 - c. Select the **Assign organizations** task.
 - d. In the **Remove assignments** pane, remove the relevant departments, cost centers, and locations.
 - e. Save the changes.
4. Remove the account definition's assignments to business roles.
 - a. In the Manager, select the **SAP R/3 | Basic configuration data | Account definitions | Account definitions** category.
 - b. Select an account definition in the result list.

- c. Select the **Assign business roles** task.
 - In the **Remove assignments** pane, remove the business roles.
 - d. Save the changes.
5. If the account definition was requested through the IT Shop, it must be canceled and removed from all IT Shop shelves.

For more detailed information about unsubscribing requests, see the *One Identity Manager Web Portal User Guide*.

To remove an account definition from all IT Shop shelves

- a. In the Manager, select the **SAP R/3 | Basic configuration data | Account definitions | Account definitions** (non role-based login) category.
 - OR -
 - In the Manager, select the **Entitlements | Account definitions** (role-based login) category.
 - b. Select an account definition in the result list.
 - c. Select the **Remove from all shelves (IT Shop)** task.
 - d. Confirm the security prompt with **Yes**.
 - e. Click **OK**.

The account definition is removed from all shelves by the One Identity Manager Service. At the same time, any requests and assignment requests with this account definition are canceled.
6. Remove the required account definition assignment. As long as the account definition is required for another account definition, it cannot be deleted. Check all the account definitions.
- a. In the Manager, select the **SAP R/3 | Basic configuration data | Account definitions | Account definitions** category.
 - b. Select an account definition in the result list.
 - c. Select the **Change master data** task.
 - d. From the **Required account definition** menu, remove the account definition.
 - e. Save the changes.
7. Remove the account definition's assignments to target systems.
- a. In the Manager, select the client in the **SAP R/3 | Clients** category.
 - b. Select the **Change master data** task.
 - c. On the **General** tab, remove the assigned account definitions.
 - d. Save the changes.
8. Delete the account definition.
- a. In the Manager, select the **SAP R/3 | Basic configuration data | Account definitions | Account definitions** category.

- b. Select an account definition in the result list.
- c. Click  to delete an account definition.

Editing a server

In order to handle SAP R/3 -specific processes in One Identity Manager, the synchronization server and its server functions must be declared. You have several options for defining a server's functionality:

- In the Designer, create an entry for the Job server in the **Base Data | Installation | Job server** category. For detailed information, see *One Identity Manager Configuration Guide*.
- Select an entry for the Job server in **Manager | Basic configuration data | Server** in SAP R/3 and edit the Job server master data.

Use this task if the Job server has already been declared in One Identity Manager and you want to configure special functions for the Job server.

NOTE: One Identity Manager must be installed, configured, and started in order for a server to perform its function in the One Identity Manager Service network. Proceed as described in the *One Identity Manager Installation Guide*.

To edit a Job server and its functions

1. In the Manager, select the **SAP R/3 | Basic configuration data | Server** category.
2. Select the Job server entry in the result list.
3. Select the **Change master data** task.
4. Edit the Job server's master data.
5. Select the **Assign server functions** task and specify server functionality.
6. Save the changes.

Detailed information about this topic

- [Master data for a Job server](#) on page 79
- [Specifying server functions](#) on page 81

Related topics

- [Setting up the synchronization server](#) on page 19

Master data for a Job server

NOTE: All editing options are also available in the Designer under **Base Data | Installation | Job server**.

NOTE: More properties may be available depending on which modules are installed.

Table 27: Job server properties

Property	Meaning
Server	Job server name.
Full server name	Full server name in accordance with DNS syntax. Example: <Name of server>.<Fully qualified domain name>
Target system	Computer account target system.
Language	Language of the server.
Server is cluster	Specifies whether the server maps a cluster.
Server belongs to cluster	Cluster to which the server belongs. NOTE: The Server is cluster and Server belongs to cluster properties are mutually exclusive.
IP address (IPv6)	Internet protocol version 6 (IPv6) server address.
IP address (IPv4)	Internet protocol version 4 (IPv4) server address.
Copy process (source server)	Permitted copying methods that can be used when this server is the source of a copy action. At present, only copy methods that support the Robocopy and rsync programs are supported. If no method is given, the One Identity Manager Service determines the operating system of the server during runtime. Replication is then performed with the Robocopy program between servers with a Windows operating system or with the rsync program between servers with a Linux operating system. If the operating systems of the source and destination servers differ, it is important that the right copy method is applied for successful replication. A copy method is chosen that supports both servers.
Copy process (target)	Permitted copying methods that can be used when this server is the destination of a copy action.

Property Meaning

Property	Meaning
server)	
Coding	Character set coding that is used to write files to the server.
Parent Job server	Name of the parent Job server.
Executing server	<p>Name of the executing server. The name of the server that exists physically and where the processes are handled.</p> <p>This input is evaluated when the One Identity Manager Service is automatically updated. If the server is handling several queues, the process steps are not supplied until all the queues that are being processed on the same server have completed their automatic update.</p>
Queue	Name of the queue to handle the process steps. Each One Identity Manager Service within the network must have a unique queue identifier. The process steps are requested by the Job queue using this exact queue name. The queue identifier is entered in the One Identity Manager Service configuration file.
Server operating system	Operating system of the server. This input is required to resolve the path name for replicating software profiles. The values Win32 , Windows , Linux , and Unix are permitted. If no value is specified, Win32 is used.
Service account data	One Identity Manager Service user account information. In order to replicate between non-trusted systems (non-trusted domains, Linux server), the One Identity Manager Service user information has to be declared for the servers in the database. This means that the service account, the service account domain, and the service account password have to be entered for the server.
One Identity Manager Service installed	<p>Specifies whether a One Identity Manager Service is installed on this server. This option is enabled by the QBM_PJobQueueLoad procedure the moment the queue is called for the first time.</p> <p>The option is not automatically removed. If necessary, you can reset this option manually for servers whose queue is no longer enabled.</p>
Stop One Identity Manager Service	<p>Specifies whether the One Identity Manager Service has stopped. If this option is set for the Job server, the One Identity Manager Service does not process any more tasks.</p> <p>You can make the service start and stop with the appropriate administrative permissions in the Job Queue Info program. For more detailed information, see the <i>One Identity Manager Process Monitoring and Troubleshooting Guide</i>.</p>
No automatic software update	<p>Specifies whether to exclude the server from automatic software updating.</p> <p> NOTE: Servers must be manually updated if this option is set.</p>

Property	Meaning
Software update running	Specifies whether a software update is currently running.
Last fetch time	Last time the process was collected.
Last timeout check	The time of the last check for loaded process steps with a dispatch value that exceeds the one in the Common Jobservice LoadedJobsTimeOut configuration parameter.
Server function	Server functionality in One Identity Manager. One Identity Manager processes are handled with respect to the server function.

Related topics

- [Specifying server functions](#) on page 81

Specifying server functions

NOTE: All editing options are also available in the Designer under **Base Data | Installation | Job server**.

The server function defines the functionality of a server in One Identity Manager. One Identity Manager processes are handled with respect to the server function.

NOTE: More server functions may be available depending on which modules are installed.

Table 28: Permitted server functions

Server function	Remark
CSV connector	Server on which the CSV connector for synchronization is installed.
Domain controller	The Active Directory domain controller. Servers that are not labeled as domain controllers are considered to be member servers.
Printer server	Server that acts as a print server.
Generic server	Server for generic synchronization with a custom target system.
Home server	Server for adding home directories for user accounts.
Update server	This server automatically updates the software on all the other servers. The server requires a direct connection to the database server that One Identity Manager database is installed on. It can run SQL tasks. The server with the One Identity Manager database installed on it is labeled with this functionality during initial installation of the schema.

Server function	Remark
SQL processing server	It can run SQL tasks. The server requires a direct connection to the database server that One Identity Manager database is installed on. Several SQL processing servers can be set up to spread the load of SQL processes. The system distributes the generated SQL processes throughout all the Job servers with this server function.
CSV script server	This server can process CSV files using the ScriptComponent process component.
Native database connector	This server can connect to an ADO.Net database.
One Identity Manager database connector	Server on which the One Identity Manager connector is installed. This server synchronizes the One Identity Manager target system.
One Identity Manager Service installed	Server on which a One Identity Manager Service is installed.
Primary domain controller	Primary domain controller.
Profile server	Server for setting up profile directories for user accounts.
SAM synchronization Server	Server for running synchronization with an SMB-based target system.
SAP R/3 connector	Server on which the SAP R/3 connector is installed. This server synchronizes the SAP R/3 target system.
SMTP host	Server from which One Identity Manager Service sends email notifications. Prerequisite for sending mails using One Identity Manager Service is SMTP host configuration.
Default report server	Server on which reports are generated.
Windows PowerShell connector	The server can run Windows PowerShell version 3.0 or later.

Related topics

- [Master data for a Job server](#) on page 79

Target system managers

A default application role exists for the target system manager in One Identity Manager. Assign the employees who are authorized to edit all clients in One Identity Manager to this application role.

Define additional application roles if you want to limit the edit permissions for target system managers to individual clients. The application roles must be added under the default application role.

For detailed information about implementing and editing application roles, see the *One Identity Manager Authorization and Authentication Guide*.

Implementing application roles for target system managers

1. The One Identity Manager administrator allocates employees to be target system administrators.
2. These target system administrators add employees to the default application role for target system managers.
Target system managers with the default application role are authorized to edit all the clients in One Identity Manager.
3. Target system managers can authorize other employees within their area of responsibility as target system managers and if necessary, create additional child application roles and assign these to individual clients.

Table 29: Default application roles for target system managers

User	Tasks
Target system managers	<p>Target system managers must be assigned to the Target systems SAP R/3 application role or a child application role.</p> <p>Users with this application role:</p> <ul style="list-style-type: none">• Assume administrative tasks for the target system.• Create, change, or delete target system objects like user accounts or groups.• Edit password policies for the target system.• Prepare system entitlements to add to the IT Shop.• Can add employees who have an other identity than the Primary identity.• Configure synchronization in the Synchronization Editor and define the mapping for comparing target systems and One Identity Manager.• Edit the synchronization's target system types and outstanding objects.

User**Tasks**

- Authorize other employees within their area of responsibility as target system managers and create child application roles if required.

To initially specify employees to be target system administrators

1. Log in to the Manager as a One Identity Manager administrator (**Base role | Administrators** application role)
2. Select the **One Identity Manager Administration | Target systems | Administrators** category.
3. Select the **Assign employees** task.
4. Assign the employee you want and save the changes.

To add the first employees to the default application as target system managers

1. Log in to the Manager as a target system administrator (**Target systems | Administrators** application role).
2. Select the **One Identity Manager Administration | Target systems | SAP R/3** category.
3. Select the **Assign employees** task.
4. Assign the employees you want and save the changes.

To authorize other employees as target system managers when you are a target system manager

1. Log in to the Manager as a target system manager.
2. Select the application role in the **SAP R/3 | Basic configuration data | Target system managers** category.
3. Select the **Assign employees** task.
4. Assign the employees you want and save the changes.

To specify target system managers for individual clients

1. Log in to the Manager as a target system manager.
2. Select the **SAP R/3 | Clients** category.
3. Select the client in the result list.
4. Select the **Change master data** task.
5. On the **General** tab, select the application role in the **Target system manager** menu.

- OR -

Next to the **Target system manager** menu, click  to create a new application role.

- a. Enter the application role name and assign the **Target systems | SAP R/3** parent application role.
 - b. Click **OK** to add the new application role.
6. Save the changes.
 7. Assign employees to this application role who are permitted to edit the client in One Identity Manager.

Related topics

- [One Identity Manager users for managing SAP R/3](#) on page 12
- [General master data for SAP clients](#) on page 113

Basic data for user account administration

One Identity Manager supplies the following basic data for user administration, by default:

- [User account types](#) on page 86
- [External identifier types](#) on page 87

If configured, other basic data that cannot be edited in One Identity Manager is read from SAP R/3 during synchronization. It is used only for assignments to SAP user accounts. These include:

- [SAP parameters](#) on page 88
- [Printers](#) on page 94
- [Cost centers](#) on page 95
- [Start menus](#) on page 95
- [Companies](#) on page 95
- [Login languages](#) on page 95
- [Licenses](#) on page 96
- [Special versions](#) on page 97

Certain user account properties can be defined as default for all user accounts through the configuration settings. These include:

- [Initial password for new SAP user accounts](#) on page 108
- [Email notifications about login data](#) on page 110

User account types

The user account types are available in One Identity Manager by default. SAP R/3 recognizes the user account types listed below.

Table 30: User account types

User account type	Meaning
Dialog (A)	Dialog user in a system.
System (B)	Background processing within a system.
Communication (C)	Communication between systems without a dialog.
Service (S)	Common user account for anonymous system access, for example. User account of this type should have heavily restricted access permissions.
Reference (L)	Common user account for additional granting of permissions.

The default user account type for new user accounts is specified in "TargetSystem | SAPR3 | UserDefaults | Ustyp".

To modify the default user account type

- In the Designer, edit the value of "TargetSystem | SAPR3 | UserDefaults | Ustyp".

External identifier types

External authentication methods for logging in to a system can be used in SAP R/3. One Identity Manager supplies the following types as user identifiers to find the login data necessary for different authentication mechanisms for external systems on an SAP system:

Table 31: External identifier types

Type	Description
DN	Distinguished Name for X.509.
NT	Windows NTLM or password verification with the Windows domain controller.
LD	LDAP bind <user-defined> (For other external authentication mechanisms).
SA	SAML Token.

To specify a default type for external identifiers

- In the Designer, set the "TargetSystem | SAPR3 | UserDefaults | ExtID_Type" configuration parameter and specify a value.

SAP parameters

Parameters can be loaded into the One Identity Manager database by synchronization and be either directly or indirectly assigned to user accounts. In the case of indirect assignment, employees and parameters are arranged in hierarchical roles. The number of parameters assigned to an employee is calculated from the position in the hierarchy and the direction of inheritance. If you add an employee to hierarchical roles and that employee owns a user account, the parameter is assigned to the user account.

Prerequisites for assigning employees to user accounts are:

- Assignment of employees and SAP parameters is permitted for role classes (departments, cost centers, locations, or business roles).
- User accounts and parameters belong to the same SAP system.

A different parameter value can be specified for each hierarchical role that is assigned a parameter. Thus, the parameter values are also inherited by the user account. You can use membership in hierarchical roles to control which parameter values the parameter obtain from the user account.

Detailed information about this topic

- [Displaying master data for SAP parameters](#) on page 88
- [General master data for SAP parameters](#) on page 89
- [Assigning SAP parameters to departments, cost centers, and locations](#) on page 89
- [Assigning SAP parameters to business roles](#) on page 90
- [Editing parameter values for indirect SAP parameter assignment](#) on page 91
- [Inheritance of parameter values by SAP user accounts](#) on page 93

Related topics

- [Directly assigning SAP parameters](#) on page 134

Displaying master data for SAP parameters

To display the properties of a parameter

1. In the Manager, select the **SAP R/3 | Parameters** category.
2. Select the parameter in the result list.
3. Select the **Change master data** task.

To obtain an overview of a parameter

1. In the Manager, select the **SAP R/3 | Parameters** category.
2. Select the parameter in the result list.
3. Select the **Parameter overview** task.

On the parameter's overview form, you can click the assigned user account to open the user account's master data form. You can adjust the values of the parameters that modify this assignment.

Detailed information about this topic

- [Directly assigning SAP parameters](#) on page 134

General master data for SAP parameters

The following properties are mapped for parameters

Table 32: Parameter properties

Property	Description
System	System to which the parameter belongs.
Parameter	Parameter name.
Text	Description of the parameter.

Assigning SAP parameters to departments, cost centers, and locations

Assign parameters to departments, cost centers, and locations so that they are assigned to user accounts through these organizations.

To assign a parameter to departments, cost centers, or locations (non role-based login)

1. In the Manager, select the **SAP R/3 | Parameters** category.
2. Select the parameter in the result list.
3. Select the **Assign organizations** task.
4. In the **Add assignments** pane, assign the organizations:
 - On the **Departments** tab, assign departments.
 - On the **Locations** tab, assign locations.

- On the **Cost centers** tab, assign cost centers.

TIP: In the **Remove assignments** pane, you can remove assigned organizations.

To remove an assignment

- Select the organization and double-click .

5. Save the changes.

To assign parameters to a department, cost center, or location (role-based login)

1. In the Manager, select the **Organizations | Departments** category.
- OR -
In the Manager, select the **Organizations | Cost centers** category.
- OR -
In the Manager, select the **Organizations | Locations** category.
2. Select the department, cost center, or location in the result list.
3. Select the **Assign SAP parameters** task.
4. In the **Add assignments** pane, assign parameters. To filter the parameter list, select a system in the **SAP systems** field.

TIP: In the **Remove assignments** pane, you can remove parameter assignments.

To remove an assignment

- Select the parameter and double-click .

5. Save the changes.

Related topics

- [Assigning SAP parameters to business roles](#) on page 90
- [Editing parameter values for indirect SAP parameter assignment](#) on page 91
- [Directly assigning SAP parameters](#) on page 134
- [One Identity Manager users for managing SAP R/3](#) on page 12

Assigning SAP parameters to business roles

NOTE: This function is only available if the Business Roles Module is installed.

By assigning a parameter to business roles, you are assigning the parameter to user accounts through these business roles.

To assign a parameter to a business role (non role-based login)

1. In the Manager, select the **SAP R/3 | Parameters** category.
2. Select the parameter in the result list.
3. Select the **Assign business roles** task.
4. In the **Add assignments** pane, assign business roles.

TIP: In the **Remove assignments** pane, you can remove assigned business roles.

To remove an assignment

- Select the business role and double-click .
5. Save the changes.

To assign parameters to a business role (non role-based login)

1. In the Manager, select the **Business roles | <role class>** category.
2. Select the business role in the result list.
3. Select the **Assign SAP parameters** task.
4. In the **Add assignments** pane, assign parameters. To filter the parameter list, select a system in the **SAP systems** field.

TIP: In the **Remove assignments** pane, you can remove parameter assignments.

To remove an assignment

- Select the parameter and double-click .
5. Save the changes.

Related topics

- [Assigning SAP parameters to departments, cost centers, and locations](#) on page 89
- [Editing parameter values for indirect SAP parameter assignment](#) on page 91
- [Directly assigning SAP parameters](#) on page 134
- [One Identity Manager users for managing SAP R/3](#) on page 12

Editing parameter values for indirect SAP parameter assignment

To add, change or delete a parameter value for indirect parameter assignment

1. In the Manager, select the **Organizations | Departments** category.
2. In the result list, select the department the parameter is assigned to.
3. Select the **Department overview** task.

4. In the **SAP parameter** form element, select a parameter.
This opens the parameter assignment master data form.
5. Add, edit, or delete the parameter value.
6. Save the changes.

- OR -

1. In the Manager, select the **Organizations | Cost centers** category.
2. In the result list, select the cost center the parameter is assigned to.
3. Select the **Cost center overview** task.
4. In the **SAP parameter** form element, select a parameter.
This opens the parameter assignment master data form.
5. Add, edit, or delete the parameter value.
6. Save the changes.

- OR -

1. In the Manager, select the **Organizations | Locations** category.
2. In the result list, select the location the parameter is assigned to.
3. Select the **Location overview** task.
4. In the **SAP parameter** form element, select a parameter.
This opens the parameter assignment master data form.
5. Add, edit, or delete the parameter value.
6. Save the changes.

- OR -

1. In the Manager, select the **Business roles | <role class>** category.
2. In the result list, select the business role the parameter is assigned to.
3. Select the **Business role overview** task.
4. In the **SAP parameter** form element, select a parameter.
This opens the parameter assignment master data form.
5. Add, edit, or delete the parameter value.
6. Save the changes.

Related topics

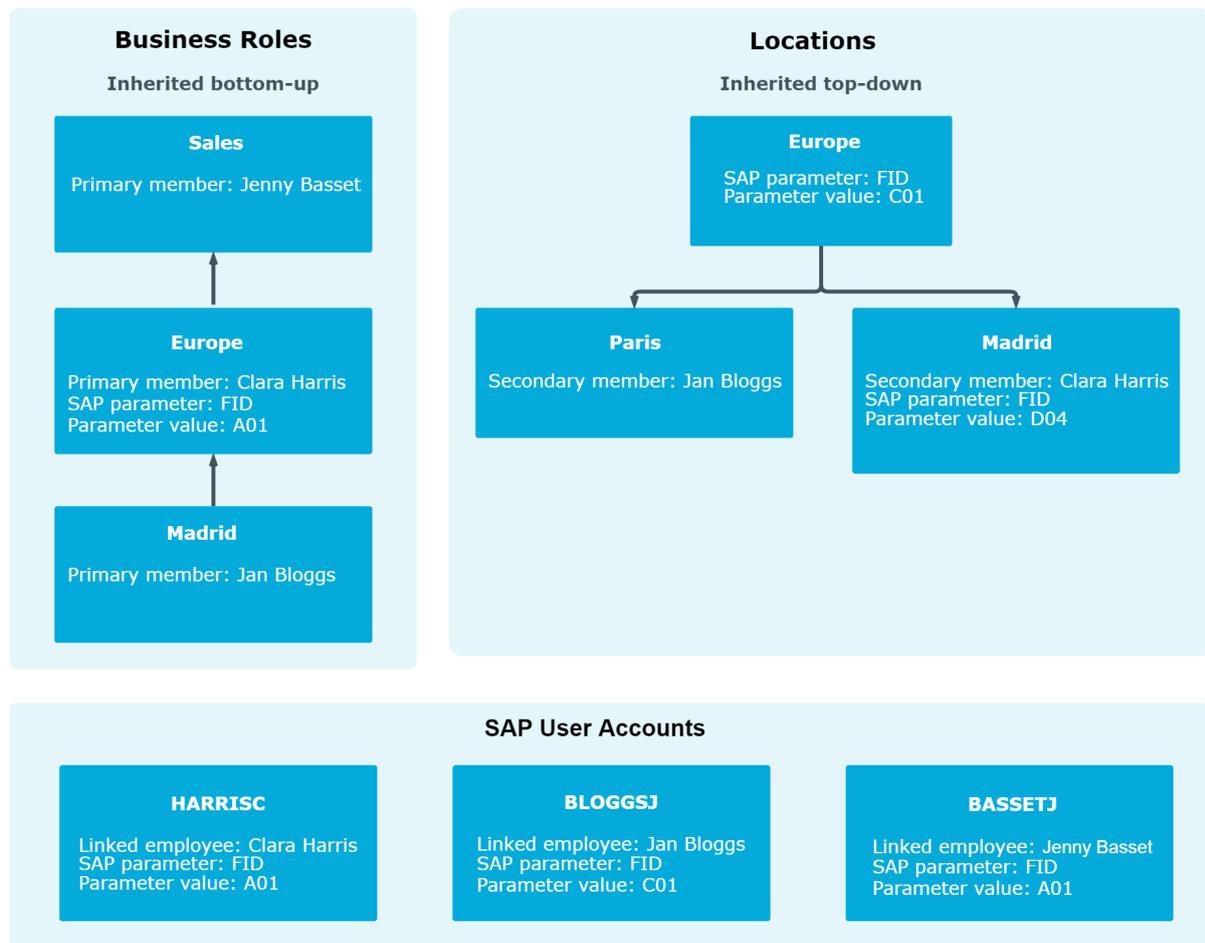
- [Assigning SAP parameters to departments, cost centers, and locations](#) on page 89
- [Assigning SAP parameters to business roles](#) on page 90
- [Directly assigning SAP parameters](#) on page 134
- [Inheritance of parameter values by SAP user accounts](#) on page 93

Inheritance of parameter values by SAP user accounts

If parameter values are directly assigned to user accounts, you can enter a parameter value. You can also specify a parameter value if parameters are assigned to hierarchical roles. This parameter value is inherited by the user account along with the parameter. If a parameter is inherited by a user account by different methods, the actual parameter value is calculated as followed:

1. Directly assigned parameters are determined.
Direct assignments occur by:
 - Synchronizing user accounts including their parameter values
 - Direct assignment of parameters in the Manager
2. Indirectly assigned parameter are determined in the following order:
 - a. Primary department
 - b. Primary location
 - c. Primary cost center
 - d. Primary business roles
 - e. Secondary department
 - f. Secondary location
 - g. Secondary cost center
 - h. Secondary business role
3. If the parameter inheritance goes through different roles of a role class, the actual parameter value is calculated by the shortest inheritance path within the role hierarchy. The direction of inheritance of the role class is taken into account.

Figure 4: Example of SAP parameter inheritance



Related topics

- [Editing parameter values for indirect SAP parameter assignment](#) on page 91
- [Directly assigning SAP parameters](#) on page 134

Printers

To display a printer

1. Select the **SAP R/3 | Printers** category.
2. Select the printer in the result list.

The printer's properties, assigned SAP system and assigned user accounts are displayed on the overview form.

Cost centers

To display a cost center

1. Select **SAP R/3 | Cost centers**.
2. Select the cost center in the result list.

The cost center properties and assigned client are displayed on the overview form.

Start menus

To display a start menu

1. Select the **SAP R/3 | Start menus** category.
2. Select the start menu in the result list.

The start menu's properties, assigned client and assigned user accounts are displayed on the overview form.

Companies

To display a company

1. Select the **SAP R/3 | Companies** category.
2. Select the company in the result list.

The company's properties, assigned client and assigned user accounts are displayed on the overview form.

Login languages

To display a login language

1. Select the **SAP R/3 | Basic configuration data | Login languages** category.
2. Select the login language in the result list.

The login language's properties, the associated SAP system and assigned user accounts are displayed on the overview form.

Security policies

You can load security policies into the One Identity Manager database using synchronization and assign them to a user account.

To display security policies

1. Select the **SAP R/3 | Security policies** category.
2. Select the security policy in the result list. Select the **Change master data** task.

Valid security policy attributes, the assigned client, and user account accounts are displayed on the overview form.

Communication types

Communication types can be loaded into the One Identity Manager database by synchronization and assigned to user accounts.

To display communication types

1. Select the **SAP R/3 | Communication types** category.
2. Select the communication type from the result list.

The assigned user accounts are shown on the overview form.

Licenses

Licenses are required for user account system measurement. Select the following objects in the synchronization configuration to be able to synchronize licenses and their properties with the database after initial migration.

To enter a rating for a license

1. Select the **SAP R/3 | Licenses** category.
2. Select the license in the result list. Select the **Change master data** task.
3. Enter a value in **Rating**.
4. Save the changes.

The following information is shown for Licenses:

Table 33: License master data

Property	Description
License	Unique license identifier. Used to determine the system measurement rating if no license rating is entered.
system	Associated SAP system.
User type	User type of the SAP system to which the license applies.
Price list (token)	Number in the price list.
Price list (text)	Description in the price list.
Rating	License rating as alphanumeric string. Enter any alphanumeric character string. Case sensitivity is not taken into account when determining the rating for system measurement. The license rating is evaluated when the system measurement ratings are determined. If no rating is entered the license ID for determining the rating for system measurement is used.
Enabled	Specifies whether the license is enabled.
Special version	Specifies whether special versions can be selected for this license.
Country surcharge	Specifies whether country surcharges can be selected for this license.

Detailed information about this topic

- [Providing system measurement data](#) on page 195

Special versions

If, in SAP R/3, special versions are installed for license extension, user accounts for system measurement must be classified accordingly.

You can see the CUA assignment to user accounts on the special version overview form. Navigate to the user account with the mouse and edit the special version assignment.

To obtain an overview of an e special version

1. Select the **SAP R/3 | Special versions** category.
2. Select the special version in the result list.

Password policies for SAP user accounts

One Identity Manager provides you with support for creating complex password policies, for example, for system user passwords, the employees' central password as well as passwords for individual target systems. Password policies apply not only when the user enters a password but also when random passwords are generated.

Predefined password policies are supplied with the default installation that you can use or customize if required. You can also define your own password policies.

Detailed information about this topic

- [Predefined password policies](#) on page 98
- [Using password policies](#) on page 99
- [Editing password policies](#) on page 101
- [Custom scripts for password requirements](#) on page 104
- [Password exclusion list](#) on page 107
- [Checking a password](#) on page 107
- [Testing password generation](#) on page 108

Predefined password policies

You can customize predefined password policies to meet your own requirements, if necessary.

Password for logging in to One Identity Manager

The **One Identity Manager password policy** is applied for logging in to One Identity Manager. This password policy defines the settings for the system user passwords (DialogUser.Password and Person.DialogUserPassword) as well as the passcode for a one time log in on the Web Portal (Person.Passcode).

NOTE: The **One Identity Manager password policy** is marked as the default policy. This password policy is applied if no other password policy can be found for employees, user accounts, or system users.

For detailed information about password policies for employees, see the *One Identity Manager Identity Management Base Module Administration Guide*.

Password policy for forming employees' central passwords

An employee's central password is formed from the target system specific user accounts by respective configuration. The **Employee central password policy** defines the

settings for the (Person.CentralPassword) central password. Members of the **Identity Management | Employees | Administrators** application role can adjust this password policy.

IMPORTANT: Ensure that the **Employee central password policy** does not violate the target system-specific requirements for passwords.

For detailed information about password policies for employees, see the *One Identity Manager Identity Management Base Module Administration Guide*.

Password policies for user accounts

Predefined password policies are provided, which you can apply to the user account password columns of the user accounts.

IMPORTANT: If you do not use password policies that are specific to the target system, the **One Identity Manager password policy** default policy applies. In this case, ensure that the default policy does not violate the target systems requirements.

NOTE: When you update One Identity Manager version 7.x to One Identity Manager version 8.1.5, the configuration parameter settings for forming passwords are passed on to the target system-specific password policies.

The **SAP R/3 password policy** is predefined for SAP R/3. You can apply this password policy to SAP user accounts (SAPUser.Password) of an SAP client.

If the clients' password requirements differ, it is recommended that you set up your own password policies for each client.

Furthermore, you can apply password policies based on the account definition of the user accounts or based on the manage level of the user accounts.

Using password policies

The **SAP R/3 password policy** is predefined for SAP R/3. You can apply this password policy to SAP user accounts (SAPUser.Password) of an SAP client.

If the clients' password requirements differ, it is recommended that you set up your own password policies for each client.

Furthermore, you can apply password policies based on the account definition of the user accounts or based on the manage level of the user accounts.

The password policy that is to be used for a user account is determined in the following sequence:

1. Password policy of the account definition of the user account.
2. Password policy of the manage level of the user account.
3. Password policy for the client of the user account.
4. The **One Identity Manager password policy** (default policy).

IMPORTANT: If you do not use password policies that are specific to the target system, the **One Identity Manager password policy** default policy applies. In this case, ensure that the default policy does not violate the target systems requirements.

To reassign a password policy

1. In the Manager, select the **SAP R/3 | Basic configuration data | Password policies** category.
2. Select the password policy in the result list.
3. Select the **Assign objects** task.
4. Click **Add** in the **Assignments** section and enter the following data.

Table 34: Assigning a password policy

Property	Description
Apply to	Application scope of the password policy. To specify an application scope <ol style="list-style-type: none">a. Click  next to the field.b. Select one of the following references under Table:<ul style="list-style-type: none">• The table that contains the base objects of synchronization.• To apply the password policy based on the account definition, select the TSBAccountDef table.• To apply the password policy based on the manage level, select the TSBBehavior table.c. Under Apply to, select the table that contains the base objects.<ul style="list-style-type: none">• If you have selected the table containing the base objects of synchronization, next select the specific target system.• If you have selected the TSBAccountDef table, next select the specific account definition.• If you have selected the TSBBehavior table, next select the specific manage level.d. Click OK.
Password column	The password column's identifier.
Password policy	The identifier of the password policy to be used.

5. Save the changes.

To change a password policy's assignment

1. In the Manager, select the **SAP R/3 | Basic configuration data | Password policies** category.
2. Select the password policy in the result list.
3. Select the **Assign objects** task.
4. In the **Assignments** pane, select the assignment you want to change.
5. From the **Password Policies** menu, select the new password policy you want to apply.
6. Save the changes.

Editing password policies

To edit a password policy

1. In the Manager, select the **SAP R/3 | Basic configuration data | Password policies** category.
2. Select the password policy in the result list and select **Change master data**.
- OR -
Click  in the result list.
3. Edit the password policy's master data.
4. Save the changes.

Detailed information about this topic

- [General master data for password policies](#) on page 101
- [Policy settings](#) on page 102
- [Character classes for passwords](#) on page 103
- [Custom scripts for password requirements](#) on page 104

General master data for password policies

Enter the following master data for a password policy.

Table 35: Master data for a password policy

Property	Meaning
Display name	Password policy name. Translate the given text using the  button.

Property	Meaning
Description	Text field for additional explanation. Translate the given text using the  button.
Error Message	Custom error message generated if the policy is not fulfilled. Translate the given text using the  button.
Owner (Application Role)	Application roles whose members can configure the password policies.
Default policy	Mark as default policy for passwords. NOTE: The One Identity Manager password policy is marked as the default policy. This password policy is applied if no other password policy can be found for employees, user accounts, or system users.

Policy settings

Define the following settings for a password policy on the **Password** tab.

Table 36: Policy settings

Property	Meaning
Initial password	Initial password for newly created user accounts. The initial password is used if a password is not entered when you create a user account or if a random password is not generated.
Password confirmation	Reconfirm password.
Minimum Length	Minimum length of the password. Specify the number of characters a password must have.
Max. length	Maximum length of the password. Specify the number of characters a password can have. The maximum permitted value is 256 .
Max. errors	<p>Maximum number of errors. Set the number of invalid passwords attempts. Only taken into account when logging in to One Identity Manager.</p> <p>This data is only taken into account if the One Identity Manager login was through a system user or employee based authentication module. If a user has reached the number of maximum failed logins, the employee or system user can no longer log in to One Identity Manager.</p> <p>You can use the Password Reset Portal to reset the passwords of employees and system users who have been blocked. For</p>

Property	Meaning
	more detailed information, see the <i>One Identity Manager Web Portal User Guide</i> .
Validity period	Maximum age of the password. Enter the length of time a password can be used before it expires.
Password history	Enter the number of passwords to be saved. If, for example, a value of 5 is entered, the user's last five passwords are stored.
Minimum password strength	Specifies how secure the password must be. The higher the password strength, the more secure it is. The value 0 means that the password strength is not tested. The values 1 , 2 , 3 and 4 specify the required complexity of the password. The value 1 represents the lowest requirements in terms of password strength. The value 4 requires the highest level of complexity.
Name properties denied	Specifies whether name properties are permitted in the password. If this option is set, name properties are not permitted in passwords. The values of these columns are taken into account if the Contains name properties for password check option is set. In the Designer, adjust this option in the column definition. For more detailed information, see the <i>One Identity Manager Configuration Guide</i> .

Character classes for passwords

Use the **Character classes** tab to specify which characters are permitted for a password.

Table 37: Character classes for passwords

Property	Meaning
Min. number letters	Specifies the minimum number of alphabetical characters the password must contain.
Min. number lowercase	Specifies the minimum number of lowercase letters the password must contain.
Min. number uppercase	Specifies the minimum number of uppercase letters the password must contain.
Min. number digits	Specifies the minimum number of digits the password must contain.
Min. number special	Specifies the minimum number of special characters the password must contain.

Property	Meaning
characters	
Permitted special characters	List of permitted special characters.
Max. identical characters in total	Specifies the maximum number of identical characters that can be present in the password in total.
Max. identical characters in succession	Specifies the maximum number of identical character that can be repeated after each other.
Denied special characters	List of special characters that are not permitted.
Do not generate lowercase letters	Specifies whether or not a generated password can contain lowercase letters. This setting only applies when passwords are generated.
Do not generate uppercase letters	Specifies whether or not a generated password can contain uppercase letters. This setting only applies when passwords are generated.
Do not generate digits	Specifies whether or not a generated password can contain digits. This setting only applies when passwords are generated.
Do not generate special characters	Specifies whether or not a generated password can contain special characters. If this option is set, only letters, numbers, and spaces are allowed in passwords. This setting only applies when passwords are generated.

Custom scripts for password requirements

You can implement custom scripts for testing and generating passwords if the password requirements cannot be mapped with the existing settings options. Scripts are applied in addition to the other settings.

Detailed information about this topic

- [Script for checking passwords](#) on page 105
- [Script for generating a password](#) on page 106

Script for checking passwords

You can implement a script if additional policies need to be used for checking a password that cannot be mapped with the available settings.

Syntax of check scripts

```
Public Sub CCC_CustomPwdValidate( policy As VI.DB.Passwords.PasswordPolicy, spwd As System.Security.SecureString)
```

With parameters:

policy = password policy object

spwd = password to check

TIP: To use a base object, take the Entity property of the PasswordPolicy class.

Example of a script that checks a password

A password cannot start with ? or ! . The password cannot start with three identical characters. The script checks a given password for validity.

```
Public Sub CCC_PwdValidate( policy As VI.DB.Passwords.PasswordPolicy, spwd As System.Security.SecureString)
    Dim pwd = spwd.ToInsecureArray()
    If pwd.Length>0
        If pwd(0)="?" Or pwd(0)="!"
            Throw New Exception(#LD("Password can't start with '?' or '!")#)
        End If
    End If
    If pwd.Length>2
        If pwd(0) = pwd(1) AndAlso pwd(1) = pwd(2)
            Throw New Exception(#LD("Invalid character sequence in password")#)
        End If
    End If
End Sub
```

To use a custom script for checking a password

1. In the Designer, create your script in the **Script Library** category.
2. Edit the password policy.
 - a. In the Manager, select the **SAP R/3 | Basic configuration data | Password policies** category.
 - b. In the result list, select the password policy.
 - c. Select the **Change master data** task.
 - d. On the **Scripts** tab, enter the name of the script to be used to check a password in the **Check script** field.
 - e. Save the changes.

Related topics

- [Script for generating a password](#) on page 106

Script for generating a password

You can implement a generating script if additional policies need to be used for generating a random password, which cannot be mapped with the available settings.

Syntax for generating script

```
Public Sub CCC_PwdGenerate( policy As VI.DB.Passwords.PasswordPolicy, spwd As System.Security.SecureString)
```

With parameters:

policy = password policy object

spwd = generated password

TIP: To use a base object, take the Entity property of the PasswordPolicy class.

Example for a script to generate a password

The script replaces the **?** and **!** characters at the beginning of random passwords with **_**.

```
Public Sub CCC_PwdGenerate( policy As VI.DB.Passwords.PasswordPolicy, spwd As System.Security.SecureString)
```

```
    Dim pwd = spwd.ToInsecureArray()  
    ' replace invalid characters at first position  
    If pwd.Length>0  
        If pwd(0)="?" Or pwd(0)="!"  
            spwd.SetAt(0, CChar("_"))  
        End If
```

End If

End Sub

To use a custom script for generating a password

1. In the Designer, create your script in the **Script Library** category.
2. Edit the password policy.
 - a. In the Manager, select the **SAP R/3 | Basic configuration data | Password policies** category.
 - b. In the result list, select the password policy.
 - c. Select the **Change master data** task.
 - d. On the **Scripts** tab, enter the name of the script to be used to generate a password in the **Generating script** field.
 - e. Save the changes.

Related topics

- [Script for checking passwords](#) on page 105

Password exclusion list

You can add words to a list of restricted terms to prohibit them from being used in passwords.

| **NOTE:** The restricted list applies globally to all password policies.

To add a term to the restricted list

1. In the Designer, select the **Base Data | Security settings | Restricted passwords** category.
2. Create a new entry with the **Object | New** menu item and enter the term you want to exclude from the list.
3. Save the changes.

Checking a password

When you check a password, all the password policy settings, custom scripts, and the restricted passwords are taken into account.

To check if a password conforms to the password policy

1. In the Manager, select the **SAP R/3 | Basic configuration data | Password policies** category.
2. Select the password policy in the result list.
3. Select the **Change master data** task.
4. Select the **Test** tab.
5. Select the table and object to be tested in **Base object for test**.
6. Enter a password in **Enter password to test**.

A display next to the password shows whether it is valid or not.

Testing password generation

When you generate a password, all the password policy settings, custom scripts and the restricted passwords are taken into account.

To generate a password that conforms to the password policy

1. In the Manager, select the **SAP R/3 | Basic configuration data | Password policies** category.
2. In the result list, select the password policy.
3. Select the **Change master data** task.
4. Select the **Test** tab.
5. Click **Generate**.

This generates and displays a password.

Initial password for new SAP user accounts

Table 38: Configuration parameters for formatting initial passwords for user accounts

Configuration parameter	Meaning
QER Person UseCentralPassword	This configuration parameter specifies whether the employee's central password is used in the user accounts. The employee's central password is automatically mapped to the employee's user account in all permitted target systems. This excludes privileged user accounts, which are not updated.

Configuration parameter	Meaning
QER Person UseCentralPassword PermanentStore	This configuration parameter controls the storage period for central passwords. If the configuration parameter is enabled, the central password is stored in the One Identity Manager database and is used for new users. If the configuration parameter is disabled, the central password is deleted from the One Identity Manager database following publishing to the existing user accounts. The central password is not available for new user accounts.
TargetSystem SAPR3 Accounts InitialRandomPassword	This configuration parameter specifies whether a random generated password is issued when a new user account is added. The password must contain at least those character sets that are defined in the password policy.

You can issue an initial password for a new SAP user account in the following ways:

- Create user accounts manually and enter a password in their master data.
- Assign a randomly generated initial password to enter when you create user accounts.
 - In the Designer, set the **TargetSystem | SAPR3 | Accounts | InitialRandomPassword** configuration parameter.
 - Apply target system specific password policies and define the character sets that the password must contain.
 - Specify which employee will receive the initial password by email.
- Use the employee's central password. The employee's central password is mapped to the user account password. For detailed information about an employee's central password, see the *One Identity Manager Identity Management Base Module Administration Guide*.

Related topics

- [Password policies for SAP user accounts](#) on page 98
- [Email notifications about login data](#) on page 110

Email notifications about login data

Table 39: Configuration parameters for notifications about actions in the target system

Configuration parameter	Meaning
TargetSystem SAPR3 Accounts InitialRandomPassword SendTo	This configuration parameter specifies to which employee the email with the random generated password should be sent (manager cost center/department/location/business role, employee's manager or XUserInserted). If no recipient can be found, the password is sent to the address stored in the "TargetSystem SAPR3 DefaultAddress" configuration parameter.
TargetSystem SAPR3 Accounts InitialRandomPassword SendTo MailTemplateAccountName	This configuration parameter contains the name of the mail template sent to provide users with the login data for their user accounts. The Employee - new user account created mail template is used.
TargetSystem SAPR3 Accounts InitialRandomPassword SendTo MailTemplatePassword	This configuration parameter contains the name of the mail template sent to provide users with information about their initial password. The Employee - initial password for new user account mail template is used.
TargetSystem SAPR3 DefaultAddress	The configuration parameter contains the recipient's default email address for sending notifications about actions in the target system.

You can configure the login information for new user accounts to be sent by email to a specified person. In this case, two messages are sent with the user name and the initial password. Mail templates are used to generate the messages. The mail text in a mail template is defined in several languages. This means the recipient's language can be taken into account when the email is generated. Mail templates are supplied in the default installation with which you can configure the notification procedure.

To use email notifications about login data

1. Ensure that the email notification system is configured in One Identity Manager. For more detailed information, see the *One Identity Manager Installation Guide*.
2. In the Designer, set the **Common | MailNotification | DefaultSender** configuration parameter and enter the sender address for sending the email notifications.
3. Ensure that all employees have a default email address. Notifications are sent to this address. For more detailed information, see the *One Identity Manager Identity Management Base Module Administration Guide*.

4. Ensure that a language can be determined for all employees. Only then can they receive email notifications in their own language. For more detailed information, see the *One Identity Manager Identity Management Base Module Administration Guide*.

When a randomly generated password is issued for the new user account, the initial login data for a user account is sent by email to a previously specified person.

To send initial login data by email

1. In the Designer, set the "TargetSystem | SAPR3 | Accounts | InitialRandomPassword" configuration parameter.
2. In the Designer, set the "TargetSystem | SAPR3 | Accounts | InitialRandomPassword | SendTo" configuration parameter and enter the message recipient as value.
3. In the Designer, set the "TargetSystem | SAPR3 | Accounts | InitialRandomPassword | SendTo | MailTemplateAccountName" configuration parameter.

By default, the message sent uses the mail template "Employee - new account created". The message contains the name of the user account.

4. In the Designer, set the "TargetSystem | SAPR3 | Accounts | InitialRandomPassword | SendTo | MailTemplatePassword" configuration parameter.

By default, the message sent uses the mail template "Employee - initial password for new user account". The message contains the initial password for the user account.

TIP: To use custom mail templates for emails of this type, change the value of the configuration parameter.

SAP systems

NOTE: The Synchronization Editor sets up the SAP systems in the One Identity Manager database.

To edit an SAP system's master data

1. Select the **SAP R/3 | Systems** category.
2. Select an SAP system in the result list and run the **Change master data** task.
3. Edit the system's master data.
4. Save the changes.

Table 40: Master data for an SAP system

Property	Description
Display name	The SAP system's display name.
System number	The SAP system number.
System measurement enabled	Specifies whether system measurement for this system is carried out. One Identity Manager provides the measurement data but the actual system measurement takes place in the SAP R/3 environment.

Related topics

- [Providing system measurement data](#) on page 195

SAP clients

NOTE: The Synchronization Editor sets up the clients in the One Identity Manager database.

To edit client master data

1. Select the **SAP R/3 | Clients** category.
2. Select the client in the result list. Select the **Change master data** task.
3. Edit the client's master data.
4. Save the changes.

General master data for SAP clients

Enter the following general master data on the **General** tab.

Table 41: General master data for a client

Property	Description
Client no.	Number of the client.
Name	Client's name.
System	System to which the client belongs.
Canonical name	Client's canonical name.
Company	Company for which the client is set up. The company given here is used when a new user account is set up.
City	City where company resides.
Has user administration	Specifies whether the client is used for user administration. If this option is set, the most significant license of the user account is used for system measurement.

Property	Description									
Account definition (initial)	<p>Initial account definition for creating user accounts. This account definition is used if automatic assignment of employees to user accounts is used for this client and if user accounts are to be created that are already managed (Linked configured). The account definition's default manage level is applied.</p> <p>User accounts are only linked to the employee (Linked state) if no account definition is given. This is the case on initial synchronization, for example.</p> <p>NOTE: If the CUA status Child is assigned, no account definition should be assigned.</p>									
Target system managers	<p>Application role, in which target system managers are specified for the client. Target system managers only edit the objects from clients to which they are assigned. A different target system manager can be assigned to each client.</p> <p>Select the One Identity Manager application role whose members are responsible for administration of this client. Use the  button to add a new application role.</p>									
Synchronized by	<p>NOTE: You can only specify the synchronization type when adding a new client. No changes can be made after saving.</p> <p>If you create a client with the Synchronization Editor, One Identity Manager is used.</p> <p>Type of synchronization through which data is synchronized between the client and One Identity Manager. Once objects are available for this client in One Identity Manager, the type of synchronization can no longer be changed.</p> <p>If you create a client with the Synchronization Editor, One Identity Manager is used.</p> <p>Table 42: Permitted values</p> <table border="1"> <thead> <tr> <th>Value</th> <th>Synchronization by</th> <th>Provisioned by</th> </tr> </thead> <tbody> <tr> <td>One Identity Manager</td> <td>SAP R/3 connector</td> <td>SAP R/3 connector</td> </tr> <tr> <td>No synchronization</td> <td>none</td> <td>none</td> </tr> </tbody> </table> <p>NOTE: If you select No synchronization, you can define custom processes to exchange data between One Identity Manager and the target system.</p>	Value	Synchronization by	Provisioned by	One Identity Manager	SAP R/3 connector	SAP R/3 connector	No synchronization	none	none
Value	Synchronization by	Provisioned by								
One Identity Manager	SAP R/3 connector	SAP R/3 connector								
No synchronization	none	none								
ALE name	Name used to map the client as logical system in the SAP distribution model.									

Property	Description
ALE model name	Name of the SAP distribution model that maps the relation between the logical systems of the central user administration. SAP roles and profiles of all child systems with the same ALE model name as the central system, are synchronized when the central system is synchronized.
CUA status	Client usage when the central user administration is in use. Possible values are Central and Child . The value None indicates that the client is not being used in a central user administration.
CUA central system	Central system to which the client belongs. Assign the relevant system for clients with the CUA status Child .
Description	Text field for additional explanation.

Related topics

- [Setting up account definitions](#) on page 60
- [Assigning account definitions to a target system](#) on page 75
- [Target system managers](#) on page 83
- [Special features of synchronizing with a CUA central system](#) on page 33
- [Excluding a child system from synchronization](#) on page 34
- [Providing system measurement data](#) on page 195

Specifying categories for inheriting SAP groups, SAP roles, and SAP profiles

NOTE: In order to easy understanding the behavior is described with respect to SAP groups in this section. It applies in the same way to roles and profiles.

In One Identity Manager, groups can be selectively inherited by user accounts. For this purpose, the groups and the user accounts are divided into categories. The categories can be freely selected and are specified using a mapping rule. Each category is given a specific position within the template. The mapping rule contains different tables. Use the user account table to specify categories for target system dependent user accounts. In the other tables enter your categories for the target system-dependent groups. Each table contains the **Position 1** to **Position 31** category positions.

NOTE: If central user administration is implemented, define the categories in the central system as well as in the child system. The same categories must be defined in the child system as in the central system so that groups from a child system can be inherited by user accounts.

To define a category

1. In the Manager, select the client in the **SAP R/3 | Clients** category.
2. Select the **Change master data** task.
3. Switch to the **Mapping rule category** tab.
4. Extend the relevant roots of a table.
5. To enable the category, double-click .
6. Enter a category name of your choice for user accounts and groups in the login language that you use.
7. Save the changes.

Detailed information about this topic

- [SAP group, SAP role, and SAP profile inheritance based on categories](#) on page 175
- One Identity Manager Target System Base Module Administration Guide

How to edit a synchronization project

Synchronization projects in which a client is already used as a base object can also be opened in the Manager. You can, for example, check the configuration or view the synchronization log in this mode. The Synchronization Editor is not started with its full functionality. You cannot run certain functions, such as, running synchronization or simulation, starting the target system browser and others.

NOTE: The Manager is locked for editing throughout. To edit objects in the Manager, close the Synchronization Editor.

To open an existing synchronization project in the Synchronization Editor

1. Select the **SAP R/3 | Clients** category.
2. Select the client in the result list. Select the **Change master data** task.
3. Select the **Edit synchronization project...** task.

Detailed information about this topic

- One Identity Manager Target System Synchronization Reference Guide

Related topics

- [Customizing the synchronization configuration](#) on page 37

SAP user accounts

You can manage SAP R/3 user accounts with One Identity Manager. One Identity Manager concentrates on setting up and editing SAP user accounts. Groups, roles, and profiles are mapped in SAP, in order to provide the necessary permissions for One Identity Manager user accounts. The necessary data for system measurement is also mapped. The system measurement data is available in One Identity Manager, but the measurement itself takes place in the SAP R/3 environment.

If user accounts are managed through the central user administration (CUA) in SAP R/3, access to the child client can be guaranteed for or withdrawn from user accounts in One Identity Manager.

Detailed information about this topic

- [Linking user accounts to employees](#) on page 117
- [Supported user account types](#) on page 118
- [Entering master data for SAP user accounts](#) on page 124

Linking user accounts to employees

The main feature of One Identity Manager is to map employees together with the master data and permissions available to them in different target systems. To achieve this, information about user accounts and permissions can be read from the target system into the One Identity Manager database and linked to employees. This provides an overview of the permissions for each employee in all of the connected target systems. One Identity Manager offers the option of managing user accounts and their permissions. You can provision modifications in the target systems. Employees are supplied with the necessary permissions in the connected target systems according to their function in the company. Regular synchronization keeps data consistent between target systems and the One Identity Manager database.

Because requirements vary between companies, One Identity Manager offers different methods for supplying user accounts to employees. One Identity Manager supports the following methods for linking employees and their user accounts:

- Employees can automatically obtain their account definitions using user account resources. If an employee does not yet have a user account in a client, a new user account is created. This is done by assigning account definitions to an employee using the integrated inheritance mechanism and subsequent process handling.
When you manage account definitions through user accounts, you can specify the way user accounts behave when employees are enabled or deleted.
- When user accounts are inserted, they can be automatically assigned to an existing employee or a new employee can be created if necessary. In the process, the employee master data is created on the basis of existing user account master data. This mechanism can be implemented if a new user account is created manually or by synchronization. However, this is not the One Identity Manager default method. You must define criteria for finding employees for automatic employee assignment.
- Employees and user accounts can be entered manually and assigned to each other.

Related topics

- [Entering master data for SAP user accounts](#) on page 124
- [Setting up account definitions](#) on page 60
- [Automatic assignment of employees to SAP user accounts](#) on page 143

For more detailed information about employee handling and administration, see the One Identity Manager Target System Base Module Administration Guide.

Supported user account types

Different types of user accounts, such as default user accounts, administrative user accounts, service accounts, or privileged user accounts, can be mapped in One Identity Manager.

The following properties are used for mapping different user account types.

- Identity
The **Identity** property (IdentityType column) is used to describe the type of user account.

Table 43: Identities of user accounts

Identity	Description	Value of the IdentityType column
Primary identity	Employee's default user account.	Primary

Identity	Description	Value of the IdentityType column
Organizational identity	Secondary user account used for different roles in the organization, for example for subcontracts with other functional areas.	Organizational
Personalized admin identity	User account with administrative permissions, used by one employee.	Admin
Sponsored identity	User account that is used for a specific purpose, such as training.	Sponsored
Shared identity	User account with administrative permissions, used by several employees.	Shared
Service identity	Service account.	Service

NOTE: To enable working with identities for user accounts, the employees also need identities. You can only link user accounts to which an identity is assigned with employees who have this same identity.

The primary identity, the organizational identity, and the personalized admin identity are used for different user accounts, which can be used by the same actual employee to perform their different tasks within the company.

To provide user accounts with a personalized admin identity or an organizational identity for an employee, you create subidentities for the employee. These subidentities are then linked to user accounts, enabling you to assign the required permissions to the different user accounts.

User accounts with a sponsored identity, group identity, or service identity are linked to dummy employees that do not refer to a real person. These dummy employees are needed so that permissions can be inherited by the user accounts. When evaluating reports, attestations, or compliance checks, check whether dummy employees need to be considered separately.

For detailed information about mapping employee identities, see the *One Identity Manager Identity Management Base Module Administration Guide*.

- Privileged user account

Privileged user accounts are used to provide employees with additional privileges. This includes administrative user accounts or service accounts, for example. The user accounts are labeled with the **Privileged user account** property (IsPrivilegedAccount column).

Default user accounts

Normally, each employee obtains a default user account, which has the permissions they require for their regular work. The user accounts are linked to the employee. The effect of the link and the scope of the employee's inherited properties on the user accounts can be configured through an account definition and its manage levels.

To create default user accounts through account definitions

1. Create an account definition and assign the **Unmanaged** and **Full managed** manage levels.
2. Specify the effect of temporarily or permanently disabling, deleting, or the security risk of an employee on its user accounts and group memberships for each manage level.
3. Create a formatting rule for IT operating data.

You use the mapping rule to define which rules are used to map the IT operating data for the user accounts, and which default values are used if no IT operating data can be determined through a person's primary roles.

Which IT operating data is required depends on the target system. The following settings are recommended for default user accounts:

- In the mapping rule for the `IsGroupAccount` column, use the default value **1** and enable the **Always use default value** option.
 - In the mapping rule for the `IdentityType` column, use the default value **Primary** and enable **Always use default value**.
4. Enter the effective IT operating data for the target system. Select the concrete target system under **Effects on**.

Specify in the departments, cost centers, locations, or business roles that IT operating data should apply when you set up a user account.

5. Assign the account definition to employees.

When the account definition is assigned to an employee, a new user account is created through the inheritance mechanism and subsequent processing.

Administrative user accounts

An administrative user account must be used for certain administrative tasks. Administrative user accounts are usually predefined by the target system and have fixed names and login names, such as **Administrator**.

Administrative user accounts are imported into One Identity Manager during synchronization.

NOTE: Some administrative user accounts can be automatically identified as privileged user accounts. To do this, in the Designer, enable the **Mark selected user accounts as privileged** schedule.

You can label administrative user accounts as a **Personalized administrator identity** or as a **Shared identity**. Proceed as follows to provide the employees who use this user account with the required permissions.

- Personalized admin identity
 1. Use the `UID_Person` column to link the user account with an employee.
Use an employee with the same identity or create a new employee.

2. Assign this employee to hierarchical roles.
- Shared identity
 1. Assign all employees with usage authorization to the user account.
 2. Link the user account to a dummy employee using the UID_Person column.
Use an employee with the same identity or create a new employee.
 3. Assign this dummy employee to hierarchical roles.

The dummy employee provides the user account with its permissions.

Privileged user accounts

Privileged user accounts are used to provide employees with additional privileges. This includes administrative user accounts or service accounts, for example. The user accounts are labeled with the **Privileged user account** property (IsPrivilegedAccount column).

NOTE: The criteria according to which user accounts are automatically identified as privileged are defined as extensions to the view definition (ViewAddOn) in the TSBVAccountIsPrivDetectRule table (which is a table of the **Union** type). The evaluation is done in the TSB_SetIsPrivilegedAccount script.

To create privileged users through account definitions

1. Create an account definition. Create a new manage level for privileged user accounts and assign this manage level to the account definition.
2. If you want to prevent the properties for privileged user accounts from being overwritten, set the **IT operating data overwrites** property for the manage level to **Only initially**. In this case, the properties are populated just once when the user accounts are created.
3. Specify the effect of temporarily or permanently disabling or deleting, or the security risk of an employee on its user accounts and group memberships for each manage level.
4. Create a formatting rule for the IT operating data.

You use the mapping rule to define which rules are used to map the IT operating data for the user accounts, and which default values are used if no IT operating data can be determined through a person's primary roles.

Which IT operating data is required depends on the target system. The following settings are recommended for privileged user accounts:

- In the mapping rule for the IsPrivilegedAccount column, use the default value **1** and set the **Always use default value** option.
- You can also specify a mapping rule for the IdentityType column. The column owns different permitted values that represent user accounts.
- To prevent privileged user accounts from inheriting the entitlements of the default user, define a mapping rule for the IsGroupAccount column with a default value of **0** and set the **Always use default value** option.

5. Enter the effective IT operating data for the target system.
Specify in the departments, cost centers, locations, or business roles which IT operating data should apply when you set up a user account.
6. Assign the account definition directly to employees who work with privileged user accounts.
When the account definition is assigned to an employee, a new user account is created through the inheritance mechanism and subsequent processing.

TIP: If customization requires that the login names of privileged user accounts follow a defined naming convention, create the template according to which the login names are formed.

Central user administration in One Identity Manager

If user accounts are managed through the central user administration (CUA) in SAP R/3, access to the child client can be guaranteed for or withdrawn from user accounts in One Identity Manager. To do this, clients are marked as central system or child system in One Identity Manager. User accounts are managed in the central system. You specify the client in which each user account obtains its access permissions. (SAPUserMandant table). Only SAP groups, role, or profiles from these clients can be assigned to a user account. A user account only has access authorizations in the central system if the central system is also explicitly assigned in the SAPUserMandant table.

NOTE: In One Identity Manager, only SAP groups from the central system are mapped. SAP groups are not administered through the central user administration.

To use automatic employee assignment for central user administration (CUA) user accounts, assign an account definition to the CUA central system using the **SAPUser** user table.

The access authorizations for central and child systems are read into the One Identity Manager database through synchronization. In One Identity Manager, access authorization can be granted by IT Shop requests and indirect assignment, as well as by indirect assignment.

To grant a person access to a client by indirect assignment or request

1. Create an account definition to generate user accounts in the central system.
In the **User account table** field, select the **SAPUser** table. For more information, see [Master data for an account definition](#) on page 61.
This account definition is required to generate a user account in the central system if the employee does not yet have a user account.
2. Create an account definition for the client for which you want to grant access. The following special features apply:

Table 44: Master data of an account definition for accessing clients

Property	Description
User account table	Select SAPUserMandant from the menu.
Target system	Client for which you want to grant access.
Required account definition	From the menu, select the account definition to generate user accounts in the central system. A user account is then created in the central system if the employee does not yet have a user account.
Manage level (initial)	Select Unmanaged from the menu.
Service item	Service item through which you can request the account definition in the IT Shop. Assign an existing service item or add a new one.
IT Shop	Enable the option if access to the child system can be requested in the Web Portal.
Only for use in IT Shop	Enable the option if access to the child system can only be requested in the Web Portal. Indirect assignment by business roles or organizations is not possible. However, access by a user account to the child system can still be granted directly.

An account definition is required for each child system and for the central system in which you want to grant access.

3. Assign the account definition for the client to a hierarchical role or IT Shop shelf.
4. Add the person as a member to the hierarchical role or as a customer to the IT Shop.

To grant a user account direct access to a client

- Assign all the clients to the user account to which it can have access permissions. For more information, see [Granting access to clients of a central user administration](#) on page 139.

You can now assign the SAP roles and profiles from this client to the user account.

Detailed information about this topic

- [Setting up account definitions](#) on page 60

Related topics

- [General master data for SAP clients](#) on page 113
- [Assigning SAP groups, SAP roles, and SAP profiles to SAP user accounts](#) on page 160

- [Inheriting SAP profiles and SAP roles in a central user administration](#) on page 170
- [Automatic assignment of employees to SAP user accounts](#) on page 143

Entering master data for SAP user accounts

A user account can be linked to an employee in One Identity Manager. You can also manage user accounts separately from employees.

NOTE: It is recommended to use account definitions to set up user accounts for company employees. In this case, some of the master data described in the following is mapped through templates from employee master data.

NOTE: If employees are to obtain their user accounts through account definitions, the employees must own a central user account and obtain their IT operating data through assignment to a primary department, a primary location, or a primary cost center. If employees are to obtain their user accounts through account definitions, the employees must own a central SAP user account and obtain their IT operating data through assignment to a primary department, a primary location, or a primary cost center.

To create a user account

1. In the Manager, select the **SAP R/3 | User accounts** category.
2. Click  in the result list.
3. On the master data form, edit the master data for the user account.
4. Save the changes.

To edit master data for a user account

1. In the Manager, select the **SAP R/3 | User accounts** category.
2. Select the user account in the result list and run the **Change master data** task.
3. Edit the user account's resource data.
4. Save the changes.

To manually assign or create a user account for an employee

1. In the Manager, select the **Employees | Employees** category.
2. Select the employee in the result list and run the **Assign SAP user accounts** task.
3. Assign a user account.
4. Save the changes.

Detailed information about this topic

- [General master data of an SAP user account](#) on page 125
- [SAP user account login data](#) on page 128
- [Phone numbers](#) on page 130
- [Fax numbers](#) on page 131
- [Email addresses](#) on page 132
- [Directly assigning SAP parameters](#) on page 134
- [Fixed values for an SAP user account](#) on page 133
- [Measurement data](#) on page 134
- [SNC data for an SAP user account](#) on page 134

General master data of an SAP user account

Table 45: Configuration parameters for risk assessment of SAP user accounts

Configuration parameter	Effect when set
QER CalculateRiskIndex	<p>Preprocessor relevant configuration parameter controlling system components for calculating an employee's risk index. Changes to the parameter require recompiling the database.</p> <p>If the parameter is enabled, values for the risk index can be entered and calculated.</p>

NOTE: You can only add user account to client which are marked as central system if user accounts in the SAP system managed with central user administration.

Enter general data for a user account on the **Address** tab.

Table 46: SAP user account address data

Property	Description
Employee	<p>Employee that uses this user account. An employee is already entered if the user account was generated by an account definition. If you create the user account manually, you can select an employee in the menu. If you are using automatic employee assignment, an associated employee is found and added to the user account when you save the user account.</p> <p>You can create a new employee for a user account with an identity of type Organizational identity, Personalized administrator identity, Sponsored identity, Shared identity, or Service identity. To do this, click  next to the input field and enter the</p>

Property	Description
	required employee master data. Which login data is required depends on the selected identity type.
Account definition	<p>Account definition through which the user account was created.</p> <p>Use the account definition to automatically fill user account master data and to specify a manage level for the user account. One Identity Manager finds the IT operating data of the assigned employee and enters it in the corresponding fields in the user account.</p> <p>NOTE: The account definition cannot be changed once the user account has been saved.</p>
Manage level	Manage level of the user account. Select a manage level from the menu. You can only specify the manage level can if you have also entered an account definition. All manage levels of the selected account definition are available in the menu.
Client	The client to be added in the user account. Central system, if user accounts are managed with CUA. You can only edit the client when the user account is added.
User account	<p>User account identifier. If you have assigned an account definition, the input field is automatically filled out with respect to the manage level.</p> <p>NOTE: Existing user accounts cannot be renamed.</p>
First name	The user's first name. If you have assigned an account definition, the input field is automatically filled out with respect to the manage level.
Last name	The user's last name. If you have assigned an account definition, the input field is automatically filled out with respect to the manage level.
Form of address	Form of address in the associated client's language. If you have assigned an account definition, the form of address is found by template rule depending on the manage level. The form of address depends on the gender of the assigned employee.
Academic title	Additional information about the user account.
Alias	Alternative ID for the user account that is used as log in for certain internet transactions.
Nickname	Additional information about the user account.
Name formatting	Name format and country for name formatting. Name and country formats determine the formatting rules for composing a full name of an employee in SAP R/3. Name formatting specifies the order in which parts of names are put together so that an employee's name is represented in an extensively long form. The country serves to uniquely identify the formatting rule.
Country for name formatting	

Property	Description
ISO 639 - language	Default language for the user account according to ISO 639
Function	Additional information about the user account. Used when addresses are printed.
Employee number	SAP internal key for identifying an employee.
Department	Additional information about the user account. Used when addresses are printed.
Room in building	Additional information about the user account.
Floor	Additional information about the user account.
Building (number or token)	Additional information about the user account.
communications type	Unique identifier for the communications type
Company	<p>The company to which the user account is assigned.</p> <p>When a user account is added, the company of the assigned client is used. If the client is not assigned to a company, the company with the smallest address number is found and assigned to the user account.</p> <p>NOTE: Company is a required field. Changes to user accounts cannot be saved in SAP R/3 on synchronization if a company is not assigned to them in One Identity Manager.</p> <p>Assign a default company to these user accounts in the SAP R/3 system where possible.</p>
Risk index (calculated)	Maximum risk index value of all assigned groups, roles, and profiles. The property is only visible if the QER CalculateRiskIndex configuration parameter is set. For detailed information, see the <i>One Identity Manager Risk Assessment Administration Guide</i> .
Category	Categories for the inheritance of groups, roles, and profiles by the user account. Groups, roles, and profiles can be selectively inherited by user accounts. To do this, groups, roles, and profiles and user accounts or contacts are divided into categories. Select one or more categories from the menu.
Identity	<p>User account's identity type Permitted values are:</p> <ul style="list-style-type: none"> • Primary identity: Employee's default user account. • Organizational identity: Secondary user account used for

Property	Description
	<p>different roles in the organization, for example for subcontracts with other functional areas.</p> <ul style="list-style-type: none"> • Personalized administrator identity: User account with administrative permissions, used by one employee. • Sponsored identity: User account that is used for a specific purpose, such as training. • Shared identity: User account with administrative permissions, used by several employees. Assign all employees that use this user account. • Service identity: Service account.
Privileged user account	Specifies whether this is a privileged user account.
Groups can be inherited	<p>Specifies whether the user account can inherit groups, roles, and profiles through the employee. If this option is set, the user account inherits groups, roles, and profiles through hierarchical roles or IT Shop requests.</p> <ul style="list-style-type: none"> • If you add an employee with a user account to a department, for example, and you have assigned groups to this department, the user account inherits these groups. • If an employee has requested group membership in the IT Shop and the request is granted approval, the employee's user account only inherits the group if the option is set.

Related topics

- [Linking user accounts to employees](#) on page 117
- [Supported user account types](#) on page 118
- [Setting up account definitions](#) on page 60
- [Specifying categories for inheriting SAP groups, SAP roles, and SAP profiles](#) on page 115
- [General master data for SAP clients](#) on page 113
- One Identity Manager Identity Management Base Module Administration Guide
- One Identity Manager Target System Base Module Administration Guide
- One Identity Manager Risk Assessment Administration Guide

SAP user account login data

When a user is added, you issue them with a password. Once you have saved the user account password with the Manager it cannot be changed.

Enter the following data on the **Login data** tab.

Table 47: SAP user account login data

Property	Description
Password	<p>Password for the user account. The employee's central password can be mapped to the user account password. For detailed information about an employee's central password, see <i>One Identity Manager Identity Management Base Module Administration Guide</i>.</p> <p>If you use an initial password for the user accounts, it is automatically entered when a user account is created.</p> <p>The password is deleted from the database after publishing to the target system.</p> <p>NOTE: One Identity Manager password policies are taken into account when a user password is being verified. Ensure that the password policy does not violate the target system's requirements.</p>
Password confirmation	Reconfirm password.
Set effective password	Specifies whether the password status "Active password" is set if it is changed in the target system.
Disabled password	Specifies whether the password is disabled (if single sign-on is used for logging in).
Security policy	Security policy for this user account.
User group	SAP group to use as user group for checking permissions.
Reference user	<p>The user account contains authorizations for this reference user.</p> <p>A reference user is user account with the user type "Reference". Use reference users to supply identical authorizations to different user accounts within one client.</p>
Account is valid from	Validity period of the SAP user account.
Account is valid until	
Accounting number	Number for user account's accounting.
Cost center	Cost center for the user account's accounting.
User account type	Type of user account. The default user account type is specified in the "TargetSystem SAPR3 Accounts Ustyp" configuration parameter.
User account	Specifies whether the user account is locked.

Property	Description
locked	If the user account is linked to an employee, the user account is unlocked when a new central password is set for the employee. This behavior is controlled by the TargetSystem SAPR3 Accounts UnlockByCentralPassword configuration parameter. For detailed information about an employee's central password, see <i>One Identity Manager Identity Management Base Module Administration Guide</i> .
Last login	Date and time of last target SAP system login.

Related topics

- [Password policies for SAP user accounts](#) on page 98
- [Initial password for new SAP user accounts](#) on page 108
- [Email notifications about login data](#) on page 110
- [User account types](#) on page 86
- [Locking and unlocking SAP user accounts](#) on page 141
- [Security policies](#) on page 96

Phone numbers

You can edit user account email addresses in **Phone numbers**.

To assign a phone number to a user account

1. Select **Phone numbers**.
2. Click **Add**.
This inserts a new row in the table.
3. Mark this row. Edit the telephone number master data.
4. Save the changes.

To edit a phone number

1. Select **Phone numbers**.
2. Select the phone number in the list.
3. Edit the telephone number master data.
4. Save the changes.

To remove a phone number assignment

1. Select **Phone numbers**.
2. Select the phone number in the list.

3. Click **Delete**.
4. Save the changes.

Table 48: Phone number properties

Property	Description
Type	Type of phone connection Select either "Phone", "Phone (default)", "Mobile (default)" or "Mobile".
Country	Country for determining the country code.
Phone	Phone number with local code. Enter an extension number in the extra field. If you have assigned an account definition, the telephone number is found by template rule depending on the mange level.
Phone number (complete)	Full phone number. Contains dialing code, connection, and extension numbers.
Preferred	Specifies the user's preferred telephone number.
Home address	Specifies whether this phone number is the user's home number.
SMS-enabled	Specifies whether text messages can be sent through this phone number.

Fax numbers

You can edit user account email addresses in **Fax numbers**.

To assign a fax number to a user account

1. Select **Fax numbers**.
2. Click **Add**.
This inserts a new row in the table.
3. Mark this row. Edit the fax number master data.
4. Save the changes.

To edit a fax number

1. Select **Fax numbers**.
2. Select the fax number in the list.
3. Edit the fax number master data.
4. Save the changes.

To remove a fax number assignment

1. Select **Fax numbers**.
2. Select the fax number in the list.
3. Click **Delete**.
4. Save the changes.

Table 49: Fax numbers

Property	Description
Country	Country for determining the country code.
Fax number	Fax number with local area code. Enter an extension number in the extra field.
Fax number (complete)	Full fax number. Contains dialing code, connection, and extension numbers.
Preferred	Specifies the user's preferred fax number.
Home address	Specifies whether this fax number is the user's home number.

Email addresses

You can edit user account email addresses on the **Email addresses** tab.

To assign an email address to a user account

1. Select the **Email addresses** tab.
2. Click **Add**.
This inserts a new row in the table.
3. Mark this row. Edit the email address master data.
4. Save the changes.

To edit an email address

1. Select the **Email addresses** tab.
2. Select the email address in the list.
3. Edit the email address master data.
4. Save the changes.

To remove an email address assignment

1. Select the **Email addresses** tab.
2. Select the email address in the list.

3. Click **Delete**.
4. Save the changes.

Table 50: Email address data

Property	Description
Email address (SMTP)	Email address.
Email address search	Contains the first 20 characters of the email address in normalized form.
Preferred	Specifies the user's preferred email address.
Home address	Specifies the user's home address.

Fixed values for an SAP user account

Table 51: Configuration parameters for setting up user accounts

Configuration parameter	Effect when set
TargetSystem SAPR3 Accounts Datfm	Specifies the default date format for SAP user accounts.
TargetSystem SAPR3 Accounts Dcpfm	Specifies the default decimal point format for SAP user accounts.
TargetSystem SAPR3 Accounts Fax_Group	Specifies the default fax group for SAP user accounts.
TargetSystem SAPR3 Accounts Guiflag	Specifies whether secure communication is permitted for SAP user accounts.
TargetSystem SAPR3 Accounts Spda	Specifies default setting for printer parameter 3 (delete after print).
TargetSystem SAPR3 Accounts Spdb	Specifies default setting for printer parameter 3 (print immediately).
TargetSystem SAPR3 Accounts Splg	Specifies the default printer (print parameter 1).
TargetSystem SAPR3 Accounts Time_zone	Specifies the default time zone value for the SAP user account's address.
TargetSystem SAPR3 Accounts Tzone	Specifies the default value for the time zone.

Enter the default values that are to be put into effect for the user account in **Fixed values**. This includes data such as the start menu, which should be shown after login, the default

login language, personal time zone, decimal representation, or date format that the user is going to work with.

To specify default values for fixed values

- In the Designer, set the configuration parameter values under "TargetSystem | SAPR3 | Accounts".

Measurement data

The license data for system measurement is shown in **Measurement data**. For more information, see [Providing system measurement data](#) on page 195.

SNC data for an SAP user account

Enter the data required for logging into the system over secure network communications (SNC) on the **SNC** tab.

Table 52: User account SNC data

Properties	Description
SNC Name	User account's SNC name. You can find the syntax for SNC names in the SNC user manual.
Login using SAP GUI allowed (insecure communication)	Specifies whether insecure communication is allowed for this user account.

Directly assigning SAP parameters

You can directly assign a user account parameter on the **Parameter** tab and specify its values. You can also see if a parameter is assigned directly, indirectly, or both ways.

To assign a parameter to a user account

1. In the Manager, select the **SAP R/3 | User accounts** category.
2. Select the user account in the result list and run the **Change master data** task.
3. Select **Parameter**.
4. Click **Add**.
This inserts a new row in the table.
5. Click to mark this row.

6. Select a parameter from the **Parameter** menu and specify a parameter value.
7. Save the changes.

To edit a parameter value

1. Select the **Parameter** tab.
2. Select the parameter whose value you want to edit, in the list.
3. Change the parameter value.
4. Save the changes.

To remove a parameter's direct assignment

1. Select the **Parameter** tab.
2. Select the parameter you want to remove.
3. If the parameter is only assigned directly, click **remove**.
- OR -

If the parameter is assigned both directly and indirectly, disable **Direct assignment**.

4. Save the changes.

Related topics

- [SAP parameters](#) on page 88
- [Assigning SAP parameters to departments, cost centers, and locations](#) on page 89
- [Assigning SAP parameters to business roles](#) on page 90
- [Inheritance of parameter values by SAP user accounts](#) on page 93

Additional tasks for managing SAP user accounts

After you have entered the master data, you can run the following tasks.

Overview of SAP user accounts

To obtain an overview of a user account

1. Select the **SAP R/3 | User accounts** category.
2. Select the user account in the result list.
3. Select the **SAP user account overview** task.

Changing the manage level of SAP user accounts

The default manage level is applied if you create user accounts using automatic employee assignment. You can change a user account manage level later.

To change the manage level for a user account

1. In the Manager, select the **SAP R/3 | User accounts** category.
2. Select the user account in the result list.
3. Select the **Change master data** task.
4. On the **Address** tab, select the manage level in the **Manage level** menu.
5. Save the changes.

Related topics

- [General master data of an SAP user account](#) on page 125

Assigning SAP groups and SAP profiles directly to an SAP user account

Groups and profiles can be assigned directly or indirectly to a user account. Indirect assignment is carried out by allocating the employee, groups, and profiles in hierarchical roles, like departments, cost centers, locations, or business roles. If the employee has an SAP user account, the groups and profiles in the role are inherited by the user account.

To react quickly to special requests, you can assign groups and profiles directly to the user account.

NOTE:

- Only profiles that are not assigned to SAP roles can be assigned to user accounts.
- Generated profiles cannot be assigned to user accounts.
- If the user account is managed through a CUA, groups, and profiles can be selected from all clients assigned to this user account.

Groups and profiles can also be directly assigned to a user account if the client's assignment to the user account is marked as outstanding. This removes the outstanding mark.

To assign groups and profiles directly to user accounts

1. Select the **SAP R/3 | User accounts** category.
2. Select the user account in the result list.

3. Select one of the following tasks.
 - **Assign groups**, to assign SAP groups directly.
 - **Assign profiles**, to assign SAP profiles directly.
4. In the **Add assignments** pane, assign the groups or profiles.
 - OR -
 - In the **Remove assignments** pane, remove the groups or profiles.
5. Save the changes.

Related topics

- [Assigning SAP groups, SAP roles, and SAP profiles to SAP user accounts](#) on page 160

Assigning SAP roles directly to an SAP user account

Roles can be assigned directly or indirectly to a user account. Indirect assignment is carried out by allocating the employee and roles in hierarchical roles, like departments, cost centers, locations, or business roles. If the employee has an SAP user account, the SAP roles in the hierarchical roles are inherited by the user account.

To react quickly to special requests, you can assign roles directly to the user account.

If the user account is managed through a CUA, roles can be selected from all clients assigned to this user account.

NOTE: Roles can also be directly assigned to a user account if the client's assignment to the user account is marked as outstanding. This removes the outstanding mark.

To assign roles directly to user accounts

1. Select the **SAP R/3 | User accounts** category.
2. Select the user account in the result list.
3. Select the **Assign roles** task.

To assign a role

1. Click **Add**.
 - This inserts a new row in the table.
2. Select the role you want to assign from the **Role** menu.
3. Enter a validity period for the role assignment in the **Valid from** and **Valid until** fields, if that applies.
4. Assign more roles as necessary.
5. Save the changes.

To edit a role assignment

1. Select the role assignment you want to edit in the table. Edit the validity period.
2. Save the changes.

To remove a role assignment.

1. Select the role assignment you want to remove in the table.
2. Click **Delete**.
3. Save the changes.

Related topics

- [Assigning SAP user accounts directly to SAP roles](#) on page 165
- [Validity period of role assignments](#) on page 178

Assigning structural profiles

Installed modules: SAP R/3 Structural Profiles Add-on Module

Structural profiles can be assigned directly or indirectly to a user account. Indirect assignment is carried out by allocating the employee and structural profiles in hierarchical roles, like departments, cost centers, locations, or business roles. If the employee has an SAP user account, the structural profiles in the role are inherited by the user account.

To react quickly to special requests, you can assign structural profiles directly to the user account.

To assign structural profiles directly to user accounts

1. Select the **SAP R/3 | User accounts** category.
2. Select the user account in the result list.
3. Select the **Assign structural profiles** task.

To assign a structural profile

1. Click **Add**.
This inserts a new row in the table.
2. Select the structural profile to assign from the **Structural profile** menu.
3. If applicable, enter a validity period for the profile assignment in the **Valid from** and **Valid until** fields.
4. Assign more structural profiles as necessary.
5. Save the changes.

To edit a profile assignment

1. Select the profile assignment you want to edit in the table. Edit the validity period.
2. Save the changes.

To remove a profile assignment

1. Select the profile assignment you want to remove in the table.
2. Click **Delete**.
3. Save the changes.

Detailed information about this topic

- One Identity Manager Administration Guide for SAP R/3 Structural Profiles Add-on

Granting access to clients of a central user administration

User accounts, administered through central user administration (CUA), have control over access permissions in several clients. You specify the client in which each user account obtains its access permissions. Clients can be assigned directly and indirectly. For indirect assignments, create account definitions for the clients and assign these to hierarchical roles. For more information, see [Central user administration in One Identity Manager](#) on page 122.

To react quickly to special requests, you can assign the clients directly to a user account. You can select the central system and the child system in this process. Only SAP roles or profiles from this client can be assigned to a user account.

This task is only available if the client of the selected user account is labeled as central system.

To assign a user account directly to a client

1. Select the **SAP R/3 | User accounts** category.
2. Select the user account in the result list.
3. Select the **Assign access to clients** task.

To assign a client

1. Click **Add**.
This inserts a new row in the table.
2. From the **Client** menu, select the client in which you want the user account to receive access permissions.
3. Assign an account definition, if necessary.

4. Assign more clients, if necessary.
5. Save the changes.

To edit an assignment

1. In the table, select the assignment that you want to edit. Edit the account definition's assignment.
2. Save the changes.

To remove an assignment

1. In the table, select the assignment that you want to remove.
2. Click **Delete**.
3. Save the changes.

Assigning SAP licenses

| NOTE: This task is only available for user account managed through CUA.

SAP licenses in child system and in the central system can be assigned to user account for system measurement. For more information, see [Providing system measurement data](#) on page 195.

To assign licenses to a user account

1. Select the **SAP R/3 | User accounts** category.
2. Select the user account in the result list.
3. Select the **Assign SAP licenses in client systems** task.
4. Click **Add**.
This inserts a new row in the table.
5. Mark this row. Enter the measurement data.
6. Save the changes.

To edit a license assignment

1. Select the **SAP R/3 | User accounts** category.
2. Select the user account in the result list.
3. Select the **Assign SAP licenses in client systems** task.
4. Select an assignment in the table.
5. Edit the measurement data.
6. Save the changes.

To remove a license assignment

1. Select the **SAP R/3 | User accounts** category.
2. Select the user account in the result list.
3. Select the **Assign SAP licenses in client systems** task.
4. Select an assignment in the table.
5. Click **Delete**.
6. Save the changes.

The following license information is displayed on the form.

Table 53: Measurement data for a centrally administrated user account

Property	Description
Recipient client	Client containing the user account which is assigned a license. You can select the central system or a assigned child system.
License	User account license in the selected client.
License extension	License extension for the installed special version. Select the special version ID from the menu.
Country surcharge	Additional license fee.
Chargeable system	SAP system containing the client to be charged. This field is only shown if "04 (substitute)" or "11 (Multi-client/system)" is entered.
Chargeable client	Client containing the user account to be charged. This field is only shown if "04 (substitute)" or "11 (Multi-client/system)" is entered.
Chargeable user account	User account to be charged if "04 (substitute)" or "11 (Multi-client/system)" is entered.
Substituted from	Time period in which another user account assumes responsibility. This input field is enabled if the active license is set to "04 (substitute)".
Substituted until	

Related topics

- [Special versions](#) on page 97

Locking and unlocking SAP user accounts

The way that user accounts are managed determines how you lock them. User accounts that are not linked to an employee, can be locked with the **Lock user account** task.

To lock a user account

1. Select the **SAP R/3 | User accounts** category.
2. Select the user account in the result list.
3. Select the **Lock user account** task.
4. Confirm the prompt with **OK**.

This generates a process that publishes the change in the target system. The **User account locked** option is enabled as soon as the process is successfully completed.

If the user account is linked to an employee, the user account is unlocked when a new central password is set for the employee. This behavior is controlled by the **TargetSystem | SAPR3 | Accounts | UnlockByCentralPassword** configuration parameter. For detailed information about an employee's central password, see *One Identity Manager Identity Management Base Module Administration Guide*.

To unlock a user account manually

1. Select the **SAP R/3 | User accounts** category.
2. Select the SAP user account in the result list.
3. Select the **Unlock user account** task.
4. Confirm the prompt with **OK**.

This generates a process that publishes the change in the target system. The **User account locked** option is disabled as soon as the process is successfully completed.

Detailed information about this topic

- [Locking SAP user accounts](#) on page 149

Assigning extended properties

Extended properties are meta objects, such as operating codes, cost codes, or cost accounting areas that cannot be mapped directly in One Identity Manager.

To specify extended properties for a user account

1. Select the **SAP R/3 | User accounts** category.
2. Select the user account in the result list.
3. Select the **Assign extended properties** task.
4. In the **Add assignments** pane, assign extended properties.
- OR -
In the **Remove assignments** pane, remove extended properties.
5. Save the changes.

Detailed information about this topic

- One Identity Manager Identity Management Base Module Administration Guide

Renaming SAP user accounts

You can rename user accounts by deleting them and recreating them under a different name. In this case, existing assignments are transferred to the new user account.

NOTE: User accounts with the **Full managed** manage level cannot be renamed.

To rename a user account

1. In the Manager, select the **SAP R/3 | User accounts** category.
2. Select the user account in the result list.
3. Select the **Change master data** task.
4. Select the **Rename SAP user account** task.
5. Enter the new name of the user account and the initial password.
6. Click **OK**.

This generates a process that publishes these changes to the target system.

Related topics

- [Initial password for new SAP user accounts](#) on page 108

Automatic assignment of employees to SAP user accounts

Table 54: Configuration parameters for automatic employee assignment

Configuration parameter	Meaning
TargetSystem SAPR3 PersonAutoFullSync	This configuration parameter specifies the mode for automatic employee assignment for user accounts added to or updated in the database through synchronization.
TargetSystem SAPR3 PersonAutoDefault	This configuration parameter specifies the mode for automatic employee assignment for user accounts added to the database outside synchronization.
TargetSystem SAPR3 PersonExcludeList	List of all user accounts for which automatic employee assignment should not take place. Names are listed in a pipe () delimited list that is handled as a regular search

Configuration parameter Meaning

	pattern. Example: SAP* SAPCPIC SAPJSF DDIC J2EE_ADMIN J2EE_GUEST
TargetSystem SAPR3 PersonAutoDisabledAccounts	This configuration parameter specifies whether employees are automatically assigned to disabled user accounts. User accounts do not obtain an account definition.

When you add a user account, an existing employee can be assigned automatically or added if necessary. In the process, the employee master data is created on the basis of existing user account master data. This mechanism can be triggered after a new user account is created either manually or through synchronization. Define criteria for finding employees to apply to automatic employee assignment. If a user account is linked to an employee through the current mode, the user account is given, through an internal process, the default manage level of the account definition entered in the user account's target system. You can customize user account properties depending on how the behavior of the manage level is defined.

If you run this procedure during working hours, automatic assignment of employees to user accounts takes place from that moment onwards. If you disable the procedure again later, the changes only affect user accounts added or updated after this point in time. Existing employee assignments to user accounts remain intact.

NOTE: It is not recommended to assign employees using automatic employee assignment in the case of administrative user accounts. Use **Change master data** to assign employees to administrative user accounts for the respective user account.

Run the following tasks to assign employees automatically.

- If you want employees to be assigned during the synchronization of user accounts, in the Designer, set the "TargetSystem | SAPR3 | PersonAutoFullsync" configuration parameter and select the mode.
- If you want employees to be assigned outside synchronization, in the Designer, set the "TargetSystem | SAPR3 | PersonAutoDefault" configuration parameter and select the required mode.
- In the "TargetSystem | SAPR3 | PersonExcludeList" configuration parameter, specify the user accounts that must not be assigned automatically to employees.

Example:

```
SAP*|SAPCPIC|SAPJSF|DDIC|J2EE_ADMIN|J2EE_GUEST
```

- Use the "TargetSystem | SAPR3 | PersonAutoDisabledAccounts" configuration parameter to specify whether employees can be automatically assigned to disabled user accounts. User accounts do not obtain an account definition.
- Assign an account definition to the client. Ensure that the manage level to be used is entered as the default manage level.
- Define the search criteria for employee assignment in the client.

NOTE:

The following applies for synchronization:

- Automatic employee assignment takes effect if user accounts are added or updated.

The following applies outside synchronization:

- Automatic employee assignment takes effect if user accounts are added.

NOTE:

Following a synchronization, employees are automatically created for the user accounts in the default installation. If an account definition for the client is not yet known at the time of synchronization, user accounts are linked with employees. However, account definitions are not assigned. The user accounts are therefore in a **Linked** state.

To manage the user accounts using account definitions, assign an account definition and a manage level to these user accounts.

To select user accounts through account definitions

1. Create an account definition.
2. Assign an account definition to the client.
3. Assign a user account in the **Linked** state to the account definition. The account definition's default manage level is applied to the user account.
 - a. In the Manager, select the **SAP R/3 | User accounts | Linked but not configured | <Client>** category.
 - b. Select the **Assign account definition to linked accounts** task.
 - c. In the **Account definition** menu, select the account definition.
 - d. Select the user accounts that contain the account definition.
 - e. Save the changes.

Detailed information about this topic

- [One Identity Manager Target System Base Module Administration Guide](#)

Related topics

- [Creating an account definition](#) on page 61
- [Assigning account definitions to a target system](#) on page 75
- [Editing search criteria for automatic employee assignment](#) on page 146

Editing search criteria for automatic employee assignment

The criteria for employee assignments are defined for the client. In this case, you specify which user account properties must match the employee's properties such that the employee can be assigned to the user account. You can limit search criteria further by using format definitions. The search criterion is written in XML notation to the **Search criteria for automatic employee assignment** column (AccountToPersonMatchingRule) in the SAPMandant table.

Search criteria are evaluated when employees are automatically assigned to user accounts. Furthermore, you can create a suggestion list for assignments of employees to user accounts based on the search criteria and make the assignment directly.

NOTE: When the employees are assigned to user accounts on the basis of search criteria, user accounts are given the default manage level of the account definition entered in the user account's target system. You can customize user account properties depending on how the behavior of the manage level is defined.

It is not recommended to make assignments to administrative user accounts based on search criteria. Use **Change master data** to assign employees to administrative user accounts for the respective user account.

NOTE: One Identity Manager supplies a default mapping for employee assignment. Only carry out the following steps when you want to customize the default mapping.

To specify criteria for employee assignment

1. Select the **SAP R/3 | Clients** category.
2. Select the client in the result list.
3. Select the **Define search criteria for employee assignment** task.
4. Specify which user account properties must match with which employee so that the employee is linked to the user account.

Table 55: Default search criteria for user accounts

Apply to	Column for employee	Column for user account
SAP user accounts of the type "Dialog"	Central SAP user account (CentralSAPAccount)	User account (Accnt)

5. Save the changes.

Direct assignment of employees to user accounts based on a suggestion list

In the **Assignments** pane, you can create a suggestion list for assignments of employees to user accounts based on the search criteria and make the assignment directly. User

accounts are grouped in different views for this.

Table 56: Manual assignment view

View	Description
Suggested assignments	This view lists all user accounts to which One Identity Manager can assign an employee. All employees are shown who were found using the search criteria and can be assigned.
Assigned user accounts	This view lists all user accounts to which an employee is assigned.
Without employee assignment	This view lists all user accounts to which no employee is assigned and for which no employee was found using the search criteria.

TIP: By double-clicking on an entry in the view, you can view the user account and employee master data.

To apply search criteria to user accounts

- Click **Reload**.

All possible assignments based on the search criteria are found in the target system for all user accounts. The three views are updated.

To assign employees directly using a suggestion list

1. Click **Suggested assignments**.

- a. Check the **Selection** box of all the user accounts to which you want to assign the suggested employees. Multi-select is possible.
- b. Click **Assign selected**.
- c. Confirm the security prompt with **Yes**.

The employees found using the search criteria are assigned to the selected user accounts.

– OR –

2. Click **No employee assignment**.

- a. Click the **Select employee** option of the user account to which you want to assign an employee. Select an employee from the menu.
- b. Check the **Selection** box of all the user accounts to which you want to assign the selected employees. Multi-select is possible.
- c. Click **Assign selected**.
- d. Confirm the security prompt with **Yes**.

The employees displayed in the **Employee** column are assigned to the selected user accounts.

To remove assignments

1. Click **Assigned user accounts**.
 - a. Click the **Selection** box of all user accounts you want to delete the employee assignment from. Multi-select is possible.
 - b. Click **Remove selected**.
 - c. Confirm the security prompt with **Yes**.

The assigned employees are removed from the selected user accounts.

For more information about defining search criteria, see the *One Identity Manager Target System Base Module Administration Guide*.

Related topics

- [Automatic assignment of employees to SAP user accounts](#) on page 143

Automatically creating departments based on SAP user account information

You can create new departments in One Identity Manager based on user accounts' department data. In addition, you can specify that departments of user account's employees are classified as the primary department. These employees can obtain their company resources through these assignments if One Identity Manager is configured correspondingly.

Prerequisites for using this method

- Employees must be created automatically when user accounts are added or modified. At least one of the following configuration parameters must be activated and the corresponding method implemented.

Table 57: Configuration Parameter for automatic employee assignment

Configuration parameter	Effect when set
TargetSystem SAPR3 PersonAutoDefault	Based on the given mode, employees that were added to the database outside the synchronization are automatically assigned to user accounts.
TargetSystem SAPR3 PersonAutoFullsync	Based on the given mode, employees that were added to or updated in the database by synchronization are automatically assigned to user accounts.

- There is no synchronization project set up for personnel planning data.

During synchronization of personnel planning data, departments that have been created already from SAP user account data are marked as outstanding. Use this method to automatically create departments from user account data only when departments are not added by synchronizing personnel planning data. For more detailed information about synchronizing personnel planning data, see the *One Identity Manager Administration Guide for SAP R/3 Structural Profiles Add-on*.

To create departments from user account data

- In the Designer, enable the **TargetSystem | SAPR3 | AutoCreateDepartment** configuration parameter.

For all objects imported into the One Identity Manager database in this way, the data source is given as import **SAP R/3** (column `ImportSource` = 'SAP').

Related topics

- [General master data of an SAP user account](#) on page 125
- [Automatic assignment of employees to SAP user accounts](#) on page 143

Locking SAP user accounts

The way you lock user accounts depends on how they are managed.

Scenario:

- The user account is linked to employees and is managed through account definitions.

User accounts managed through account definitions are locked when the employee is temporarily or permanently disabled. The behavior depends on the user account manage level. Accounts with the **Full managed** manage level are disabled depending on the account definition settings. The **Lock user account** and **Unlock user account** tasks cannot be applied to these accounts. For user accounts with a manage level, configure the required behavior using the template in the `SAPUser.U_Flag` column.

Scenario:

- The user accounts are linked to employees. No account definition is applied.

User accounts managed through user account definitions are locked when the employee is temporarily or permanently disabled. The behavior depends on the **QER | Person | TemporaryDeactivation** configuration parameter

- If the configuration parameter is set, the employee's user accounts are locked when the employee is permanently or temporarily disabled. The **Lock user account** and **Unlock user account** tasks cannot be applied to these accounts.
- If the configuration parameter is not set, the employee's properties do not have any effect on the associated user accounts.

To lock the user account when the configuration parameter is disabled

1. In the Manager, select the **SAP R/3 | User accounts** category.
2. Select the user account in the result list.
3. Select the **Lock user account** task.
4. Confirm the prompt with **OK**.

Scenario:

- User accounts not linked to employees.

To lock a user account that is no longer linked to an employee

1. In the Manager, select the **SAP R/3 | User accounts** category.
2. Select the user account in the result list.
3. Select the **Lock user account** task.
4. Confirm the prompt with **OK**.

A process is generated, which publishes this user account modification in the target system. Once the lock has been published in the target system, the **User account locked** option is enabled on **Login data**. The user can no longer log in with this user account.

To unlock a user account

1. Select the **SAP R/3 | User accounts** category.
2. Select the user account in the result list.
3. Select the **Unlock user account** task.
4. Confirm the prompt with **OK**.

This generates a process that publishes the change in the target system. The **User account locked** option is disabled as soon as the process is successfully completed.

Detailed information about this topic

For more information, see the *One Identity Manager Target System Base Module Administration Guide*.

Related topics

- [Setting up account definitions](#) on page 60
- [Creating manage levels](#) on page 64

Deleting and restoring SAP user accounts

NOTE: As long as an account definition for an employee is valid, the employee retains the user account that was created by it. If the assignment of an account definition is removed, the user account that was created from this account definition is deleted.

To delete a user account

1. Select the **SAP R/3 | User accounts** category.
2. Select the user account in the result list.
3. Click  to delete the user account.
4. Confirm the security prompt with **Yes**.

To restore a user account

1. Select the **SAP R/3 | User accounts** category.
2. Select the user account in the result list.
3. Click  in the result list.

Configuring deferred deletion

By default, user accounts are finally deleted from the database after 30 days. The user accounts are initially disabled. You can reenable the user accounts until deferred deletion is run. After deferred deletion is run, the user accounts are deleted from the database and cannot be restored anymore. In the Designer, you can set an alternative delay on the SAPUser table. Deferred deletion has no influence over the login permission in assigned CUA child systems.

Entering external user identifiers for an SAP user account

External authentication methods for logging in to a system can be used in SAP R/3. With One Identity Manager, you can maintain login data for logging in external system users, for example, Active Directory on an SAP R/3 environment.

You can use One Identity Manager to enter external user IDs and delete them. You can only change the option "Account is enabled" for existing user ID's.

To enter external IDs

1. Select the **SAP R/3 | External IDs** category.
2. Select the external identifier in the result list. Select the **Change master data** task.
- OR -
Click  in the result list.
3. Enter the required data on the master data form.
4. Save the changes.

Enter the following data for an external identifier.

Table 58: External ID properties

Property	Description								
External user ID	<p>User login name for the user to log into external systems. The syntax you require depends on the type of authentication selected. The complete user identifier is compiled by template.</p> <p>NOTE: The BAPI One Identity Manager uses the default settings RSUSREXT for generating the user identifier, which means that the user name is reset. The value provided in the interface is passed as prefix.</p> <p>If you SAP R/3 environment uses something other than these default settings, modify the template for column SAPUserExtId.EXTID respectively.</p>								
External identifier type	<p>Authentication type for the external user. This results in the syntax for the external identifier.</p> <p>Table 59: External identifier types</p> <table border="1"> <tbody> <tr> <td>Distinguished Name for X.509</td> <td>Login uses the distinguished name for X.509.</td> </tr> <tr> <td>Windows NTLM or password verification</td> <td>Login uses Windows NT Lan Manager or password verification with the Windows domain controller.</td> </tr> <tr> <td>LDAP bind <user-defined ></td> <td>Login uses LDAP bind (for other authentication mechanisms).</td> </tr> <tr> <td>SAML token</td> <td>Authentication uses an SAML token profile.</td> </tr> </tbody> </table> <p>The default type is specified in the "TargetSystem SAPR3 Accounts ExtID_Type" configuration parameter.</p>	Distinguished Name for X.509	Login uses the distinguished name for X.509.	Windows NTLM or password verification	Login uses Windows NT Lan Manager or password verification with the Windows domain controller.	LDAP bind <user-defined >	Login uses LDAP bind (for other authentication mechanisms).	SAML token	Authentication uses an SAML token profile.
Distinguished Name for X.509	Login uses the distinguished name for X.509.								
Windows NTLM or password verification	Login uses Windows NT Lan Manager or password verification with the Windows domain controller.								
LDAP bind <user-defined >	Login uses LDAP bind (for other authentication mechanisms).								
SAML token	Authentication uses an SAML token profile.								
Target system type	Can be called up together with the external ID type to test the login data. The default type is specified in the "TargetSystem SAPR3 Accounts TargetSystemID" configuration parameter. Permitted values are ADSACCOUNT and NTACCOUNT.								
Account is	Specifies whether the user or an external authentication system can log in to								

Property	Description
enabled	the system.
User account	Assignment of the external user ID to a user account.
Sequential number	Sequential number, if a user account has more than one external identifiers.
Valid from	Date from which the external user ID is valid.

Related topics

- [External identifier types](#) on page 87

SAP groups, SAP roles, and SAP profiles

Groups, roles, and profiles are mapped in the One Identity Manager, in order to provide the necessary permissions for user accounts. Groups, roles, and profiles can be assigned to user accounts, requested, or inherited through hierarchical roles in One Identity Manager. No groups, roles, or profiles can be added or deleted.

Groups

You can share maintenance of user accounts over different administrators by assigning user accounts to groups.

Roles

A role includes all transactions and user menus that an SAP user requires to fulfill its tasks. Roles are separated into single and composite roles. Single roles can be grouped together into composite roles. User account member in the roles can be set for a limit period.

Profiles

Access permissions to the system are regulated through profiles. Profiles are assigned through single roles or directly to user accounts. Profiles can be grouped into composite profiles.

Editing master data for SAP groups, SAP roles, and SAP profiles

You can edit the following data about groups, roles, and profiles in One Identity Manager:

- Assigned SAP user accounts
- Usage in the IT Shop
- Risk assessment

- Inheritance through roles and inheritance restrictions
- License information for system measurement

To edit group master data

1. Select the **SAP R/3 | Groups** category.
2. Select the group in the result list. Select the **Change master data** task.
3. Enter the required data on the master data form.
4. Save the changes.

To edit profile master data

1. Select the **SAP R/3 | Profiles** category.
2. Select a profile in the result list. Select the **Change master data** task.
3. Enter the required data on the master data form.
4. Save the changes.

To edit role master data

1. Select the **SAP R/3 | Roles** category.
2. Select the role in the result list. Select the **Change master data** task.
3. Enter the required data on the master data form.
4. Save the changes.

Detailed information about this topic

- [General master data for SAP groups](#) on page 155
- [General master data for SAP roles](#) on page 157
- [General master data for SAP profiles](#) on page 158

General master data for SAP groups

Table 60: Configuration parameters for risk assessment of SAP user accounts

Configuration parameter	Effect when set
QER\CalculateRiskIndex	Preprocessor relevant configuration parameter controlling system components for calculating an employee's risk index. Changes to the parameter require recompiling the database. If the parameter is enabled, values for the risk index can be entered and calculated.

Edit the following master data for a group.

Table 61: SAP group master data

Property	Description
Display name	Name of the group as displayed in One Identity Manager tools. The group name is taken from the group identifier by default.
Name	Name of group in the target system.
Client	Client, in which the group is added.
Service item	Service item data for requesting the group through the IT Shop.
Risk index	Value for evaluating the risk of assigning the group to user accounts. Enter a value between 0 and 1. This input field is only visible if the QER CalculateRiskIndex configuration parameter is activated.
Category	Categories for group inheritance. Groups can be selectively inherited by user accounts. To do this, groups and user accounts are divided into categories. Select one or more categories from the menu.
Description	Text field for additional explanation.
IT Shop	Specifies whether the group can be requested through the IT Shop. If this option is set, the group can be requested by the employees through the Web Portal and distributed with a defined approval process. The group can still be assigned directly to hierarchical roles.
Only for use in IT Shop	Specifies whether the group can only be requested through the IT Shop. If this option is set, the group can be requested by the employees through the Web Portal and distributed with a defined approval process. Direct assignment of the group to hierarchical roles or user accounts is not permitted.

Detailed information about this topic

- [Specifying categories for inheriting SAP groups, SAP roles, and SAP profiles](#) on page 115
- One Identity Manager IT Shop Administration Guide
- One Identity Manager Identity Management Base Module Administration Guide
- One Identity Manager Target System Base Module Administration Guide
- One Identity Manager Risk Assessment Administration Guide

General master data for SAP roles

Table 62: Configuration parameters for risk assessment of SAP user accounts

Configuration parameter	Effect when set
QER\CalculateRiskIndex	Preprocessor relevant configuration parameter controlling system components for calculating an employee's risk index. Changes to the parameter require recompiling the database. If the parameter is enabled, values for the risk index can be entered and calculated.

Edit the following master data for a role.

Table 63: SAP role master data

Property	Description
Display name	Name of the role as displayed in One Identity Manager tools. Taken from the role identifier by default.
Name	Name of role in the target system.
Client	Client, in which the role is added.
License	Role license. This task is needed for finding system measurement for user accounts and is assigned once after synchronization.
Role type	Role type for differentiating between single and composite roles.
Service item	Service item data for requesting the role through the IT Shop.
Risk index	Value for evaluating the risk of assigning the role to user accounts. Enter a value between 0 and 1. This property is only visible if the configuration parameter "QER\CalculateRiskIndex" is set.
Category	Categories for role inheritance. User accounts can inherit roles selectively. To do this, roles, and user accounts are divided into categories. Use this menu to allocate one or more categories to the role.
Description	Text field for additional explanation.
Role description	Text field for additional explanation.
IT Shop	Specifies whether the role can be requested through the IT Shop. This role can be requested by staff through the Web Portal and granted through a defined approval procedure. The role can still be assigned directly to employees and hierarchical roles.

Property	Description
Only for use in IT Shop	Specifies whether the role can only be requested through the IT Shop. This role can be requested by staff through the Web Portal and granted through a defined approval procedure. The role may not be assigned directly to hierarchical roles.

Detailed information about this topic

- [Licenses](#) on page 96
- [Providing system measurement data](#) on page 195
- [Specifying categories for inheriting SAP groups, SAP roles, and SAP profiles](#) on page 115
- One Identity Manager IT Shop Administration Guide
- One Identity Manager Identity Management Base Module Administration Guide
- One Identity Manager Target System Base Module Administration Guide
- One Identity Manager Risk Assessment Administration Guide

General master data for SAP profiles

Table 64: Configuration parameters for risk assessment of SAP user accounts

Configuration parameter	Effect when set
QER CalculateRiskIndex	Preprocessor relevant configuration parameter controlling system components for calculating an employee's risk index. Changes to the parameter require recompiling the database. If the parameter is enabled, values for the risk index can be entered and calculated.

Edit the following master data for a profile.

Table 65: SAP profile master data

Property	Description
Display name	Name of the profile as displayed in One Identity Manager tools. The profile name is taken from the profile identifier by default.
Name	Name of profile in the target system.
Client	Client, in which the profile is added.
License	Profile license. This task is needed for finding system measurement for SAP

Property	Description
	user accounts and is assigned once after synchronization.
Profile type	Profile type for differentiating between single, composite, and generated profiles.
Service item	Service item data for requesting the profile through the IT Shop.
Risk index	Value for evaluating the risk of assigning the profile to account accounts. Enter a value between 0 and 1. This property is only visible if the "QER CalculateRiskIndex" configuration parameter is set.
Category	Category for profile inheritance. User accounts can selectively inherit profiles. To do this, profiles, and user accounts are divided into categories. Use this menu to allocate one or more categories to the profile.
Description	Text field for additional explanation.
Profile is enabled	Specifies whether the profile is enabled or a maintenance version.
Limited assignment	Specifies whether the profile is assigned to an SAP role. The profile then no longer be directly assigned to user accounts, business roles, organizations, or IT Shop shelves.
IT Shop	Specifies whether the profile can be requested through the IT Shop. This profile can be requested by staff through the Web Portal and granted through a defined approval procedure. The profile can still be assigned directly to hierarchical roles. This option cannot be enabled for generated profiles.
Only for use in IT Shop	Specifies whether the profile can only be requested through the IT Shop. This profile can be requested by staff through the Web Portal and granted through a defined approval procedure. The profile may not be assigned directly to hierarchical roles. This option cannot be enabled for generated profiles.

Detailed information about this topic

- [Licenses](#) on page 96
- [Providing system measurement data](#) on page 195
- [Specifying categories for inheriting SAP groups, SAP roles, and SAP profiles](#) on page 115
- One Identity Manager IT Shop Administration Guide
- One Identity Manager Identity Management Base Module Administration Guide
- One Identity Manager Target System Base Module Administration Guide
- One Identity Manager Risk Assessment Administration Guide

Assigning SAP groups, SAP roles, and SAP profiles to SAP user accounts

Groups, roles, and profiles can be directly and indirectly assigned to user accounts. In the case of indirect assignment, employees, groups, roles, and profiles are arranged in hierarchical roles. The number of groups, roles, and profiles assigned to an employee is calculated from the position in the hierarchy and the direction of inheritance. If you add an employee to roles and that employee owns a user account, the user account is added to the group, role, or profile. Prerequisites for indirect assignment of employees to user accounts:

- Assignment of employees and groups, roles, and profiles is permitted for role classes (departments, cost centers, locations, or business roles).
 - User accounts are marked with the **Groups can be inherited** option.
 - The user accounts, groups, roles, and profiles belong to the same SAP client.
- OR -

If the user accounts are administrated by the central user administration, they have access authorization in the SAP clients that belong to the profiles or roles.

Furthermore, groups, roles, and profiles can be assigned to employees through IT Shop requests. Add employees to a shop as customers so that groups, roles, and profiles can be assigned through IT Shop requests. All groups, roles, and profiles are assigned to this shop can be requested by the customers. Requested groups, roles, and profiles are assigned to the employees after approval is granted.

NOTE: Only profiles that are not assigned to an SAP role can be assigned to hierarchical roles.

Detailed information about this topic

- [Assigning SAP groups, SAP roles, and SAP profiles to organizations](#) on page 161
- [Assigning SAP groups, SAP roles, and SAP profiles to business roles](#) on page 163
- [Assigning SAP user accounts directly to SAP groups and SAP profiles](#) on page 164
- [Adding SAP groups, SAP roles, and SAP profiles to system roles](#) on page 166
- [Adding SAP groups, SAP roles, and SAP profiles to the IT Shop](#) on page 168
- [Assignment and inheritance of SAP profiles and SAP roles to SAP user accounts](#) on page 170
- [Validity period of role assignments](#) on page 178
- [Central user administration in One Identity Manager](#) on page 122
- One Identity Manager Identity Management Base Module Administration Guide

Assigning SAP groups, SAP roles, and SAP profiles to organizations

Assign groups, roles, and profiles to departments, cost centers, and locations in order to assign user accounts to them through these organizations.

To assign a group to departments, cost centers, or locations (non role-based login)

1. Select the **SAP R/3 | Groups** category.
2. Select the group in the result list.
3. Select the **Assign organizations** task.
4. In the **Add assignments** pane, assign the organizations.
 - Assign departments on the **Departments** tab.
 - Assign locations on the **Locations** tab.
 - Assign cost centers on the **Cost centers** tab.- OR -

Remove the organizations in the **Remove assignments** pane.
5. Save the changes.

To assign a role to departments, cost centers, or locations (non role-based login)

1. Select the **SAP R/3 | Roles** category.
2. Select the role in the result list.
3. Select the **Assign organizations** task.
4. In the **Add assignments** pane, assign the organizations:
 - Assign departments on the **Departments** tab.
 - Assign locations on the **Locations** tab.
 - Assign cost centers on the **Cost centers** tab.- OR -

Remove the organizations in the **Remove assignments** pane.
5. Save the changes.

To assign a profile to departments, cost centers, or locations (non role-based login)

1. Select the **SAP R/3 | Profiles** category.
2. Select a profile in the result list.
3. Select the **Assign organizations** task.

4. In the **Add assignments** pane, assign the organizations:
 - Assign departments on the **Departments** tab.
 - Assign locations on the **Locations** tab.
 - Assign cost centers on the **Cost centers** tab.- OR -

Remove the organizations in the **Remove assignments** pane.
5. Save the changes.

To assign groups, roles, or profiles to departments, cost centers, or locations (non role-based login)

1. Select the **Organizations | Departments** category.
 - OR -
 - Select the **Organizations | Cost centers** category.
 - OR -
 - Select the **Organizations | Locations** category.
2. Select the department, cost center, or location in the result list.
3. Select the **Assign SAP groups** task.
 - OR -
 - Select the **Assign SAP roles** task.
 - OR -
 - Select the **Assign SAP profiles** task.
4. In the **Add assignments** pane, assign groups, roles, or profiles.
 - OR -
 - In the **Remove assignments** pane, remove the groups, roles, or profiles.
5. Save the changes.

Related topics

- [Assigning SAP groups, SAP roles, and SAP profiles to business roles on page 163](#)
- [Assigning SAP user accounts directly to SAP groups and SAP profiles on page 164](#)
- [Adding SAP groups, SAP roles, and SAP profiles to system roles on page 166](#)
- [Adding SAP groups, SAP roles, and SAP profiles to the IT Shop on page 168](#)
- [One Identity Manager users for managing SAP R/3 on page 12](#)

Assigning SAP groups, SAP roles, and SAP profiles to business roles

Installed modules: Business Roles Module

You assign groups, roles, and profiles to business roles in order to assign them to user accounts over business roles.

To assign a group to a business role (non role-based login)

1. Select the **SAP R/3 | Groups** category.
2. Select the group in the result list.
3. Select the **Assign business roles** task.
4. In the **Add assignments** pane, assign business roles.
- OR -
In the **Remove assignments** pane, remove business roles.
5. Save the changes.

To assign a role to a business role (non role-based login)

1. Select the **SAP R/3 | Roles** category.
2. Select the role in the result list.
3. Select the **Assign business roles** task.
4. In the **Add assignments** pane, assign business roles.
- OR -
In the **Remove assignments** pane, remove business roles.
5. Save the changes.

To assign a profile to a business role (non role-based login)

1. Select the **SAP R/3 | Profiles** category.
2. Select a profile in the result list.
3. Select the **Assign business roles** task.
4. In the **Add assignments** pane, assign business roles.
- OR -
In the **Remove assignments** pane, remove business roles.
5. Save the changes.

To assign groups, roles, or profiles to a business role (non role-based login)

1. Select the **Business roles | <Role class>** category.
2. Select the business role in the result list.

3. Select the **Assign SAP groups** task.
 - OR -
 - Select the **Assign SAP roles** task.
 - OR -
 - Select the **Assign SAP profiles** task.
4. In the **Add assignments** pane, assign groups, roles, or profiles.
 - OR -
 - In the **Remove assignments** pane, remove the groups, roles, or profiles.
5. Save the changes.

Related topics

- [Assigning SAP groups, SAP roles, and SAP profiles to organizations](#) on page 161
- [Assigning SAP user accounts directly to SAP groups and SAP profiles](#) on page 164
- [Adding SAP groups, SAP roles, and SAP profiles to system roles](#) on page 166
- [Adding SAP groups, SAP roles, and SAP profiles to the IT Shop](#) on page 168
- [One Identity Manager users for managing SAP R/3](#) on page 12

Assigning SAP user accounts directly to SAP groups and SAP profiles

To react quickly to special requests, you can assign groups and profiles directly to user accounts.

NOTE:

- Only profiles that are not assigned to SAP roles can be assigned to user accounts.
- Generated profiles cannot be assigned to user accounts.

The following applies if user accounts are managed by CUA:

- The group (the profile) is assigned to the central system, or
- The group's (the profile's) client is assigned as a child system to the user accounts
- A group or profile can also be directly assigned to a user account if the client's assignment to the user account is marked as outstanding. This removes the outstanding mark.

To assign a group directly to user accounts

1. Select the **SAP R/3 | Groups** category.
2. Select the group in the result list.

3. Select the **Assign user accounts** task.
4. Assign user accounts in **Add assignments**.
 - OR -
 - Remove user accounts from **Remove assignments**.
5. Save the changes.

To assign a profile directly to user accounts

1. Select the **SAP R/3 | Profiles** category.
2. Select a profile in the result list.
3. Select the **Assign user accounts** task.
4. Assign user accounts in **Add assignments**.
 - OR -
 - Remove user accounts from **Remove assignments**.
5. Save the changes.

Related topics

- [Assigning SAP groups and SAP profiles directly to an SAP user account](#) on page 136
- [Assigning SAP groups, SAP roles, and SAP profiles to organizations](#) on page 161
- [Assigning SAP groups, SAP roles, and SAP profiles to business roles](#) on page 163
- [Adding SAP groups, SAP roles, and SAP profiles to system roles](#) on page 166
- [Adding SAP groups, SAP roles, and SAP profiles to the IT Shop](#) on page 168

Assigning SAP user accounts directly to SAP roles

To react quickly to special requests, you can assign roles directly to user accounts.

The following applies if user accounts are managed by CUA:

- The role is assigned to the central system, or
- The role's client is assigned as a child system to the user accounts.

NOTE: A role can also be directly assigned to a user account if the client's assignment to the user account is marked as outstanding. This removes the outstanding mark.

To assign a role directly to user accounts

1. Select the **SAP R/3 | Roles** category.
2. Select the role in the result list.

3. Select the **Assign user accounts** task.

To assign a role to a user account

1. Click **Add**.
This inserts a new row in the table.
2. Select the user account you want to assign to the role from the **User account** menu.
3. Enter a validity period for the role assignment in the **Valid from** and **Valid until** fields, if that applies.
4. Enter another user account if required.
5. Save the changes.

To edit a role assignment

1. Select the role assignment you want to edit in the table. Edit the validity period.
2. Save the changes.

To remove a role assignment.

1. Select the role assignment you want to remove in the table.
2. Click **Delete**.
3. Save the changes.

Related topics

- [Assigning SAP roles directly to an SAP user account on page 137](#)
- [Assigning SAP groups, SAP roles, and SAP profiles to organizations on page 161](#)
- [Assigning SAP groups, SAP roles, and SAP profiles to business roles on page 163](#)
- [Adding SAP groups, SAP roles, and SAP profiles to system roles on page 166](#)
- [Adding SAP groups, SAP roles, and SAP profiles to the IT Shop on page 168](#)

Adding SAP groups, SAP roles, and SAP profiles to system roles

Installed modules: System Roles Module

Groups, roles, and profiles can be added to different system roles. When you assign a system role to an employee, the groups, roles, and profiles are inherited by all SAP user accounts that these employees have. System roles that exclusively contain SAP groups, roles, or profiles can be labeled with "SAP product". Groups, roles, and profiles can also be added to system roles that are not SAP products.

| NOTE: Only profiles that are not assigned to an SAP role can be assigned to system roles.

NOTE: Groups, roles, and profiles with **Only use in IT Shop** can only be assigned to system roles that also have this option set. For more detailed information about providing system roles in the IT Shop, see the One Identity Manager System Roles Administration Guide.

To assign a group to system roles

1. Select the **SAP R/3 | Groups** category.
2. Select the group in the result list.
3. Select the **Assign system roles** task.
4. In the **Add assignments** pane, assign system roles.

TIP: In the **Remove assignments** pane, you can remove assigned system roles.

To remove an assignment

- Select the system role and double-click .
5. Save the changes.

To assign a role to system roles

1. Select the **SAP R/3 | Roles** category.
2. Select the role in the result list.
3. Select the **Assign system roles** task.
4. In the **Add assignments** pane, assign system roles.

TIP: In the **Remove assignments** pane, you can remove assigned system roles.

To remove an assignment

- Select the system role and double-click .
5. Save the changes.

To assign a profile to system roles

1. Select the **SAP R/3 | Profiles** category.
2. Select a profile in the result list.
3. Select the **Assign system roles** task.
4. In the **Add assignments** pane, assign system roles.

TIP: In the **Remove assignments** pane, you can remove assigned system roles.

To remove an assignment

- Select the system role and double-click .
5. Save the changes.

Detailed information about this topic

- [SAP products](#) on page 183

Related topics

- [Assigning SAP groups, SAP roles, and SAP profiles to organizations](#) on page 161
- [Assigning SAP groups, SAP roles, and SAP profiles to business roles](#) on page 163
- [Assigning SAP user accounts directly to SAP groups and SAP profiles](#) on page 164
- [Adding SAP groups, SAP roles, and SAP profiles to the IT Shop](#) on page 168

Adding SAP groups, SAP roles, and SAP profiles to the IT Shop

NOTE: Only profiles that are not assigned to IT Shop roles can be assigned to SAP shelves.

When you assign a group, a role, or a profile to an IT Shop shelf, it can be requested by the shop customers. To ensure it can be requested, further prerequisites need to be guaranteed:

- The group, the role, or the profile must be labeled with the **IT Shop** option.
- The group, the role or profile must be assigned a service item.
 - TIP:** In the Web Portal, all products that can be requested are grouped together by service category. To make the group, the role, or profile easier to find in the Web Portal, assign a service category to the service item.
- If you only want the group, the role or profile to be assigned to employees through IT Shop requests, the group, the role or the profile must also be labeled with the **Use only in IT Shop** option. Direct assignment to hierarchical roles or user accounts is no longer permitted.

NOTE: With role-based login, the IT Shop administrators can assign groups, roles, and profiles to IT Shop shelves. Target system administrators are not authorized to add groups, roles, and profiles to IT Shop.

To add a group, a role, or a profile to the IT Shop.

1. In the Manager, select the **SAP R/3 | Groups** or **SAP R/3 | Roles** or **SAP R/3 | Profiles** (non role-based login) category.
 - OR -
 - In the Manager, select the **Entitlements | SAP Groups or Entitlements | SAP Roles** or **Entitlements | SAP Profiles** (role-based login) category.
2. In the result list, select the group, the role or the profile.
3. Select the **Add to IT Shop** task.
4. In the **Add assignments** pane, assign the group, the role or profile to the IT Shop shelves.
5. Save the changes.

To remove a group, a role or profile from individual shelves of the IT Shop

1. In the Manager, select the **SAP R/3 | Groups** or **SAP R/3 | Roles** or **SAP R/3 | Profiles** (non role-based login) category.
- OR -
In the Manager, select the **Entitlements | SAP Groups or Entitlements | SAP Roles** or **Entitlements | SAP Profiles** (role-based login) category.
2. In the result list, select the group, the role or the profile.
3. Select the **Add to IT Shop** task.
4. In the **Remove assignments** pane, remove the group the role or profile from the IT Shop shelves.
5. Save the changes.

To remove a group, a role or profile from all shelves of the IT Shop

1. In the Manager, select the **SAP R/3 | Groups** or **SAP R/3 | Roles** or **SAP R/3 | Profiles** (non role-based login) category.
- OR -
In the Manager, select the **Entitlements | SAP Groups or Entitlements | SAP Roles** or **Entitlements | SAP Profiles** (role-based login) category.
2. In the result list, select the group, the role or the profile.
3. Select the **Remove from all shelves (IT Shop)** task.
4. Confirm the security prompt with **Yes**.
5. Click **OK**.

The group, the role or profile is removed from all shelves by the One Identity Manager Service. All requests and assignment requests with this group, this role or profile are canceled.

For more detailed information about requesting company resources through the IT Shop, see the *One Identity Manager IT Shop Administration Guide*.

Related topics

- [General master data for SAP groups](#) on page 155
- [Assigning SAP groups, SAP roles, and SAP profiles to organizations](#) on page 161
- [Assigning SAP groups, SAP roles, and SAP profiles to business roles](#) on page 163
- [Assigning SAP user accounts directly to SAP groups and SAP profiles](#) on page 164
- [Adding SAP groups, SAP roles, and SAP profiles to system roles](#) on page 166

Assignment and inheritance of SAP profiles and SAP roles to SAP user accounts

The following SAP sided limitation influence the user account assignment and inheritance of profiles and roles in One Identity Manager.

- Composite profiles can be put together from 0...n profiles or composite profiles. If a user account is assigned a composite profile, the target system only returns the user account membership in the assigned composite profile and not the membership in subprofiles.
- Single roles can put together from 0..n profiles. Only profiles that are not composite profiles can be assigned. Profiles that are assigned to a single role can no longer be assigned to a user account.
- Collective roles can be made up of 0...n single roles. Assignment of profiles or composite profiles to collective roles is not possible.

These limitations result in the following:

In assignment:

- Triggering prevents the assignment of roles which are assigned to single roles, to user accounts, products, roles, and employees.

In inheritance behavior:

- If a user account is assigned a collective role that owns single roles, the single roles are not added to the `SAPUserInSAPGroupTotal` table.
- If a user account is assigned a single role that owns profiles, the profiles are not added to the `SAPUserInSAPProfile` table.
- If a user account is assigned a single role and this single role is part of a collective role that is also assigned to this user account, the single role is not added to the `SAPUserInSAPRole` table.
- If a user account is assigned a composite profile with child profiles, the child profiles are not added to the `SAPUserInSAPProfile` table.

If a user account obtains additional roles or profiles through a reference user, these roles or profiles are only added in the `SAPUserInSAPRole` and `SAPUserInSAPProfile` tables for the reference user. When company resources assigned to an employee (`PersonHasObject` table) are calculated, the roles and profiles inherited by a user account through single roles, collective roles, composite profiles, and reference users are also taken into account.

Inheriting SAP profiles and SAP roles in a central user administration

If user accounts are administered by the central user administration, SAP roles and profiles can only be inherited by the user accounts if the user accounts have access permissions for

the clients that the roles and profiles belong to. By default, the roles and profiles can only be inherited by user accounts if access to the clients is explicitly guaranteed. Otherwise the roles can profiles are not inherited.

Client access missing from the user accounts can be guaranteed automatically once a role or a profile from this client is inherited.

To automatically ensure user accounts missing access permissions

- In the Designer, set the **TargetSystem | SAPR3 | AutoFillSAPUserMandant** configuration parameter.

During the inheritance calculation, the missing access permissions are granted (entry in the SAPUserMandant table) and the roles and profiles are assigned to the user accounts.

⚠ CAUTION: By automating the inheritance process, user accounts might obtain access permissions for clients without the knowledge of the target system managers.

Related topics

- [Central user administration in One Identity Manager](#) on page 122
- [Granting access to clients of a central user administration](#) on page 139

Additional tasks for managing SAP groups, SAP roles, and SAP profiles

After you have entered the master data, you can run the following tasks.

Overview of SAP groups, SAP roles, and SAP profiles

To obtain an overview of a group

1. Select the **SAP R/3 | Groups** category.
2. Select the group in the result list.
3. Select the **SAP group overview** task.

To obtain an overview of a profile

1. Select the **SAP R/3 | Profiles** category.
2. Select a profile in the result list.

3. Select the **SAP profile overview** task.

To obtain an overview of a role

1. Select the **SAP R/3 | Roles** category.
2. Select the role in the result list.
3. Select the **SAP role overview** task.

Effectiveness of SAP groups, SAP roles, and SAP profiles

NOTE: In order to easy understanding the behavior is described with respect to SAP groups in this section. It applies in the same way to roles and profiles.

Table 66: Configuration parameters for conditional inheritance

Configuration parameter	Effect when set
QER Structures Inherit GroupExclusion	Preprocessor relevant configuration parameter for controlling effectiveness of group memberships. If the parameter is set, memberships can be reduced on the basis of exclusion definitions. Changes to this parameter require the database to be recompiled.

When groups are assigned to user accounts an employee may obtain two or more groups, which are not permitted in this combination. To prevent this, you can declare mutually exclusive groups. To do this, you specify which of the two groups should apply to the user accounts if both are assigned.

It is possible to assign an excluded group at any time either directly, indirectly, or with an IT Shop request. One Identity Manager determines whether the assignment is effective.

NOTE:

- You cannot define a pair of mutually exclusive groups. That means, the definition "Group A excludes group B" AND "Group B excludes groups A" is not permitted.
- You must declare each group to be excluded from a group separately. Exclusion definitions cannot be inherited.

The effectiveness of the assignments is mapped in the `SAPUserInSAPGrp` and `BaseTreeHasSAPGrp` tables by the `XIsInEffect` column.

Example of the effect of group memberships

- Group A is defined with permissions for triggering requests in a client A group B is authorized to make payments. A group C is authorized to check invoices.
- Group A is assigned through the "Marketing" department, group B through "Finance", and group C through the "Control group" business role.

Clara Harris has a user account in this client. She primarily belongs to the "Marketing" department. The "Control group" business role and the "Finance" department are assigned to her secondarily. Without an exclusion definition, the user account obtains all the permissions of groups A, B, and C.

By using suitable controls, you want to prevent an employee from being able to trigger a request and to pay invoices. That means, groups A, B, and C are mutually exclusive. An employee that checks invoices may not be able to make invoice payments as well. That means, groups B and C are mutually exclusive.

Table 67: Specifying excluded groups (SAPGrpExclusion table)

Effective group	Excluded group
Group A	
Group B	Group A
Group C	Group B

Table 68: Effective assignments

Employee	Member in role	Effective group
Ben King	Marketing	Group A
Jan Bloggs	Marketing, finance	Group B
Clara Harris	Marketing, finance, control group	Group C
Jenny Basset	Marketing, control group	Group A, Group C

Only the group C assignment is in effect for Clara Harris. It is published in the target system. If Clara Harris leaves the "control group" business role at a later date, group B also takes effect.

The groups A and C are in effect for Jenny Basset because the groups are not defined as mutually exclusive. If this should not be allowed, define further exclusion for group C.

Table 69: Excluded groups and effective assignments

Employee	Member in role	Assigned group	Excluded group	Effective group
Jenny Basset	Marketing	Group A		Group C
	Control group	Group C	Group B Group A	

Prerequisites

- The "QER | Structures | Inherit | GroupExclusion" configuration parameter is set.
- Mutually exclusive groups, roles, and profiles belong to the same client.

To exclude a group

1. Select the **SAP R/3 | Groups** category.
2. Select the group in the result list.
3. Select the **Exclude groups** task.
4. In the **Add assignments** pane, assign the groups that are mutually exclusive to the selected group.
- OR -
In the **Remove assignments** pane, remove the groups that are not longer mutually exclusive.
5. Save the changes.

To exclude roles

1. Select the **SAP R/3 | Roles** category.
2. Select the role in the result list.
3. Select the **Exclude SAP roles** task.
4. In the **Add assignments** pane, assign the roles that are mutually exclusive to the selected role.
- OR -
In the **Remove assignments** pane, remove the roles that no longer exclude each other.
5. Save the changes.

To exclude profiles

1. Select the **SAP R/3 | Profiles** task.
2. Select a profile in the result list.

3. Select the **Exclude roles** task.
4. In the **Add assignments** pane, assign the profiles that are mutually exclusive to the selected profile.
 - OR -
 - In the **Remove assignments** pane, remove the profiles that are no longer mutually exclusive.
5. Save the changes.

SAP group, SAP role, and SAP profile inheritance based on categories

NOTE: In order to easy understanding the behavior is described with respect to SAP groups in this section. It applies in the same way to roles and profiles.

In One Identity Manager, groups can be selectively inherited by user accounts. For this purpose, the groups and the user accounts are divided into categories. The categories can be freely selected and are specified using a mapping rule. Each category is given a specific position within the template. The mapping rule contains different tables. Use the user account table to specify categories for target system dependent user accounts. In the other tables enter your categories for the target system-dependent groups. Each table contains the **Position 1** to **Position 31** category positions.

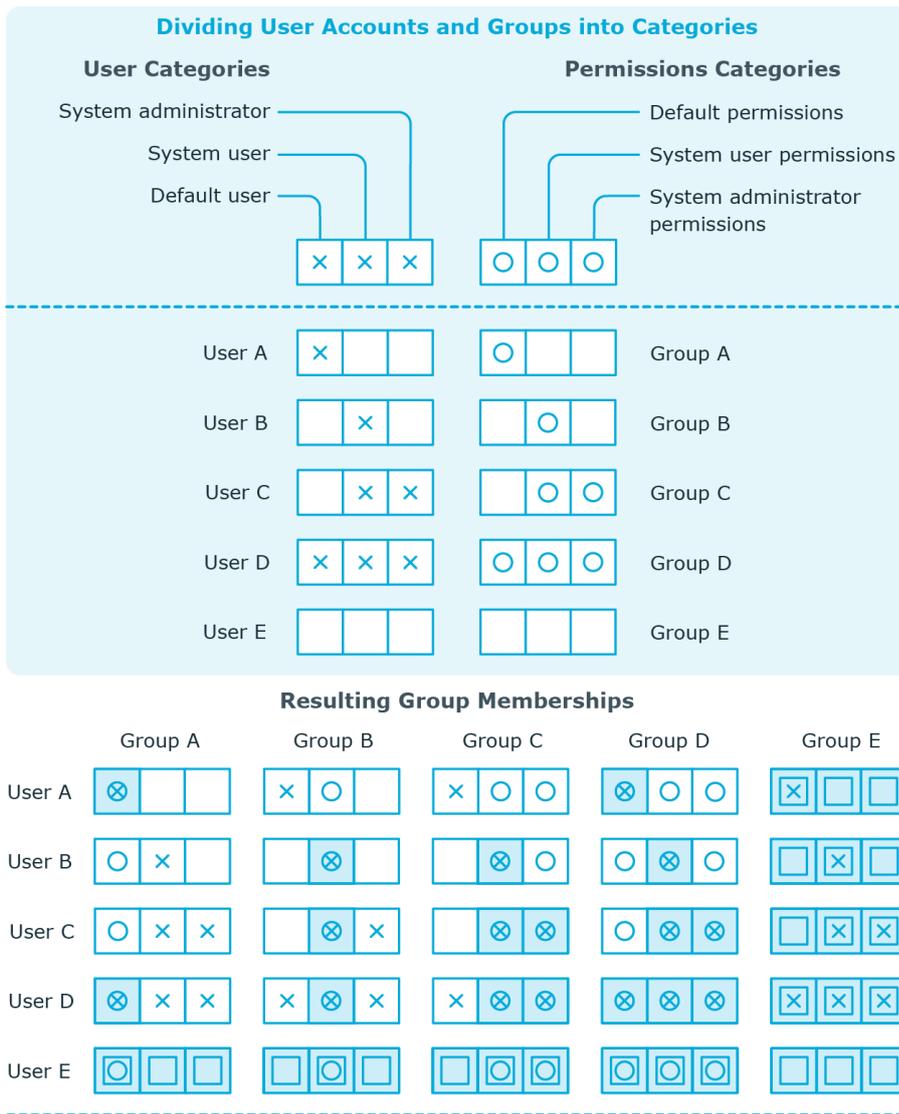
Every user account can be assigned to one or more categories. Each group can also be assigned to one or more categories. The group is inherited by the user account when at least one user account category items matches an assigned group. The group is also inherited by the user account if the group or the user account is not put into categories.

NOTE: Inheritance through categories is only taken into account when groups are assigned indirectly through hierarchical roles. Categories are not taken into account when groups are directly assigned to user accounts.

Table 70: Category examples

Category item	Categories for user accounts	Categories for groups
1	Default user	Default permissions
2	System users	System user permissions
3	System administrator	System administrator permissions

Figure 5: Example of inheriting through categories.



Key:

Inherits due to matching categories	Inherits because user account is not categorized
Inherits because user account and group are not categorized	Inherits because group is not categorized

To use inheritance through categories

- Define the categories in the client.

NOTE: If central user administration is implemented, define the categories in the central system as well as in the child system. The same categories must be defined in the child system as in the central system so that groups from a child system can be inherited by user accounts.
- Assign categories to user accounts through their master data.
- Assign categories to groups, roles, and profiles through their master data.

Related topics

- [Specifying categories for inheriting SAP groups, SAP roles, and SAP profiles on page 115](#)
- [General master data of an SAP user account on page 125](#)
- [General master data for SAP groups on page 155](#)
- [General master data for SAP roles on page 157](#)
- [General master data for SAP profiles on page 158](#)

Assigning extended properties to SAP groups, SAP roles, and SAP profiles

Extended properties are meta objects, such as operating codes, cost codes, or cost accounting areas that cannot be mapped directly in One Identity Manager.

To specify extended properties for a group

1. Select the **SAP R/3 | Groups** category.
2. Select the group in the result list.
3. Select the **Assign extended properties** task.
4. In the **Add assignments** pane, assign extended properties.
- OR -
In the **Remove assignments** pane, remove extended properties.
5. Save the changes.

To specify extended properties for a role

1. Select the **SAP R/3 | Roles** category.
2. Select the role in the result list.
3. Select the **Assign extended properties** task.
4. Assign extended properties in **Add assignments**.
- OR -
Remove extended properties in **Remove assignments**.
5. Save the changes.

To specify extended properties for a profile

1. Select the **SAP R/3 | Profiles** category.
2. Select a profile in the result list.
3. Select the **Assign extended properties** task.

4. In the **Add assignments** pane, assign extended properties.
- OR -
In the **Remove assignments** pane, remove extended properties.
5. Save the changes.

Showing SAP authorizations

You can view authorization objects and authorizations of One Identity Manager roles and profiles in SAP. All single profiles with their associated authorization objects and fields are displayed in a hierarchical overview.

To display role authorizations

1. Select the **SAP R/3 | Roles** category.
2. Select the role in the result list.
3. Select the **Show SAP authorizations** task.

To display profile authorizations

1. Select the **SAP R/3 | Profiles** category.
2. Select a profile in the result list.
3. Select the **Show SAP authorizations** task.

Validity period of role assignments

You can enter a validity period for assigning SAP roles to user accounts. If no validity period is given to the role assignments, they are allocated the following validity dates by default:

- Valid from: **1900-01-01**
- Valid to : **9999-12-31**

These role assignments are therefore unlimited.

The `SAPUserInSAPRo1e` table contains all role assignments, limited, and unlimited.

The `He1perSAPUserInSAPRo1e` table only contains current valid role assignments. The **Daily calculation of SAP user accounts assignments to SAP roles** schedule controls the calculation of this table.

Detailed information about this topic

- [Assigning the validity period of direct role assignments](#) on page 179
- [Configuring the validity period of indirect role assignments](#) on page 179

- [Determining the validity period of indirect role assignments](#) on page 181

Related topics

- [Assigning SAP roles directly to an SAP user account](#) on page 137
- [Assigning SAP user accounts directly to SAP roles](#) on page 165

Assigning the validity period of direct role assignments

Direct assignments can occur in two different ways:

- a. Synchronizing role assignments

The **Valid from** and **Valid to** columns are taken into account in the default mapping. Synchronization writes the validity period of role assignments into the One Identity Manager database.

- b. Direct assignment of SAP roles to user accounts in the Manager

A validity period can be entered for direct assignment of SAP roles to user accounts. **Valid from** and **Valid to** dates are provisioned in the target system.

Related topics

- [Determining the validity period of indirect role assignments](#) on page 181
- [Validity period of role assignments](#) on page 178

Configuring the validity period of indirect role assignments

When the validity period is calculated, the following configuration parameters are taken into account. These configuration parameters are disabled by default.

- **TargetSystem | SAPR3 | ValidDateHandling | DoNotUsePWODate**

Specifies whether the request's validity period is transferred when role assignments are requested.

Not set: The request's validity period is transferred. If there is no validity period given, the default values of **1900-01-01** and **9999-12-31** are set.

Set: The role assignment is unlimited.

- **TargetSystem | SAPR3 | ValidDateHandling | ReuseInheritedDate**

Controls reuse of existing profile assignments if another assignment for the same combination of user account and SAP role is added.

Set: Existing role assignments are reused if the same assignment is created by different means of inheritance. The following applies:

- The **Valid from** date of the existing assignment is in the past.
- The **Valid until** date of the existing assignment is **9999-12-31** or the new assignment has the same **Valid until** date as the existing assignment.

Any other unlimited assignment or any other assignment with the same **Valid until** date does not generate a new entry in the `SAPUserInSAPRole` table. This can reduce the number of entries in the `SAPUserInSAPRole` table.

Not set: An entry in the `SAPUserInSAPRole` table is created for every new role assignment. Existing assignments are not reused.

NOTE: In databases that are migrated from versions older than 7.0, you may see assignments with a **Valid until** date of **9998-12-31**. This is a valid date for unlimited role assignments, which means that these assignments can also be reused.

- **TargetSystem | SAPR3 | ValidDateHandling | ReuseInheritedDate | UseTodayForInheritedValidFrom**

Specifies the value that indirect role assignments' **Valid from** date contain when they are added.

Not set: **1900-01-01**

Set: **<today>**

IMPORTANT: Calculating indirect role assignments can become much slower depending on the amount of data to be processed.

Do not set this configuration parameter if the information about when a role assignment's validity period starts is not absolutely necessary in SAP R/3.

To reuse an existing role assignment:

- In the Designer, set the **TargetSystem | SAPR3 | ValidDateHandling | ReuseInheritedDate** configuration parameter.

To set the assignment's date as the first day of the role assignment's validity period

- In the Designer, set the **TargetSystem | SAPR3 | ValidDateHandling | ReuseInheritedDate | UseTodayForInheritedValidFrom** configuration parameter.

To prevent the request's validity date being copied to the role assignment

- In the Designer, set the **TargetSystem | SAPR3 | ValidDateHandling | DoNotUsePWODate** configuration parameter.

This adds an unlimited role assignment.

Related topics

- [Determining the validity period of indirect role assignments](#) on page 181

Determining the validity period of indirect role assignments

SAP roles that are assigned to departments, cost centers, locations, or business roles are indirectly assigned through them to user accounts. By default, indirect assignments are unlimited. The **TargetSystem | SAPR3 | ValidDateHandling** configuration parameter is used to determine the validity period of indirect assignments.

You can enter a valid from date if the requests are made in the IT Shop. An entry in `SAPUserInSAPRole` only exist between the first and last days of the request's validity period. The request's validity period is copied to role assignments under the following prerequisites:

- The **DoNotUsePWODate** configuration parameter is not set (default).
- The SAP role was requested directly.
- OR -
- The assignment was created through an assignment request and at the same time a role entitlement assignment was requested. `BaseTreeHasSAPRole.XOrigin='8'` is set for this

By default, an entry in the `SAPUserInSAPRole` table is created for every new role assignment. If the same assignment is created by different means of inheritance, the number of entries in the `SAPUserInSAPRole` table grows rapidly. In this case, if the validity period is identical, the same entries can be reused. Existing role assignments can be reused under the following prerequisites:

- The **ReuseInheritedDate** configuration parameter is set.
- The **Valid from** date of the existing assignment is in the past.
- The **Valid until** date of the existing assignment is **9999-12-31** or the new assignment has the same **Valid until** date as the existing assignment.
- Another assignment for the same combination of user account and SAP role is added.

Any other unlimited assignment or any other assignment with the same **Valid until** date does not generate a new entry in the `SAPUserInSAPRole` table. The number of entries in the `SAPUserInSAPRole` table can be reduced in this way.

NOTE: In databases that are migrated from versions older than 7.0, you may see assignments with a **Valid until** date of **9998-12-31**. This is a valid date for unlimited role assignments, which means that these assignments can also be reused.

By default, the first day that indirect assignments are valid is **1900-01-01**. This does not tell us when the assignments were created. If you need this information, in the **Valid from** field, you can enter the date on which the SAP role will be assigned. The date of the

assignment is set as the first valid day of the indirect role assignments under the following prerequisites:

- The **ReuseInheritedDate | UseTodayForInheritedValidFrom** configuration parameter is set.

Exception: the **DoNotUsePWODate** configuration parameter is not set and:

- The assignment has been requested and the request has a **Valid from** date.
- The assignment has been requested and the request has a **Valid to** date but no **Valid from** date.

IMPORTANT: Calculating indirect role assignments can become much slower depending on the amount of data to be processed.

Do not set the **UseTodayForInheritedValidFrom** configuration parameter if the information about the valid from date of the role assignment is not absolutely necessary in SAP R/3!

Detailed information about this topic

- [Configuring the validity period of indirect role assignments](#) on page 179
- [Validity period of role assignments](#) on page 178

Related topics

- [Assigning the validity period of direct role assignments](#) on page 179

SAP products

Installed modules: System Roles Module

You can define One Identity Manager products as a collection of different groups, roles, or profiles in SAP. SAP products are system roles with the system role type "SAP product". Employees can obtain SAP products directly, inherit them through hierarchical role, or request them in the IT Shop.

The employee's user account is assigned the groups, roles, and profiles in the SAP product independent of the assignment method. If an SAP product changes by adding or removing a group, role, or a profile in One Identity Manager, user account memberships are changed accordingly.

To edit SAP products

1. Select the **SAP R/3 | Products** category.
2. Select an SAP product in the result list.
 - OR –
 - Click  in the result list.
 - This opens the master data form for a system role.
3. Edit the system role's master data.
4. Save the changes.

Detailed information about this topic

- One Identity Manager System Roles Administration Guide

General master data for SAP products

Table 71: Configuration parameters for risk assessment of SAP user accounts

Configuration parameter	Effect when set
QER CalculateRiskIndex	Preprocessor relevant configuration parameter controlling system components for calculating an employee's risk index. Changes to the parameter require recompiling the database. If the parameter is enabled, values for the risk index can be entered and calculated.

Enter the following data for a system role.

Table 72: System role master data

Property	Description
Display name	Name for displaying the system roles in One Identity Manager tools.
System role	Unique identifier for the system role.
Internal product name	An additional internal name for the system role.
System role type	Specifies the type of company resources, which comprise the system role.
Service item	In order to use a service item within the IT Shop, assign a service item to it or add a new service item. For more information about service items, see the One Identity Manager IT Shop Administration Guide.
System role manager	Manager responsible for the system role. Assign any new employee. This employee can edit system role master data. They can be used as attestors for system role properties. If the system role can be requested in the IT Shop, the manager will automatically be a member of the application role for product owners assigned the service item.
Share date	Specify a date for enabling the system role. If the date is in the future, the system role is considered to be disabled. If the date is reached, the system role is enabled. Employees inherit company resources that are assigned to the system role. If the share date is exceeded or no date is entered, the system role is handled as an enabled system role. Company resource inheritance can be

Property	Description
	<p>controlled with the Disabled option in these cases.</p> <p>NOTE: Configure and enable the Share system roles schedule in the Designer to check the share date. For detailed information about schedules, see the <i>One Identity Manager Operational Guide</i>.</p>
Risk index (calculated)	<p>Maximum risk index values for all company resources. The property is only visible if the QER CalculateRiskIndex configuration parameter is enabled. For detailed information about calculating the risk index, see the <i>One Identity Manager Risk Assessment Administration Guide</i>.</p>
Comment	Text field for additional explanation.
Remarks	Text field for additional explanation.
Description	Text field for additional explanation.
Deactivated	<p>Specifies whether employees and workdesks inherit the company resources contained in the system role.</p> <p>If this option is set, the system role can be assigned to employees, workdesks, hierarchical roles, and IT Shop shelves. However they cannot inherit the company resources contained in the system role. The system role cannot be requested in the Web Portal.</p> <p>If this option is not set, company resources assigned to the system role are inherited. If the option is enabled at a later date, existing assignments are removed.</p>
IT Shop	<p>Specifies whether the system role can be requested through the IT Shop. This system role can be requested by staff through the Web Portal and the request granted by a defined approval procedure. The system role can still be assigned directly to employees and hierarchical roles. For detailed information about IT Shop, see the <i>One Identity Manager IT Shop Administration Guide</i>.</p>
Only for use in IT Shop	<p>Specifies whether the system role can only be requested through the IT Shop. This system role can be requested by staff through the Web Portal and the request granted by a defined approval procedure. The system role may not be assigned directly to hierarchical roles.</p>
Spare field no. 01 ... Spare field no. 10	<p>Additional company-specific information. Use the Designer to customize display names, formats, and templates for the input fields.</p>

For detailed information about system roles, see the *One Identity Manager System Roles Administration Guide*

Assigning SAP products to employees

SAP products can be assigned directly or indirectly to employees. In the case of indirect assignment, employees, and SAP products are arranged in hierarchical roles. The number of SAP products assigned to an employee is calculated from the position in the hierarchy and the direction of inheritance.

If you add an employee to roles and that employee owns a user account, the user account is added to all groups, roles, or profiles included in the SAP products owned by the employee. The groups, roles, or profiles are not inherited if the SAP product is disabled or if the share date is still in the future.

Prerequisites for indirect assignment:

- Assignment of system roles, employees, groups, roles, and profiles is permitted for role classes (departments, cost centers, locations, or business roles).
- User accounts are marked with the **Groups can be inherited** option.
- The user accounts, groups, roles, and profiles belong to the same SAP client.

Furthermore, SAP products can be assigned to employees through IT Shop requests. SAP products can be assigned through IT Shop requests by adding employees to a shop as customers. All SAP products assigned to this shop can be requested by the customers. Requested SAP products are assigned to the employees after approval is granted.

Detailed information about this topic

- [Assigning SAP products to organizations](#) on page 186
- [Assigning SAP products to business roles](#) on page 187
- [Assigning SAP products directly to employees](#) on page 188
- [Adding SAP products to system roles](#) on page 188
- [Adding SAP products to the IT Shop](#) on page 189
- One Identity Manager Identity Management Base Module Administration Guide

Related topics

- [Assigning SAP groups, SAP roles, and SAP profiles to SAP user accounts](#) on page 160

Assigning SAP products to organizations

Assign SAP products to departments, cost centers, and locations in order to assign employees to them through these organizations.

To assign an SAP product to departments, cost centers, or locations

1. Select the **SAP R/3 | Products** category.
2. Select the SAP product in the result list.
3. Select the **Assign organizations** task.
4. In the **Add assignments** pane, assign the organizations.
 - Assign departments on the **Departments** tab.
 - Assign locations on the **Locations** tab.
 - Assign cost centers on the **Cost centers** tab.

- OR -

Remove the organizations in the **Remove assignments** pane.
5. Save the changes.

Related topics

- [Assigning SAP products to business roles](#) on page 187
- [Adding SAP products to the IT Shop](#) on page 189
- [Assigning SAP products directly to employees](#) on page 188
- [Adding SAP products to system roles](#) on page 188
- [Assigning SAP groups, SAP roles, and SAP profiles to organizations](#) on page 161

Assigning SAP products to business roles

Installed modules: Business Roles Module

You assign SAP products to business roles in order to assign them to user accounts over business roles.

To assign an SAP product to business roles

1. Select the **SAP R/3 | Products** category.
2. Select the SAP product in the result list.
3. Select the **Assign business roles** task.
4. In the **Add assignments** pane, assign business roles.

- OR -

In the **Remove assignments** pane, remove business roles.
5. Save the changes.

Related topics

- [Assigning SAP products to organizations](#)
- [Adding SAP products to system roles on page 188](#)
- [Assigning SAP products directly to employees on page 188](#)
- [Adding SAP products to the IT Shop on page 189](#)
- [Assigning SAP groups, SAP roles, and SAP profiles to business roles on page 163](#)

Assigning SAP products directly to employees

You can assign SAP products directly to employees. All groups, roles, and profiles are assigned to this SAP product can be inherited by these employees.

To assign an SAP product directly to employees

1. Select the **SAP R/3 | Products** category.
2. Select the SAP product in the result list.
3. Select the **Assign to employees** task.
4. In the **Add assignments** pane, assign employees.
- OR -
In the **Remove assignments** pane, remove employees.
5. Save the changes.

Related topics

- [Assigning SAP products to organizations on page 186](#)
- [Assigning SAP products to business roles on page 187](#)
- [Adding SAP products to the IT Shop on page 189](#)
- [Adding SAP products to system roles on page 188](#)

Adding SAP products to system roles

You can group individual SAP products into a package. To do this, you assign SAP products to system roles.

NOTE: SAP products with the **Only use in IT Shop** option enabled can only be assigned to system roles that also have this option set.

To assign an SAP product to system roles

1. Select the **SAP R/3 | Products** category.
2. Select the SAP product in the result list.
3. Select the **Assign system roles** task.
4. Select the **System role contained in** tab to assign parent system roles.
 - In the **Add assignments** pane, assign system roles.
- OR -
In the **Remove assignments** pane, remove system roles.
5. Select the **System role contains** tab to assign child system roles.
 - In the **Add assignments** pane, assign system roles.
- OR -
In the **Remove assignments** pane, remove system roles.
6. Save the changes.

Related topics

- [Assigning SAP products to organizations](#) on page 186
- [Assigning SAP products to business roles](#) on page 187
- [Assigning SAP products directly to employees](#) on page 188
- [Adding SAP products to the IT Shop](#) on page 189
- [Adding SAP groups, SAP roles, and SAP profiles to system roles](#) on page 166

Adding SAP products to the IT Shop

Once an SAP product has been assigned to an IT Shop shelf, it can be requested by the shop customers. To ensure the SAP product is requestable, further prerequisites need to be guaranteed.

- The SAP product must be labeled with the **IT Shop** option.
- The SAP product must be assigned to a service item.
- The SAP product must be also labeled with **Only use in IT Shop** if the SAP product can only be assigned to employees using IT Shop requests. Then, the SAP product may no longer be assigned directly to hierarchical roles.

To add an SAP product to the IT Shop

1. Select the **SAP R/3 | Products** category.
2. Select the SAP product in the result list.
3. Select the **Add to IT Shop** task.

4. In the **Add assignments** pane, add the SAP product to the IT Shop shelves.
5. Save the changes.

To remove an SAP product from individual IT Shop shelves

1. Select the **SAP R/3 | Products** category.
2. Select the SAP product in the result list.
3. Select **Add to IT Shop**.
4. In the **Remove assignments** pane, remove the SAP product from the IT Shop shelves.
5. Save the changes.

To remove an SAP product from all IT Shop shelves

1. Select the **SAP R/3 | Products** category.
2. Select the SAP product in the result list.
3. Select the **Remove from all shelves (IT Shop)** task.
4. Confirm the security prompt with **Yes**.
5. Click **OK**.

The SAP product is removed from all shelves by One Identity Manager Service. All requests and assignment requests are canceled along with the SAP product as a result.

For more detailed information about providing products in the IT Shop, see the One Identity Manager IT Shop Administration Guide.

Related topics

- [Assigning SAP products directly to employees](#) on page 188
- [Assigning SAP products to organizations](#) on page 186
- [Adding SAP products to system roles](#) on page 188
- [Assigning SAP products to business roles](#) on page 187
- [Adding SAP groups, SAP roles, and SAP profiles to the IT Shop](#) on page 168

Additional tasks for managing SAP products

After you have entered the master data, you can run the following tasks.

Overview of SAP products

To obtain an overview of an SAP product

1. Select the **SAP R/3 | Products** category.
2. Select the SAP product in the result list.
3. Select the **System role overview** task.

Assigning SAP groups, SAP roles, and SAP profiles to an SAP product

Assign the groups, roles, and profiles you want to include to the SAP product. Employees to which you assign this SAP product, will inherit these groups, roles, and profiles.

NOTE: Groups, roles, and profiles with **Only use in IT Shop** can only be assigned to SAP products that also have this option set.

NOTE: Groups, roles, and profiles can also be added to system roles that are not SAP products.

To assign groups to an SAP product

1. Select the **SAP R/3 | Products** category.
2. Select the SAP product in the result list.
3. Select the **Assign SAP groups** task.
4. In the **Add assignments** pane, assign groups.
- OR -
In the **Remove assignments** pane, remove the groups.
5. Save the changes.

To assign profiles to an SAP product.

1. Select the **SAP R/3 | Products** category.
2. Select the SAP product in the result list.
3. Select the **Assign SAP profiles** task.
4. In the **Add assignments** pane, assign profiles.
- OR -
In the **Remove assignments** pane, remove the profiles.
5. Save the changes.

To assign roles to an SAP product

1. Select the **SAP R/3 | Products** category.
2. Select the SAP product in the result list.
3. Select the **Assign SAP roles** task.
4. In the **Add assignments** pane, assign roles.
- OR -
In the **Remove assignments** pane, remove the roles.
5. Save the changes.

Related topics

- [Assigning SAP products to employees](#) on page 186

Assigning account definitions to SAP products

Use this task to add account definitions to an SAP product. If you assign the SAP product to employees, the account definitions contained in the SAP product are inherited by the employees.

NOTE: Account definitions roles with **Only use in IT Shop set** can only be assigned to SAP products that also have this option set.

To assign account definition to an SAP product

1. Select the **SAP R/3 | Products** category.
2. Select the SAP product in the result list.
3. Select the **Assign account definitions** task.
4. In the **Add assignments** pane, assign account definitions.
- OR -
In the **Remove assignments** pane, remove the account definitions.
5. Save the changes.

Detailed information about this topic

- [Setting up account definitions](#)

Assigning subscribable reports to SAP products

Installed modules: Report Subscription Module

Use this task to add subscribable reports to an SAP product. If you assign the SAP product to employees, the subscribable reports contained in the SAP product are inherited by the employees.

NOTE: Subscribable reports with **Only use in IT Shop set** can only be assigned to SAP products that also have this option set.

To assign subscribable reports to an SAP product

1. Select the **SAP R/3 | Products** category.
2. Select the SAP product in the result list.
3. Select the **Assign subscribable reports** task.
4. In the **Add assignments** pane, assign subscribable reports.
- OR -
In the **Remove assignments** pane, remove the subscribable reports.
5. Save the changes.

Detailed information about this topic

- One Identity Manager Report Subscriptions Administration Guide

Assigning extended properties to SAP products

Extended properties are meta objects, such as operating codes, cost codes, or cost accounting areas that cannot be mapped directly in One Identity Manager.

To specify extended properties for an SAP product

1. Select the **SAP R/3 | Products** category.
2. Select the SAP product in the result list.
3. Select the **Assign extended properties** task.
4. In the **Add assignments** pane, assign extended properties.
- OR -
In the **Remove assignments** pane, remove extended properties.
5. Save the changes.

Related topics

- [Assigning extended properties to SAP groups, SAP roles, and SAP profiles on page 177](#)

Editing conflicting system roles

Table 73: Configuration parameters for editing mutually exclusive roles

Configuration parameter	Effect when set
QER Structures Inherit ESetExclusion	Preprocessor-relevant configuration parameter for defining the effectiveness of system roles. If this parameter is set, mutually excluding system roles can be defined. Changes to this parameter require the database to be recompiled.

It is possible that employees may not own certain groups, roles, and profiles at the same time. To avoid this, you can assign mutually exclusive groups, roles, and profiles to different SAP products. Define these SAP products afterward as conflicting system roles. This means that conflicting system roles can be grouped together into a system role.

NOTE: Only SAP products, which are defined directly as conflicting system roles cannot be assigned to the same employee. Definitions made on parent or child SAP products do not affect the assignment.

To implement conflicting system roles

- In the Designer, set the "QER | Structures | Inherit | ESetExclusion" configuration parameter and compile the database.

To define conflicting system roles

1. Select the **SAP R/3 | Products** category.
2. Select the SAP product in the result list for which you want to define conflicting system roles.
3. Select the **Edit conflicting system roles** task.
4. In the **Add assignments** pane, double-click on the system roles to exclude them from the selected SAP product.
- OR -
In the **Remove assignments** pane, double-click on the system roles that are no longer mutually exclusive.
5. Save the changes.

Providing system measurement data

User account license information can be mapped in One Identity Manager. An employee can have several user accounts which belong to different clients and systems. The employee's most significant user account is required for system measurement. This user account is determined as a chargeable user account by system measurement. One Identity Manager calculates user account ratings from the licenses assigned.

The employee's most significant user account is automatically determined from all user accounts not managed through CUA. CUA user accounts are mapped in the license information in One Identity Manager and can be edited. The most significant user account is not, however, determined automatically.

System measurement data is supplied in One Identity Manager. The actual measurement takes place in the target system.

To make system measurement data available

1. In the Designer, set the **TargetSystem | SAPR3 | Accounts | CalculateLicence** configuration parameter.
2. In SAP, set the **Enable system measurement** option.
3. Set **Has user administration** in the client.
4. Enter the license data
 - a. Enter the license for roles and profiles. One Identity Manager finds the user account's licenses from the licenses of all roles and profiles in which the user account is a member.
 - OR -
 - b. Enter the active license directly in the user account.

One Identity Manager calculates the most significant user account license from the licenses entered.

5. Publish the measurement data.

The calculated licenses are transferred to the active licenses. Active licenses are published in the target system. System measurement can be carried out there.

Detailed information about this topic

- [SAP systems](#) on page 112
- [General master data for SAP clients](#) on page 113
- [Finding licenses using SAP roles and SAP profiles](#) on page 199
- [Entering licenses for SAP user accounts](#) on page 198
- [Transferring calculated licenses](#) on page 202

Mapping the measurement data

Measurement data is displayed on the master data form for user accounts which are not CUA.

To display measurement data

1. Select the **SAP R/3 | User accounts** category.
2. Select the user account in the result list.
3. Change to **Inventory data**.

This opens the master data form with synchronized and calculated data for system measurement.

The following license information is displayed on the form.

Table 74: User account measurement data

Property	Description
Active License	User account's license. The active license is loaded into the One Identity Manager database by synchronization or found from the calculated, employee-related license. NOTE: The active license can also be edited and changed. Changes to the active license are published immediately in the target system. The licenses stored with the roles and profiles are not effective in this case. NOTE: If licenses are stored with roles or profiles in which the user account is a member and Publishing calculated licenses is running, the active license stored directly with the user account is overwritten by the calculated license.
Special version ID	License extension for the installed special version. Select the special version ID from the menu. This is only enabled if special versions are permitted for the active license.
Country surcharge	Additional license fee. This is only enabled if country surcharges are permitted for the active license.

Property	Description
Substitute	Link to the user account which takes over as deputy for a specified time period. This field is only active if "04 (substitute)" or "11 (Multi-client/system)" is entered. The substitute user account obtains roles and profiles of the displayed user account for a specified time period.
Substituted from	Time period in which another user account assumes responsibility. This input field is enabled if the active license is set to "04 (substitute)".
Substituted until	
Calculated license (client)	License determined from user account assigned roles and profiles within the client. This field is only visible if the TargetSystem SAPR3 Accounts CalculateLicence configuration parameter, the System measurement enabled option in SAP, and the Has user administration option in the SAP client are enabled.
Calculated license (employee)	License of most significant employee user account. The client related calculated license is entered for the most significant user account. For all the other employee's user accounts, the employee related calculated license "11 (Multi-client/system user)" is entered. This also contains a reference to the calculated most significant user account (Calculated ref. name). This field is only visible if the TargetSystem SAPR3 Accounts CalculateLicence configuration parameter, the System measurement enabled option in SAP, and the Has user administration option in the SAP client are enabled.
Calculated ref.name	Link to the calculated most significant user account if "11 (Multi-client/system user)" is entered. This field is only visible if the TargetSystem SAPR3 Accounts CalculateLicence configuration parameter, the System measurement enabled option in SAP, and the Has user administration option in the SAP client are enabled.

Measurement data is displayed for each user account assignment to the target system and to child systems if the user accounts are managed over CUA,

To display measurement data for a centrally administered user account

1. Select the **SAP R/3 | User accounts** category.
2. Select the user account in the result list.
3. Select the **Assign SAP licenses in client systems** task.
4. Select an assignment in the table.

The following license information is displayed on the form.

Table 75: Measurement data for a centrally administrated user account

Property	Description
Recipient client	Client containing the user account which is assigned a license. You can select the central system or a assigned child system.
License	User account license in the selected client.
License extension	License extension for the installed special version. Select the special version ID from the menu.
Country surcharge	Additional license fee.
Chargeable system	SAP system containing the client to be charged. This field is only shown if "04 (substitute)" or "11 (Multi-client/system)" is entered.
Chargeable client	Client containing the user account to be charged. This field is only shown if "04 (substitute)" or "11 (Multi-client/system)" is entered.
Chargeable user account	User account to be charged if "04 (substitute)" or "11 (Multi-client/system)" is entered.
Substituted from	Time period in which another user account assumes responsibility. This input field is enabled if the active license is set to "04 (substitute)".
Substituted until	

Related topics

- [Entering licenses for SAP user accounts](#) on page 198
- [Finding licenses using SAP roles and SAP profiles](#) on page 199
- [Determining an SAP user account rating](#) on page 200
- [Transferring calculated licenses](#) on page 202
- [Special versions](#) on page 97
- [Licenses](#) on page 96

Entering licenses for SAP user accounts

In order to maintain system measurement data directly in user accounts, enter the active license in the user accounts. This might be necessary, for example, for storing substitute licenses.

To enter a user account active license

1. Select the **SAP R/3 | User accounts** category.
2. Select the user account in the result list.

3. Select the **Measurement data** tab.
4. Select a license in the **Active license** menu.
5. Enter any other data required, if necessary.
6. Save the changes.

The active license is published in the target system.

NOTE: If licenses are stored with roles or profiles in which the user account is a member and **Publishing calculated licenses** is running, the active license stored directly with the user account is overwritten by the calculated license.

To enter the centrally administrated user account's license

1. Select the **SAP R/3 | User accounts** category.
2. Select the user account in the result list.
3. Select the **Assign SAP licenses in client systems** task.
4. Click **Add**.

This inserts a new row in the table.

5. Mark this row. Enter the measurement data.
6. Save the changes.

Detailed information about this topic

- [Mapping the measurement data](#) on page 196
- [Finding licenses using SAP roles and SAP profiles](#) on page 199

Finding licenses using SAP roles and SAP profiles

The most significant license can be determined from role and profile licenses that are not managed through CUA. You must make the initial assignment of licenses manually after synchronizing roles and profiles. One Identity Manager determines the user account's highest rated license through user account memberships in roles and profiles. The employee's most significant user account is found across clients and system. The most significant license is added to the user account as the active license and published in the target system.

To assign roles and profiles

1. Select the **SAP R/3 | Roles** category.
– OR –
Select the **SAP R/3 | Profiles** category.

2. Select the role or profile in the result list.
3. Assign a license in the **License** field.
4. Save the changes.

Related topics

- [Licenses](#) on page 96
- [General master data for SAP profiles](#) on page 158
- [General master data for SAP roles](#) on page 157

Determining an SAP user account rating

NOTE: In this section, roles, and profiles are grouped under the term "SAP system entitlements" to make it easier to understand.

A rating for a user account is determined in One Identity Manager by rating profiles and roles in which the user account is a member. Licenses have to be entered for the profiles and roles as a prerequisite. You have to make this assignment once manually after the objects have been synchronized. When the most significant user account is determined, the license names and any manually issued license value are taken into account.

A recalculation task for the DBQueue Processor is generated to determine license rating. The recalculation task is generated when:

- The **TargetSystem | SAPR3 | Accounts | CalculateLicence** is set
- The **System measurement enabled** option for the SAP system is disabled/enabled
- The **Has user account management** option for the SAP client is disabled/enabled
- User account assignments to roles or profiles are changed
- Role assignment validity periods are changed
- License's rating changes
- License assignments to roles or profiles are changed
- Employee assignment to user accounts
- The user account substitute is changed

The most highly rated user account is determined in One Identity Manager in a two-step process.

1. Determining the significance of a user account within a client (client related)
Memberships in system entitlements within a client are calculated for an SAP user account. Through this, the SAP system entitlement with the highest rating is found. The license for the most significant SAP system entitlement is added to the user account as **Calculated license (client)**. The most significant SAP system entitlement meets the following criteria:

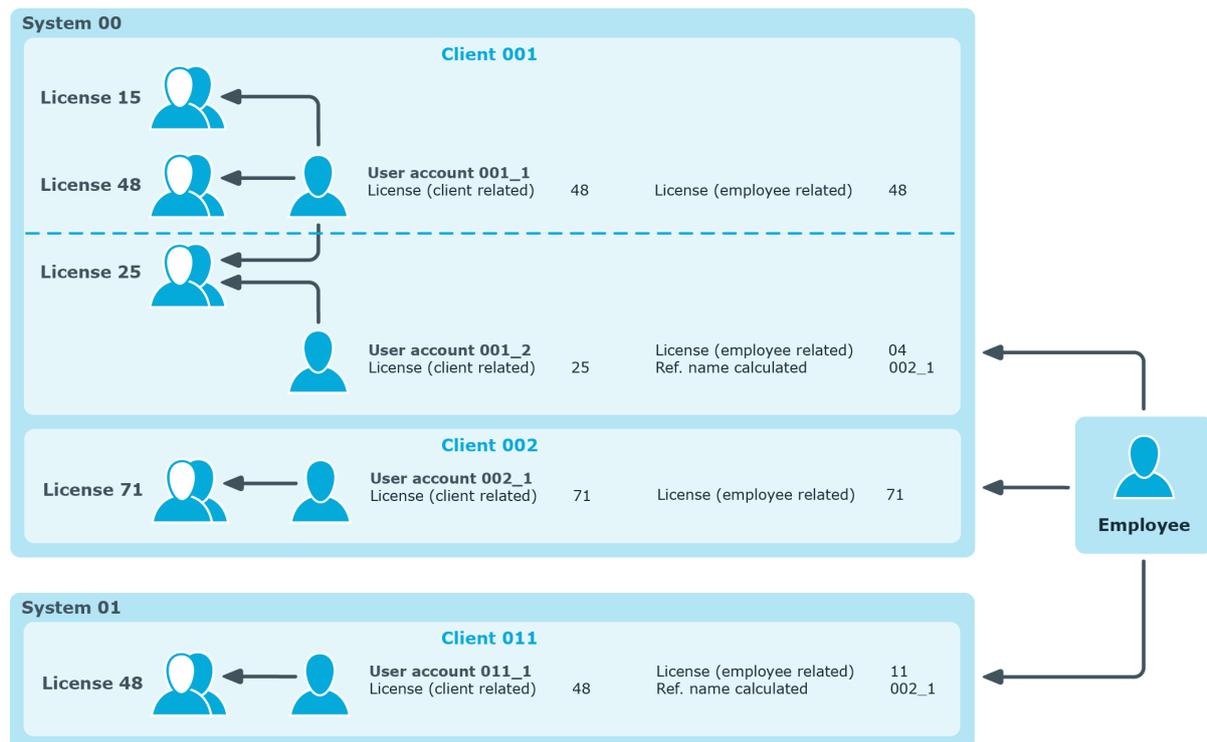
- a. The assigned license has the lowest license rating (in alphanumeric sort order).
 - b. If several SAP system entitlements with the same license rating are assigned or no license rating has been given, the valid license is that with the highest rating.
2. Determining the most highly rated user account (employee related)
- a. The most significant user account is determined from all the employee's user account sin all clients and all systems. The criteria from 1a) and 1b) apply for these user accounts. The license for the most highly rated user account is added to the user account as **Calculated license (employee)**. A reference to the user account calculated with the most significance is entered for all of the employee's other user accounts in **Calculated ref. name**. These user account contain the license "11 (Multi-client/system) or "04 (substitute)".

Table 76: Employee-related license

User accounts	Calculated license (employee)
Most significant user account	Calculated license (client)
Remaining user accounts in clients of the same system as the most significant user account	04 (Deputy manager or supervisor)
Remaining user accounts in other systems besides the most significant user account	11 (Multi-client/system)

- b. If a user account is not assigned an employee, the rating calculated under 1) is seen as the most significant and the license entry is added to the user account as **Calculated license (employee)**.

Figure 6: Determining an SAP user account rating



Related topics

- [Licenses](#) on page 96
- [Disabling license calculation](#) on page 203

Transferring calculated licenses

In order to execute system measurement in the SAP R/3 environment, you need to transfer employee related calculated licenses to the active license. This transfer is done separately for each client in the system.

NOTE: If **Publishing calculated licenses** is run, the active license stored directly with the user account is overwritten by the calculated license!

Exception: "04 (substitute)" is entered as active license and the substitute time period is currently valid or is in the future.

NOTE: **Publishing calculated licenses** is only for clients with CUA status "No CUA system" or empty CUA status.

To transfer calculated licenses to active licenses

1. Select the **SAP R/3 | Clients** category.
2. Select the client whose licenses are to be transferred.

3. Select the **Publish calculated licenses** task.

A security prompt appears.

4. Confirm the security prompt with **Yes**.

Once the calculated licenses are transferred to active licenses, the active licenses are published in the target system.

One Identity Manager transfers the calculated employee related license for all this client's user accounts to the active license. You can edit this data later, if required. Once the licenses are published in the SAP R/3 system and system measurement has been carried out, you can synchronize the current measurement data with the One Identity Manager database.

Special characteristics of user accounts with a deputy license

If the active license "04 (substitute)" is entered in the user account and the substitution period is current valid, the active license is not replaced by the calculated employee-related license. The same applies if the substitution period is in the future (**Substituted from** later than "today").

If the substitution period has expired, the calculated employee-related license is transferred to the active license by the task **Publishing calculated licenses**. Information about the substitute and the substitution period is deleted from the user account.

NOTE: In order to publish an active license "04 (substitute) in the target system, the price list and all usable user types must be enabled in the program part system measurement in the SAP R/3 environment.

Related topics

- [Mapping the measurement data](#) on page 196
- [Disabling license calculation](#) on page 203

Disabling license calculation

You can disable calculation of user account ratings for individual SAP client, SAP systems or for all SAP systems managed in One Identity Manager. Licenses calculated for the user accounts are no longer calculated and the active license is not updated. The licenses stored with roles and profiles do not work anymore. Therefore, One Identity Manager does not provide new data for system measurement that is based on currently assigned SAP roles and profiles.

The active license can still be accessed and published in the target system. If active licenses are changed in the target system, the changes are loaded into One Identity Manager by synchronization.

To disable license calculation

- In the Designer, disable the **TargetSystem | SAPR3 | Accounts | CalculateLicence** configuration parameter.
 - OR -
- In SAP, disable the **System measurement enabled** option.
 - OR -
- In the client, disable the **Has user administration**.

Related topics

- [Determining an SAP user account rating](#) on page 200
- [Transferring calculated licenses](#) on page 202

Reports about SAP systems

One Identity Manager makes various reports available containing information about the selected base object and its relations to other One Identity Manager database objects. The following reports are available for SAP systems.

NOTE: Other sections may be available depending on the which modules are installed.

Table 77: Reports for the target system

Report	Description
Overview of all assignments (system)	This report finds all roles containing employees with at least one user account in the selected system.
Overview of all assignments (client)	This report identifies all roles containing employees with at least one user account in the selected client.
Overview of all assignments (group, role, profile)	This report find all roles containing employees with the selected group, role, or profile.
Show orphaned user accounts	This report shows all user accounts in the client that are not assigned to an employee. The report contains assigned system entitlements and risk assessment.
Show employees with multiple user accounts	This report shows all employees with more than one user account in the client. The report contains a risk assessment.
Show entitlement drifts	This report shows all the client's system entitlements that are the result of manual operations in the target system rather than using the One Identity Manager provisioning engine.
Show unused user accounts	This report shows all the client's user accounts that have not been used in the last few months.
Show user accounts with an above average number of system entitlements	This report contains all the client's user accounts with an above average number of system entitlements.
SAP user account and	This report contains a summary of user account and group

Report	Description
group administration	distribution in all clients. You can find the report in the My One Identity Manager Target system overviews category.
Data quality summary for SAP user accounts	This report contains different evaluations of user account data quality in all client. You can find the report in the My One Identity Manager Data quality analysis category.

Overview of all assignments

The **Overview of all assignments** report is displayed for some objects, such as authorizations, compliance rules, or roles. The report finds all the roles, for example, departments, cost centers, locations, business roles, and IT Shop structures in which there are employees who own the selected base object. In this case, direct as well as indirect base object assignments are included.

Examples

- If the report is created for a resource, all roles are determined in which there are employees with this resource.
- If the report is created for a group or another system entitlement, all roles are determined in which there are employees with this group or system entitlement.
- If the report is created for a compliance rule, all roles are determined in which there are employees who violate this compliance rule.
- If the report is created for a department, all roles are determined in which employees of the selected department are also members.
- If the report is created for a business role, all roles are determined in which employees of the selected business role are also members.

To display detailed information about assignments

- To display the report, select the base object from the navigation or the result list and select the **Overview of all assignments** report.
- Click the  **Used by** button in the report toolbar to select the role class for which you want to determine whether roles exist that contain employees with the selected base object.

All the roles of the selected role class are shown. The color coding of elements identifies the role in which there are employees with the selected base object. The meaning of the report control elements is explained in a separate legend. To access the legend, click the  icon in the report's toolbar.

- Double-click a control to show all child roles belonging to the selected role.

- By clicking the  button in a role's control, you display all employees in the role with the base object.
- Use the small arrow next to  to start a wizard that allows you to bookmark this list of employees for tracking. This creates a new business role to which the employees are assigned.

Figure 7: Toolbar of the Overview of all assignments report.



Table 78: Meaning of icons in the report toolbar

Icon	Meaning
	Show the legend with the meaning of the report control elements
	Saves the current report view as a graphic.
	Selects the role class used to generate the report.
	Displays all roles or only the affected roles.

Configuration parameters for managing an SAP R/3 environment

The following configuration parameters are additionally available in One Identity Manager after the module has been installed.

Table 79: Configuration parameter

Configuration parameter	Description
TargetSystem SAPR3	SAP is supported. The parameter is a precompiler dependent configuration parameter. Changes to the parameter require recompiling the database.
TargetSystem SAPR3 Accounts	Default values should be used for SAP user accounts.
TargetSystem SAPR3 Accounts CalculateLicence	Parameter for controlling the calculation of SAP system measurement for SAP user accounts.
TargetSystem SAPR3 Accounts Datfm	Specifies the default date format for SAP user accounts.
TargetSystem SAPR3 Accounts Dcpfm	Specifies the default decimal point format for SAP user accounts.
TargetSystem SAPR3 Accounts ExtID_Type	Specifies the default type for external identification of SAP user accounts.
TargetSystem SAPR3 Accounts Fax_Group	Specifies the default fax group for SAP user accounts.
TargetSystem SAPR3 Accounts Guiflag	Specifies whether secure communication is permitted for SAP user accounts.
TargetSystem SAPR3 Accounts InitialRandomPassword	This configuration parameter specifies whether a random generated password is issued when a new user account is added. The password must contain at least those character sets that are defined in the password policy.

Configuration parameter	Description
TargetSystem SAPR3 Accounts InitialRandomPassword SendTo	This configuration parameter specifies to which employee the email with the random generated password should be sent (manager cost center-/department/location/business role, employee's manager or XUserInserted). If no recipient can be found, the password is sent to the address stored in the "TargetSystem SAPR3 DefaultAddress" configuration parameter.
TargetSystem SAPR3 Accounts InitialRandomPassword SendTo MailTemplateAccountName	This configuration parameter contains the name of the mail template sent to provide users with the login data for their user accounts. The Employee - new user account created mail template is used.
TargetSystem SAPR3 Accounts InitialRandomPassword SendTo MailTemplatePassword	This configuration parameter contains the name of the mail template sent to provide users with information about their initial password. The Employee - initial password for new user account mail template is used.
TargetSystem SAPR3 Accounts Langu_p	Specifies default language key for SAP users.
TargetSystem SAPR3 Accounts Langup_iso	Specifies default language (ISO 639).
TargetSystem SAPR3 Accounts MailTemplateDefaultValues	This configuration parameter contains the mail template used to send notifications if default IT operating data mapping values are used for automatically creating a user account. The Employee - new user account with default properties created mail template is used.
TargetSystem SAPR3 Accounts Spda	Specifies default setting for printer parameter 3 (delete after print).
TargetSystem SAPR3 Accounts Spdb	Specifies default setting for printer parameter 3 (print immediately).
TargetSystem SAPR3 Accounts Splg	Specifies the default printer (print parameter 1).
TargetSystem SAPR3 Accounts TargetSystemID	Specifies default target system identification for mapping external users.
TargetSystem SAPR3 Accounts Time_zone	Specifies the default time zone value for the SAP user account's address.
TargetSystem SAPR3	Specifies the default value for the time zone.

Configuration parameter	Description
Accounts Tzone	
TargetSystem SAPR3 Accounts Ustyp	Specifies the default user type for SAP user accounts.
TargetSystem SAPR3 AutoCreateDepartment	This configuration parameter specifies whether departments are automatically created when user accounts are modified or synchronized.
TargetSystem SAPR3 AutoFillSAPUserMandant	<p>Specifies whether SAP roles and SAP profiles can be inherited by the user accounts in a Central User Administration if the user accounts do not have access authorization for the clients to which these roles and profiles belong.</p> <p>If the configuration parameter is set, access authorization is granted during the inheritance calculation (entry in the SAPUserMandant table) and the roles and profiles are assigned to the user accounts. If the configuration parameter is not set, these roles and profiles are not inherited (default).</p>
TargetSystem SAPR3 DefaultAddress	Default email address (recipient) for messages about actions in the target system.
TargetSystem SAPR3 KeepRedundantProfiles	<p>This configuration parameter regulates behavior for handling single role and profile assignments to users.</p> <p>If the parameter is set, the user's single roles or profiles, which are already part of the user's composite roles, are retained.</p> <p>If the parameter is not set, the user's single roles or profiles, which are already part of the user's composite roles, are removed (default).</p>
TargetSystem SAPR3 MaxFullsyncDuration	Specifies the maximum runtime for synchronization.
TargetSystem SAPR3 PersonAutoDefault	This configuration parameter specifies the mode for automatic employee assignment for user accounts added to the database outside synchronization.
TargetSystem SAPR3 PersonAutoDisabledAccounts	This configuration parameter specifies whether employees are automatically assigned to disabled user accounts. User accounts do not obtain an account definition.
TargetSystem SAPR3 PersonAutoFullsync	This configuration parameter specifies the mode for automatic employee assignment for user accounts added to or updated in the database through

Configuration parameter	Description
	synchronization.
TargetSystem SAPR3 ValidDateHandling	This configuration parameter is for handling validity periods in SAP role and structural profile assignments to SAP user accounts.
TargetSystem SAPR3 ValidDateHandling DoNotUsePWODate	This configuration parameter specifies whether the validity period is taken from the request and copied to the SAP role and structural profile assignments to SAP user accounts. If the configuration parameter is set, the Valid from and Valid until dates are not copied from the request to the assignments.
TargetSystem SAPR3 ValidDateHandling ReuseInheritedDate	Controls reuse of existing SAP role and structural profile assignments to SAP user accounts. If this configuration parameter is set, existing assignments are reused if the same assignment is created by different means of inheritance and the validity period matches.
TargetSystem SAPR3 ValidDateHandling ReuseInheritedDate UseTodayForInheritedValidFrom	This configuration parameter specifies whether the Valid from data of indirect SAP role and structural profile assignments to SAP user accounts is set to <today> or to 1900-01-01 .
TargetSystem SAPR3 VerifyUpdates	This configuration parameter specifies whether modified properties are checked by updating. If this parameter is set, the objects in the target system are verified after every update.

Default project templates for synchronizing an SAP R/3 environment

A default project template ensures that all required information is added in One Identity Manager. This includes mappings, workflows, and the synchronization base object. If you do not use a default project template you must declare the synchronization base object in One Identity Manager yourself.

Use a default project template for initially setting up the synchronization project. For custom implementations, you can extend the synchronization project with the Synchronization Editor.

Detailed information about this topic

- [Project template for client without CUA](#) on page 212
- [Project template for the CUA central system](#) on page 213
- [Project template for CUA subsystems](#) on page 215

Project template for client without CUA

Use "SAP® R/3® synchronization (base administration)" to synchronize clients that are not connected to a central user administration. The template uses mappings for the following schema types.

Table 80: Mapping SAP R/3 schema types to tables in the One Identity Manager schema.

Schema type in the target system	Table in the One Identity Manager Schema
Company	SAPCompany
GROUP	SAPGrp

Schema type in the target system	Table in the One Identity Manager Schema
LICENSETYPE	SAPLicence
LicenceExtension	SAPLicenceExtension
LoginLanguage	SAPLoginLanguages
CLIENT	SAPMandant
Parameters	SAPParameter
Printer	SAPPrinter
PROFILE	SAPProfile
ProfileInProfile	SAPProfileInSAPProfile
ProfileInRole	SAPProfileInSAPRole
PROFITCENTER	SAPProfitCenter
ROLE	SAPRole
RoleInRole	SAPRoleInSAPRole
STARTMENU	SAPStartMenu
SAPTSAD3T	SAPTtitle
USER	SAPUser
UserComFax	SAPComFax
UserComPhone	SAPComPhone
UserComSMTP	SAPComSMTP
SAPCOMMTYPE	SAPCommType
UserExtId	SAPUserExtId
UserHasParameter	SAPUserHasParameter
UserInGroup	SAPUserInSAPGrp
UserInProfile	SAPUserInSAPProfile
UserInRole	SAPUserInSAPRole

Project template for the CUA central system

Use "SAP® R/3® synchronization (base administration)" to synchronize a central user administration central system. The template uses mappings for the following schema

types.

Table 81: Mapping SAP R/3 schema types to tables in the One Identity Manager schema.

Schema type in the target system	Table in the One Identity Manager Schema
ALE	SAPMandant
CLIENT	SAPMandant
Company	SAPCompany
GROUP	SAPGrp
LICENSETYPE	SAPLicence
LicenceExtension	SAPLicenceExtension
LoginLanguage	SAPLoginLanguages
Parameters	SAPParameter
Printer	SAPPrinter
CUAProfile	SAPProfile
ProfileInProfile	SAPProfileInSAPProfile
ProfileInRole	SAPProfileInSAPRole
PROFITCENTER	SAPProfitCenter
CUARole	SAPRole
RoleInRole	SAPRoleInSAPRole
STARTMENU	SAPStartMenu
SAPTSAD3T	SAPTtitle
USER	SAPUser
UserComFax	SAPComFax
UserComPhone	SAPComPhone
UserComSMTP	SAPComSMTP
UserExtId	SAPUserExtId
UserHasLicense	SAPUserHasLicence
UserHasParameter	SAPUserHasParameter
UserInGroup	SAPUserInSAPGrp
UserInMandant	SAPUserInSAPMandant
UserInCUAProfile	SAPUserInSAPProfile
UserInCUARole	SAPUserInSAPRole

Project template for CUA subsystems

Use the "SAP® R/3® (CUA subsystem)" project template to synchronize central user administration child systems that are not in the same SAP system. The template uses mappings for the following schema types.

Table 82: Mapping SAP R/3 schema types to tables in the One Identity Manager schema.

Schema type in the target system	Table in the One Identity Manager Schema
LICENSETYPE	SAPLicence
LicenceExtension	SAPLicenceExtension
LoginLanguage	SAPLoginLanguages
CLIENT	SAPMandant

Referenced SAP R/3 table and BAPI calls

The following overview provides information about all the tables in an SAP R/3 system referenced during synchronization and the BAPI calls that are executed.

Table 83: Referenced tables and BAPIs

Tables	BAPI Calls
<ul style="list-style-type: none">• ADR2• ADR3• ADR6• ADRP• AGR_1016• AGR_AGRS• AGR_DEFINE• AGR_USERS• ANLA• ANLZ• AUTHX• CSKS• CSKT• DD02L• DD03L• DD03M• DD04L• DD04T• DD07L	<ul style="list-style-type: none">• BAPI_USER_CREATE1• BAPI_USER_GET_DETAIL• BAPI_USER_CHANGE• BAPI_USER_DELETE• BAPI_USER_LOCK• BAPI_USER_UNLOCK• BAPI_USER_ACTGROUPS_ASSIGN• BAPI_USER_ACTGROUPS_DELETE• BAPI_USER_PROFILES_ASSIGN• BAPI_USER_PROFILES_DELETE• BAPI_USER_LOCACTGROUPS_READ• BAPI_USER_LOCACTGROUPS_DELETE• BAPI_USER_LOCPROFILES_READ• BAPI_USER_LOCPROFILES_DELETE• BAPI_USER_SYSTEM_ASSIGN• SUSR_USER_CHANGE_PASSWORD_RFC• BAPI_USER_LOCPROFILES_ASSIGN• BAPI_USER_LOCACTGROUPS_ASSIGN• RFC_READ_TABLE

Tables**BAPI Calls**

- HRP1000
- HRP1001
- PA0000
- PA0001
- PA0002
- PA0007
- PA0016
- PA0034
- PA0041
- PA0105
- PA0709
- RSECUSERAUTH
- RSECTXT
- SEC_POLICY_CUST
- SEC_POLICY_RT
- T000
- T001
- T001P
- T002
- T591S
- T500P
- T548T
- T77PR
- T77UA
- TACT
- TACTT
- TACTZ
- TMENU01
- TMENU01T
- TMENU01R
- TOBJ
- TOBJT
- TOBCT

Tables**BAPI Calls**

- TPARA
- TSAD3
- TSAD3T
- TSAC
- TSACTION
- TSP03
- TSTC
- TSTCT
- TTREE
- TTREET
- TUPLT
- TUTYP
- TUTYPA
- TUTYPPL
- TUZUS
- USGRP_USER
- USGRPPT
- USL04
- USLA04
- USOBHASH
- USOBT_C
- USOBX_C
- USR01
- USR02
- USR05
- USR06
- USR06SYS
- USR10
- USR11
- USR12
- USR21
- USREFUS
- USREXTID

Tables**BAPI Calls**

- USRSTAMP
- USRSYSACTT
- USRSYSPRF
- USRSYSPRFT
- UST04
- UST10C
- UST10S
- UST12
- USVART
- USZBVLNDSC
- USZBVLNDRC
- USZBVSYS
- V_USCOMPA

Example of a schema extension file

```
<?xml version="1.0" encoding="utf-8" ?>
<SAP>
  <Functions>
    <Function Definition = "USER GET" FunctionName="BAPI_USER_GET_DETAIL"
      OutStructure = "" Key ="USERNAME" X500 ="CN">
      <Mapping>
        <Data ParameterName = "USERNAME" PropertyName = "BNAME" />
      </Mapping>
    </Function>
    <Function Definition = "USER SET" FunctionName="BAPI_USER_CHANGE"
      OutStructure = "" Key ="USERNAME" X500 ="CN">
      <Mapping>
        <Data ParameterName = "USERNAME" PropertyName = "BNAME" />
      </Mapping>
    </Function>
    <Function Definition = "USER DEL" FunctionName="BAPI_USER_DELETE"
      OutStructure = "" Key ="USERNAME" X500 ="CN" >
      <Mapping>
        <Data ParameterName = "USERNAME" PropertyName = "BNAME" />
      </Mapping>
    </Function>
    <Function Definition = "USER PROFILE SET" FunctionName="BAPI_USER_PROFILES_
      ASSIGN" OutStructure = "" Key ="USERNAME" X500 ="CN">
      <Mapping>
        <Data ParameterName = "USERNAME" PropertyName = "BNAME" />
      </Mapping>
    </Function>
  </Functions>
</SAP>
```

```

        <Data ParameterName = "BAPIPROF~BAPIPROF" PropertyName =
            "$Value$" />
    </Mapping>
</Function>
<Function Definition = "BWProfileAdd" FunctionName="/VIAENET/SAPHR_
RSECUSERAUT_ADD" OutStructure ="" Key ="ZUSRNAME,ZHIER" X500 ="CN,OU">
    <Mapping>
        <Data ParameterName = "ZUSRNAME" PropertyName = "UNAME" />
        <Data ParameterName = "ZHIER" PropertyName = "AUTH" />
    </Mapping>
</Function>
<Function Definition = "BWProfileDel" FunctionName="/VIAENET/SAPHR_
RSECUSERAUT_DEL" OutStructure ="" Key ="ZUSRNAME,ZHIER" X500 ="CN,OU">
    <Mapping>
        <Data ParameterName = "ZUSRNAME" PropertyName = "UNAME" />
        <Data ParameterName = "ZHIER" PropertyName = "AUTH" />
    </Mapping>
</Function>
<Function Definition = "BWProfileDelFkt" FunctionName="/VIAENET/SAPHR_
RSECUSERAUT_DEL" OutStructure ="" Key ="ZUSRNAME,ZHIER" X500 ="CN,OU">
    <Mapping>
        <Data ParameterName = "ZUSRNAME" PropertyName = "BNAME" />
        <Data ParameterName = "ZHIER" PropertyName = "$VALUE$" />
    </Mapping>
</Function>
<Function Definition = "BWProfileAddFkt" FunctionName="/VIAENET/SAPHR_
RSECUSERAUT_ADD" OutStructure ="" Key ="ZUSRNAME,ZHIER" X500 ="CN,OU">
    <Mapping>
        <Data ParameterName = "ZUSRNAME" PropertyName = "BNAME" />
        <Data ParameterName = "ZHIER" PropertyName = "$VALUE$" />
    </Mapping>
</Function>
</Functions>
<Tables>
    <TABLE Definition = "TUZUS-Table" TableName="TUZUS" Key="SONDERVERS"
    X500="CN" SQL="LANGU = sy-langu" Load="SONDERVERS,TEXTSVERS" />

```

```

<TABLE Definition = "USR05-Table" TableName="USR05" Key="BNAME,PARID"
X500="CN,OU" SQL="MANDT = '$MANDT$'" Load="BNAME,PARID,PARVA">
  <Mapping>
    <Data ParameterName = "$BNAME$" PropertyName = "BNAME" />
    <Data ParameterName = "$PARID$" PropertyName = "PARID" />
  </Mapping>
</TABLE>
<TABLE Definition = "USR04-Table" TableName="USR04" Key="BNAME,MANDT"
X500="CN,OU" SQL="MANDT = sy-mandt" Load="" />
<TABLE Definition = "RSECUSERAUTH-Table" TableName="RSECUSERAUTH"
Key="UNAME,AUTH" X500="CN,OU" SQL="" Load="" />
<TABLE Definition = "RSECUSERAUTH-SingleUser" TableName="RSECUSERAUTH"
Key="AUTH" X500="CN" SQL="UNAME = '$BNAME$'" Load="" >
  <Mapping>
    <Data ParameterName = "$BNAME$" PropertyName = "BNAME" />
  </Mapping>
</TABLE>
</Tables>
<SAPExtendedSchematypes>
  <SAPExtendedSchematype Bem = "M:N, add/del - function" Name = "BWUserInBWP"
DisplayPattern="%UNAME% - %AUTH%" ListObjectsDefinition = "RSECUSERAUTH-
Table" ReadObjectDefinition = "RSECUSERAUTH-Table" InsertObjectDefinition =
"BWProfileAdd" DeleteObjectDefinition = "BWProfileDel" />
  <SAPExtendedSchematype Bem = "simple read-only table" Name =
"LicenceExtension" DisplayPattern="%SONDERVERS%" ListObjectsDefinition =
"TUZUS Table" ReadObjectDefinition = "TUZUS Table" InsertObjectDefinition =
"" WriteObjectDefinition = "" DeleteObjectDefinition = "" ParentType =
"SAPSYSTEM" />
  <SAPExtendedSchematype Bem = "Test" Name = "USERFunctionTable"
DisplayPattern="%BNAME% (%MANDT%)" ListObjectsDefinition = "USR05-Table"
ReadObjectDefinition = "USER GET" WriteObjectDefinition = "USER SET"
DeleteObjectDefinition = "USER DEL" >
    <Properties>
      <Property Name = "SAPBWP" Description="all the user's BW
profiles" ListFunction="RSECUSERAUTH-SingleUser"
AddFunction="BWProfileAddFkt" DelFunction="BWProfileDelFkt"
ReplaceFunction="" IsMultivalued = "true" />
      <Property Name = "USERPROFILE" Description="all the user's
profiles" ListFunction="USR04-Table" AddFunction=""

```

```
        DelFunction="" ReplaceFunction="USER PROFILE SET" IsMultivalued
        = "true" />
    </Properties>
</SAPExtendedSchematype>
</SAPExtendedSchematypes>
</SAP>
```

One Identity solutions eliminate the complexities and time-consuming processes often required to govern identities, manage privileged accounts and control access. Our solutions enhance business agility while addressing your IAM challenges with on-premises, cloud and hybrid environments.

Contacting us

For sales and other inquiries, such as licensing, support, and renewals, visit <https://www.oneidentity.com/company/contact-us.aspx>.

Technical support resources

Technical support is available to One Identity customers with a valid maintenance contract and customers who have trial versions. You can access the Support Portal at <https://support.oneidentity.com/>.

The Support Portal provides self-help tools you can use to solve problems quickly and independently, 24 hours a day, 365 days a year. The Support Portal enables you to:

- Submit and manage a Service Request
- View Knowledge Base articles
- Sign up for product notifications
- Download software and technical documentation
- View how-to videos at www.YouTube.com/OneIdentity
- Engage in community discussions
- Chat with support engineers online
- View services to assist you with your product

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