
**System Build Plus
User Guide
8.7**

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Introduction

This document serves as a guide for configuring and using System Build Plus in Qlik Gold Client.

Qlik Gold Client System Build Plus

Overview

Qlik Gold Client has the ability to export only system table data and repository from a system to build a new "shell" SAP system using the System Build Plus feature in the Repository Replicator. System Build Plus leverages SAP's system copy processes with a scheduling interface to exclude all application data from a system copy. This process allows for a creation of a "shell" system using SAP's Software Provisioning Manager software with the export files generated by Gold Client Solutions System Build Plus. The end result is a target system that only has the system table data and repository information from the source system not any application data. After the "shell" system is created, Qlik Gold Client Client Construct and Data Echo can be used to populate the new target system with master and transactional data.

Gold Client Solutions has an authorization object which can be used to allow certain users access to this feature.

Prerequisites

Download the latest version of the R3 tools from the SAP Marketplace and install on the target system in the SAP executable directory.

These programs are database specific and include the following files:

R3ldctl
R3load
R3szchk

System Build Plus

The System Build Plus feature can be accessed from the main screen of Gold Client Solutions (Fig 1.0). By selecting the System Build Plus button the Gold Client System Build Plus main screen will be displayed (Fig 1.1).

Figure 1.0

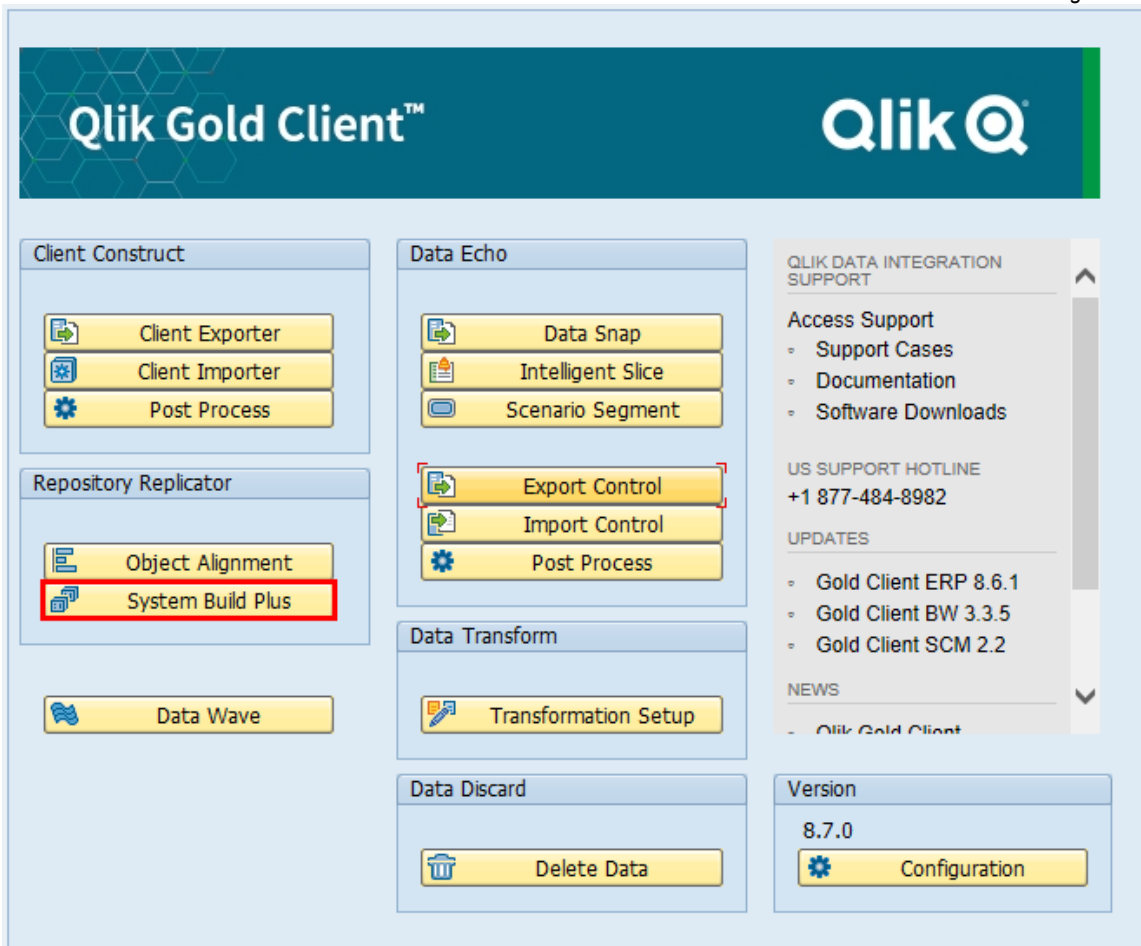
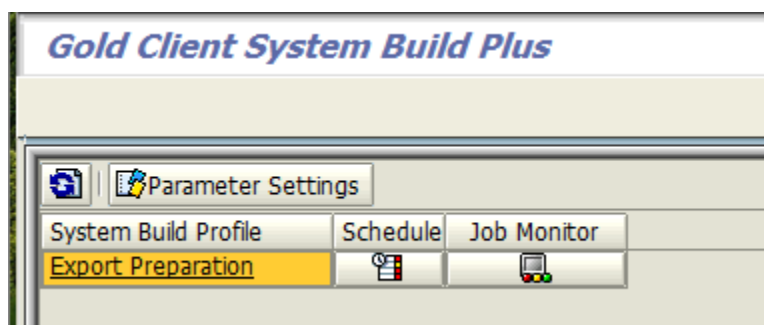


Figure 1.1



System Build Plus – Setting Parameters

The first step in the System Build Plus process is to setup the Parameter Settings by clicking this button (Fig 2.0).

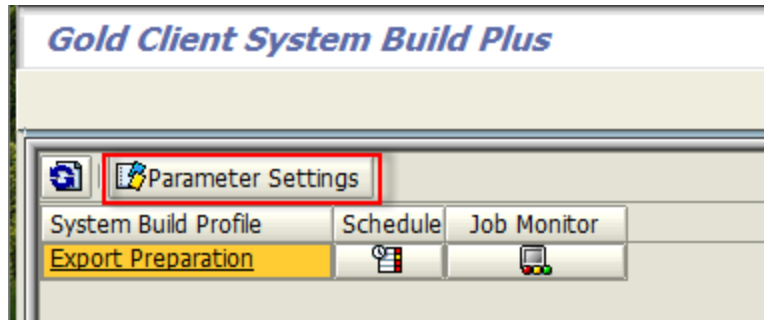


Figure 2.0

All fields in the System Build Parameter Settings screen are required (Fig 2.1).

Figure 2.1

Target Database: Select the database that the target system will use

Export Directory: All export files created by the System Build Plus process will be saved in the designated directory. The SAP user using Gold Client must have read/write/delete permissions to the Export Directory in their S_DATASET authorization.

Code Page for Data Files: If the export system is non-unicode, then code page 1100 must be used. If the export system is unicode, then code page 4102 or 4203 must be used depending on the export system's operating system. SAP Transaction SNLS can be used to determine the correct code page value using the Current Application Server field. The following code pages are assigned to each entry:

1100	Non-Unicode
4102	Unicode: AIX, HP-UX, Solaris SPARC, Linux (PPC/zSeries only)
4103	Unicode: Windows X86_64

4203 Unicode: Windows Linux, Solaris x64, Tru64/DEX OSF

Max jobs per server at 1 time: Enter the number parallel jobs that System Build Plus will use during the export process. This number should not be set higher than the number of CPUs available on your export system.

Click the Execute button to save the parameter settings.

SBP Table Exclusion: System Build Plus automatically excludes all SAP Application tables (Delivery Call "A" in SE11) from the export process. The only exception is the USR* tables (to allow for successful logon after the target system is created). If there are additional non-Application tables (STXH and STXL for example), they can be defined in this list and System Build Plus will not include them in the export process. Excluding some system tables could impact the usage of the target system.

System Build Plus – Scheduling the Process

The System Build process is started by clicking on the Schedule button for the Export Preparation profile (Fig 3.0).

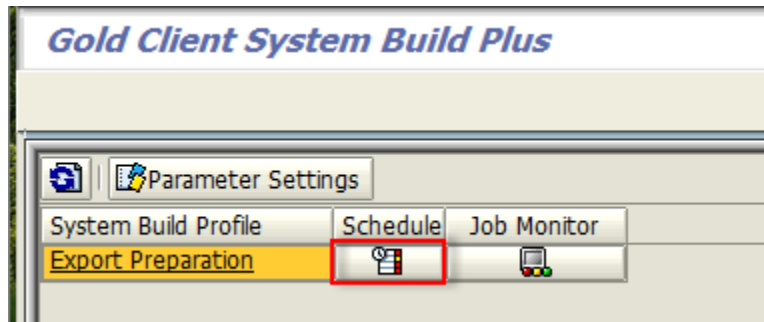


Figure 3.0

The Export Preparation process can be scheduled immediately or at a date/time in the future (Fig 3.1). Clicking the Save button schedules the job.

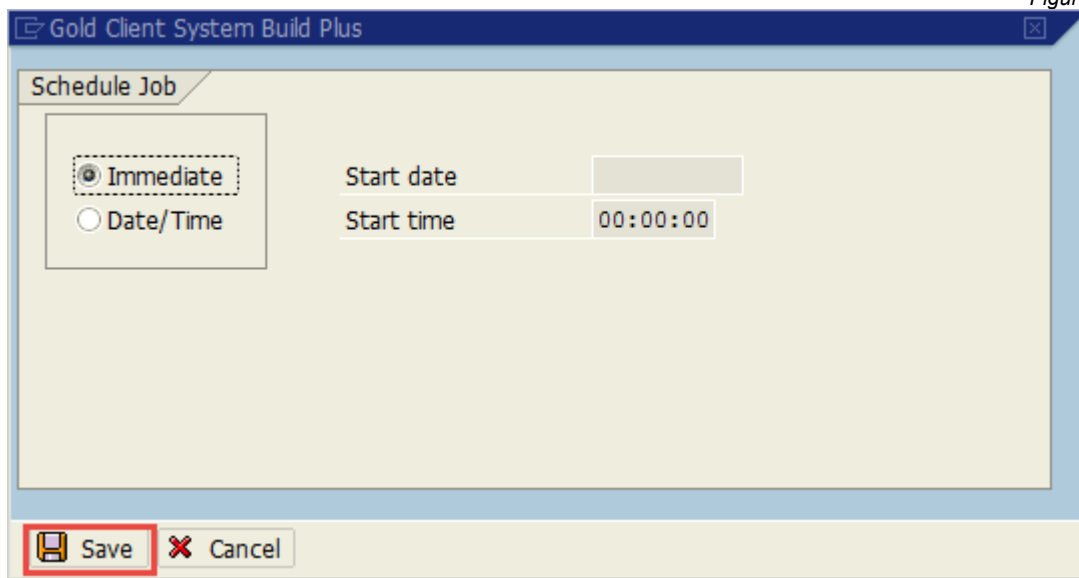
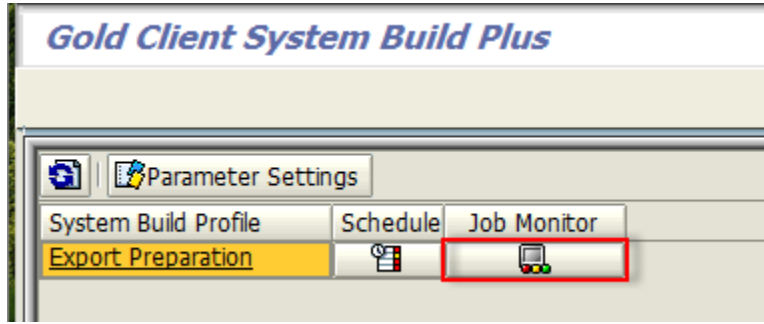


Figure 3.1

Job AU_SYSBLD_M00 can be monitored using the Job Monitor button (Fig 3.2). This job will submit a series of jobs to execute the various System Build events.

Figure 3.2



System Build Plus – Export “Events”

Clicking on the Export Preparation profile (Fig 4.0) will list all System Build events (Fig 4.1).

Figure 4.0

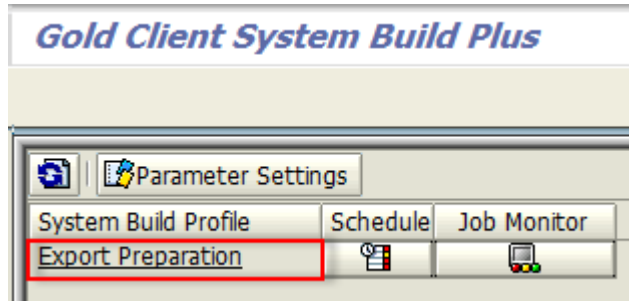


Figure 4.1

Event	Status	Date	Schedule	Job Monitor
Generate SQL Migration Files	○○○	00/00/0000		
Generate Structure and Template Files	○○○	00/00/0000		
Generate Database Sizing Files	○○○	00/00/0000		
Generate Command and Task Files	○○○	00/00/0000		
Adjust Database Sizing Files	○○○	00/00/0000		
Process System Export	○○○	00/00/0000		

The Export events will run in order to complete the System Build export process. The Status column will change to reflect current status (green = complete, yellow = active, red = canceled). The Job Monitor button can be used as a shortcut to see the specific background job for each event (Fig 4.2).

Figure 4.2

Event	Status	Date	Schedule	Job Monitor
Generate SQL Migration Files	○○○	00/00/0000		
Generate Structure and Template Files	○○○	00/00/0000		
Generate Database Sizing Files	○○○	00/00/0000		
Generate Command and Task Files	○○○	00/00/0000		
Adjust Database Sizing Files	○○○	00/00/0000		
Process System Export	○○○	00/00/0000		

Generate SQL Migration Files

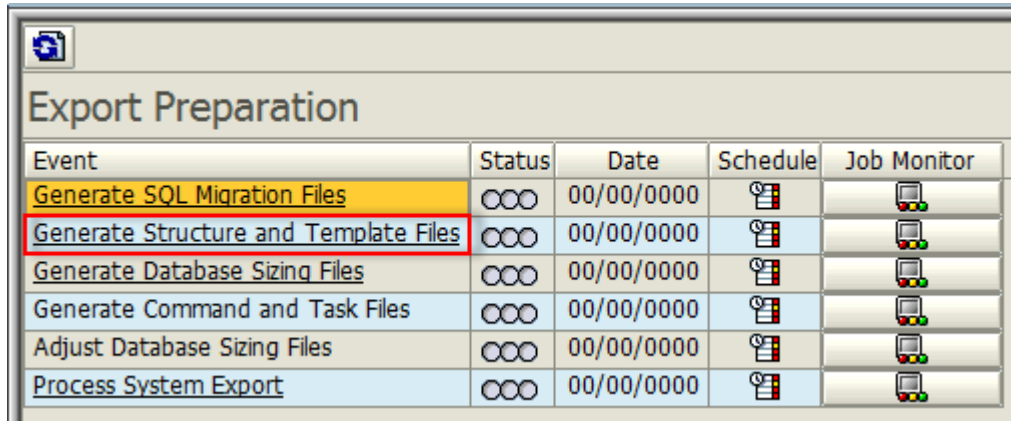
This event is executed with job AU_SYSQLD_ZDDL. This job generates the SQL file in the Export Directory that contains DDL statements for database objects in the source system. Standard SAP Program SIMGR_CREATE_DDL is used in this process to create these SQL files.

Generate Structure and Template Files

This event is executed with job AU_SYSQLD_LDCTL. This job generates structure (*.STR) and template (*.TPL) files in the Export Directory. Standard SAP utility R3ldctl reads the technical settings for table/indexes in SAP data dictionary to create these STR and TPL files.

Clicking on the Generate Structure and Template Files event name (Fig 4.3) will display log file R3ldctlExport.log.

Figure 4.3



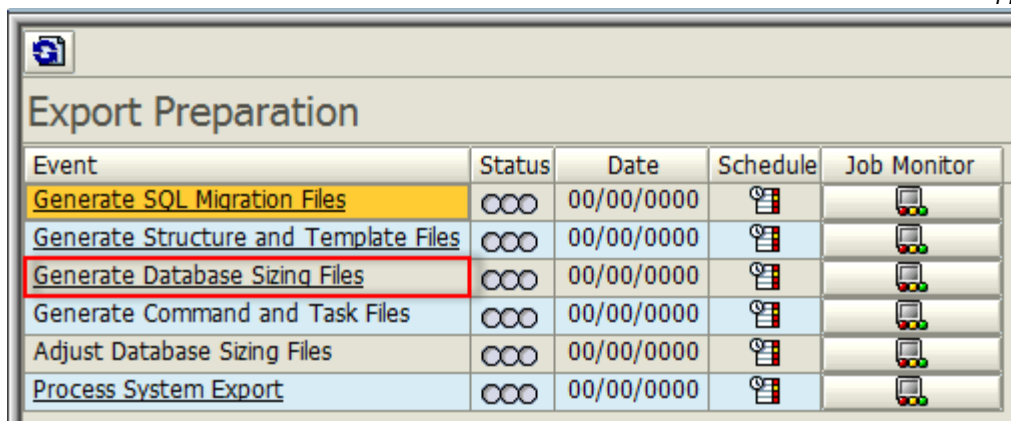
Event	Status	Date	Schedule	Job Monitor
Generate SQL Migration Files	○○○	00/00/0000	📅	🖥️
Generate Structure and Template Files	○○○	00/00/0000	📅	🖥️
Generate Database Sizing Files	○○○	00/00/0000	📅	🖥️
Generate Command and Task Files	○○○	00/00/0000	📅	🖥️
Adjust Database Sizing Files	○○○	00/00/0000	📅	🖥️
Process System Export	○○○	00/00/0000	📅	🖥️

Generate Database Sizing Files

This event is executed with job AU_SYSQLD_SZCHK. This job generates database object size (*.EXT) files. Standard SAP utility R3ldctl reads the database structure files to generate these EXT files.

Clicking on the Generate Database Sizing Files event name (Fig 4.4) will display log file R3szchkExport.log.

Figure 4.4



Event	Status	Date	Schedule	Job Monitor
Generate SQL Migration Files	○○○	00/00/0000	📅	🖥️
Generate Structure and Template Files	○○○	00/00/0000	📅	🖥️
Generate Database Sizing Files	○○○	00/00/0000	📅	🖥️
Generate Command and Task Files	○○○	00/00/0000	📅	🖥️
Adjust Database Sizing Files	○○○	00/00/0000	📅	🖥️
Process System Export	○○○	00/00/0000	📅	🖥️

Generate Command and Task Files

This event is executed with job AU_SYSBLD_LTSK. This job generates command (*.CMD) files which contain information about file locations and package sizes. The job also generates task (*.TSK) files which contain a joblist for the System Export process (R3load). Standard SAP utility R3load generates these CMD and TSK files.

Adjust Database Sizing Files

This event is executed with job AU_SYSBLD_MODFL. This job modifies the DBSIZE.XML file and the database object size (*.EXT) files to accommodate for smaller table sizes for the shell export.

Process System Export

This event is executed with a series of jobs starting with AU_SYSBLD_PG*. These jobs execute the command files to create the data dump files (*.001, *.002, etc.) These files are highly compressed binary files created by standard SAP utility R3load.

The Process System Export jobs will not release until all previous events have completed successfully.

Clicking on the Process System Export event name (Fig 4.5) will display a Package View screen (Fig 4.6). Each AU_SYSBLD_PG* job will create a Package to export the related table data for each Package.

Figure 4.5

Event	Status	Date	Schedule	Job Monitor
Generate SQL Migration Files	○○○	00/00/0000		
Generate Structure and Template Files	○○○	00/00/0000		
Generate Database Sizing Files	○○○	00/00/0000		
Generate Command and Task Files	○○○	00/00/0000		
Adjust Database Sizing Files	○○○	00/00/0000		
Process System Export	○○○	00/00/0000		

Figure 4.6

Package	Status	Date	Schedule	Job Monitor
SAP0000	○○○	00/00/0000		
SAPAPPL0	○○○	00/00/0000		
SAPAPPL1	○○○	00/00/0000		
SAPAPPL2	○○○	00/00/0000		
SAPCLUST	○○○	00/00/0000		
SAPDDIM	○○○	00/00/0000		
SAPDFACT	○○○	00/00/0000		
SAPDODS	○○○	00/00/0000		
SAPPOOL	○○○	00/00/0000		
SAPSDIC	○○○	00/00/0000		
SAPSDOCU	○○○	00/00/0000		
SAPSLEXC	○○○	00/00/0000		
SAPSLOAD	○○○	00/00/0000		
SAPSPROT	○○○	00/00/0000		
SAPSSEXC	○○○	00/00/0000		
SAPSSRC	○○○	00/00/0000		
SAPUSER	○○○	00/00/0000		
SAPUSER1	○○○	00/00/0000		
SAPVIEW	○○○	00/00/0000		

Clicking on the Package name will display the Package log file. Once all Export Preparation Event jobs complete successfully, the contents of the Export Directory can be copied to the target server for the SAP System Install Process.

SAP System Install Process

Download the latest version of the Software Provisioning Manager (SWPM) and R3 tools from the SAP Marketplace and install on the target system

SAP SOFTWARE DOWNLOAD CENTER

[SOFTWARE PROVISIONING MANAGER® SOFTWARE PROVISIONING MGR 1.0](#)

SOFTWARE PROVISIONING MGR 1.0 (SUPPORT PACKAGES AND PATCHES)

- [AIX 64bit](#)
- [HP-UX on IA64 64bit](#)
- [HP-UX on PA-RISC 64bit](#)
- [Linux on IA32 32bit](#)
- [Linux on IA64 64bit](#)
- [Linux on Power 64bit](#)
- [Linux on x86_64 64bit](#)
- [Linux on zSeries 64bit](#)
- [OS/400](#)
- [Solaris on SPARC 64bit](#)
- [Solaris on x86_64 64bit](#)
- [Windows Server on IA32 32bit](#)
- [Windows on IA64 64bit](#)
- [Windows on x64 64bit](#)
- [z/OS 32bit](#)

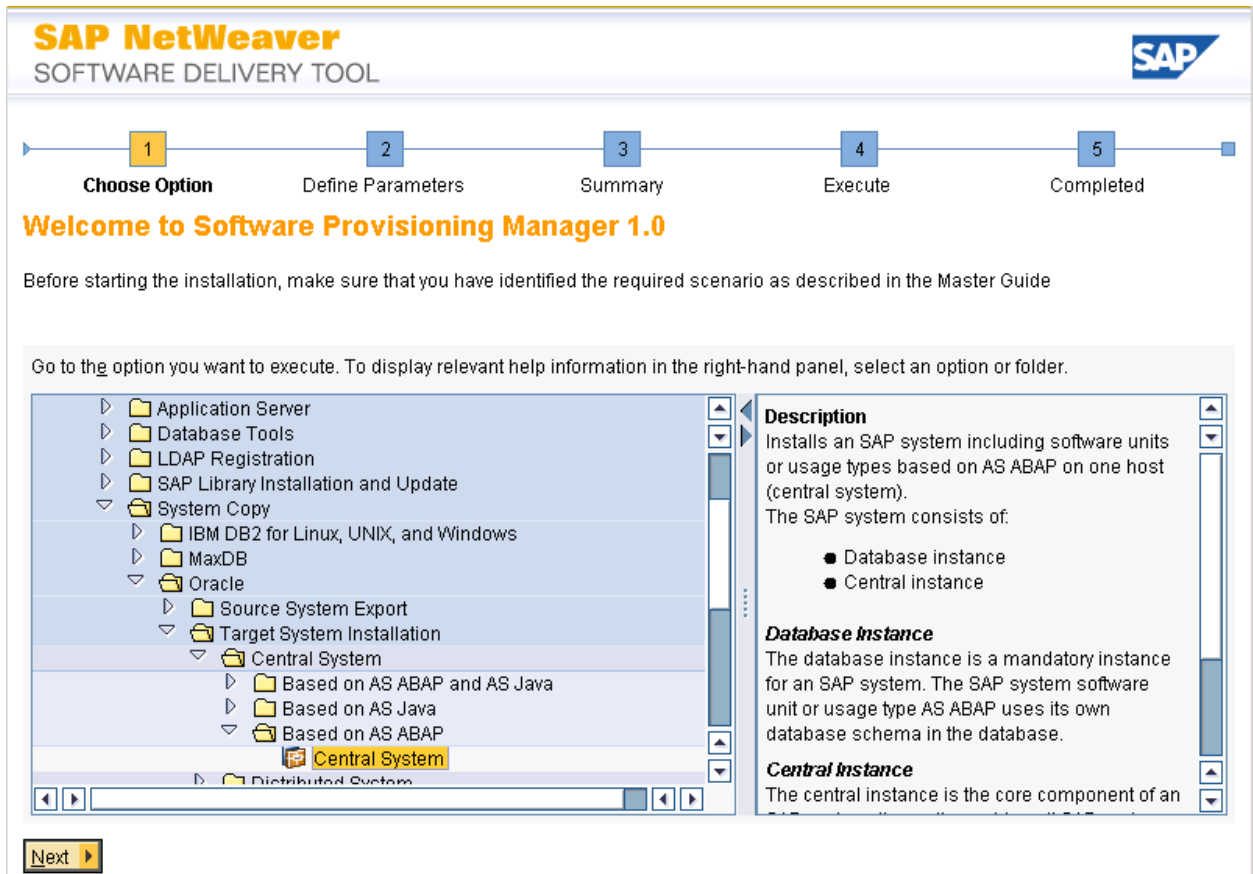
Info Page

SOFTWARE PROVISIONING MANAGER

INSTALLATION AND COPY OF ABAP AND JAVA SYSTEMS

Start the Software Provisioning Manager (SWPM) on the target server by running the SAPINST program.

Note: The following screens are from an HP-UX/Oracle installation (other OS/DB platforms may differ).




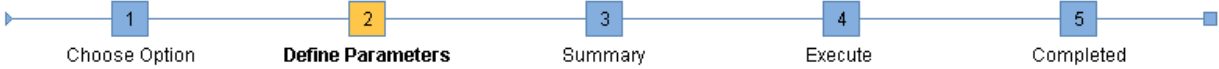
The menu path selected in this example was:

- SAP NetWeaver 7.0 including Enhancement Pack 3
- Software Life-Cycle Options
- System Copy
- Oracle
- Target System Installation
- Central System
- Based on AS ABAP
- Central System

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Parameter Mode > Default Settings

Choose whether you want to run the SAPInst in a typical or a custom mode

Default Settings

Parameter Mode Typical
 Custom

Additional Information


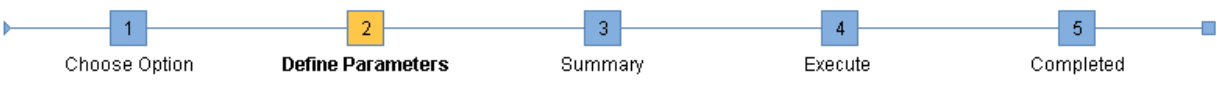
You can run the installation either in a typical or a custom mode:

- **Typical Mode**
 If you choose *Typical*, the option is performed with default settings. As a result, you only have to respond to a small selection of prompts. If you want to change any of the default settings, you can do so on the *Parameter Summary* screen.
 Note that if you choose the *Typical* setting and then choose *Back* after processing one or more input screens, the *Custom* setting is activated. You are now guided through all screens with the default parameters that have been applied in the background so far.
- **Custom Mode**
 If you choose *Custom*, you are prompted for all parameters. At the end, you can still change any of these parameters on the *Parameter Summary* screen.

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SAP NetWeaver

SOFTWARE DELIVERY TOOL

SAP System > General Parameters

Enter the SAP system ID

SAP System Parameters

SAP System ID (SAPSID)*

SAP System Mount Directory


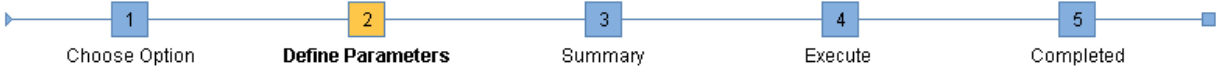
Unicode System (recommended)

Additional Information

The *SAP System ID* is an identifier for your SAP system. It must be unique throughout your system landscape. The system is installed under `/usr/sap/<SAPSID>/...`. Common directories are linked to `<SAP System Mount Directory>/<SAPSID>/...`

SAP NetWeaver

SOFTWARE DELIVERY TOOL

SAP System > DNS Domain Name

Enter the DNS domain name for the SAP system to calculate the fully qualified domain name (FQDN)

SAP System Domain Name

Set FQDN for SAP System


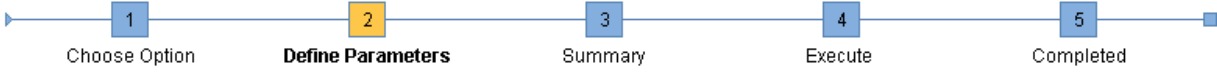
DNS Domain Name for SAP System *

Additional Information

The *DNS Domain Name* is used to calculate the Fully Qualified Domain Name (FQDN), which is configured in profile parameter `SAPLOCALHOSTFULL`. This parameter is needed to define the URLs for the ABAP and Java application servers. See [SAP Note 654982](#).

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SOFTWARE DELIVERY TOOL

SAP System > Master Password

Enter the master password for all users

Master Password
The password will be used for all accounts SAPinst creates and for the secure store key phrase.
Check the F1 help for restrictions and dependencies.

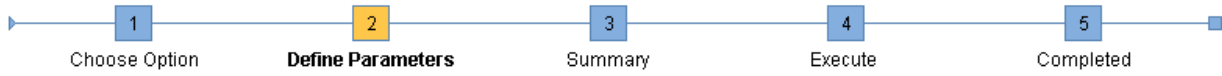
Password for all users of this SAP system*

Confirm*

Additional Information
If you want to set an individual password for each user, you can do this in the corresponding parameter section on the *Parameter Summary* screen. If you set individual passwords, a new master password will not overwrite these individual settings.

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SAP System > Database

Select the database installation method

Database Installation

- Installation Method
- Standard System Copy / Migration (load-based)
 - Homogeneous System Copy (Backup/Restore offline)
- Start Migration Monitor manually


Additional Information

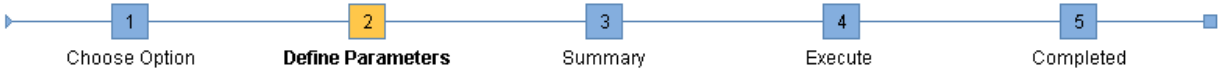
To use an existing database backup for building up a new system choose *Homogeneous System Copy (Backup/Restore)*.

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SAP System Database

Enter the database parameters.

Database Identification

Database ID (DBSID)*

Oracle Database Installation for

- Single Instance on Filesystem
- Single Instance on Shared Oracle Home
- Single Instance on Oracle ASM
- RAC on Filesystem
- RAC on Oracle ASM

Database Host


Additional Information

- If you want to install your SAP system with a **new** database instance, enter the database ID (DBSID) for the database instance to be created.
- If you want to install your SAP system in an **existing** database instance, enter the DBSID of the existing database to which you want to add the SAP system.

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SOFTWARE DELIVERY TOOL



1 Choose Option 2 **Define Parameters** 3 Summary 4 Execute 5 Completed

Media Browser > Software Package Request

Enter the location of the required software packages

Software Package Request

Medium	Package Location	
UC Kernel NW 7.20 / 7.21		Browse...

Additional Information
The required software packages available on the medium are detected using the identification files LABEL.ASC or LABELIDX.ASC.

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SOFTWARE DELIVERY TOOL

1
2
3
4
5

Choose Option Define Parameters

Prerequisites Checker Results

Read the results of the prerequisite analysis

Attention

Your host has been checked for compliance

- If a condition is not met by your system
- In rare cases, you might decide to skip this step from doing this, but make sure that you have all required prerequisites installed

Detailed Results

Condition	Result Code	Severity	Message	
OS Patches	Could not check	LOW	The installation prerequisite checker did not check for the minimum required OS patches on HP-UX. Read SAP Note 837670 and make sure that you have all required patches installed. HP provides the HPjconfig tool that you can use to check the patch level. You can download it from http://www.hp.com/products1/unix/java/java2/hpjconfig/index.html . (Updated 2005-12-08)	More Information

Your system does not meet some prerequisites or some prerequisites could not be evaluated.


Make sure that your system meets all conditions prompted by the prerequisite checker before you choose "Yes". Otherwise the "Prerequisites Checker Results" screen and this message will be displayed again.

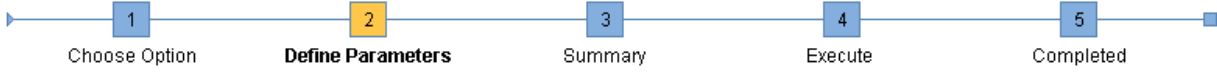
If you choose "No", the prerequisites check is skipped. Keep in mind that the prerequisite checker does not automatically change any settings.

Do you want to repeat the checks before continuing?

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Media Browser > Software Package Request

Enter the location of the required software packages

Software Package Request

Medium	Package Location	Browse...	Check Location
Migration Export		Browse...	<input checked="" type="checkbox"/>


Additional Information

The required software packages available on the medium are detected using the identification files LABEL.ASC or LABELIDX.ASC. If you do not want to check the locations of the software packages now, deselect the flag in the *Check Location* column. Later, you are prompted again to check the locations of the software packages.

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SOFTWARE DELIVERY TOOL



1 Choose Option 2 Define Parameters 3 Summary 4 Execute 5 Completed

Oracle > Database System

Enter the parameters of the database system

Instance Memory Management

Instance RAM [MB] Total RAM [MB]

Database Schema Parameters

The new default for *ABAP Schema* is *SAPSR3*.

ABAP Schema *


Password of ABAP Schema *

Confirm *

ABAP SSFS

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1 Choose Option 2 Define Parameters 3 Summary 4 Execute 5 Completed

Oracle > Database System

Enter the parameters of the database system

Database Advanced Options

MaxDatafileSize*

DB on Raw Device

Advanced DB Configuration


Additional Information


In the *Advanced DB Configuration* section, you can change parameters for creating the database, creating tablespaces, file system distribution and storage. This section is for Oracle experts only.

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Media Browser > Software Package Request

Enter the location of the required software packages

Software Package Request

Medium	Package Location		Check Location
Oracle RDBMS 112		Browse...	<input checked="" type="checkbox"/>


Additional Information

The required software packages available on the medium are detected using the identification files LABEL.ASC or LABELIDX.ASC. If you do not want to check the locations of the software packages now, deselect the flag in the *Check Location* column. Later, you are prompted again to check the locations of the software packages.

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1 Choose Option 2 Define Parameters 3 Summary 4 Execute 5 Completed

Oracle > Listener Configuration

Enter the listener name and port

Important Information
We recommend that you do not change the default values for *Listener Name* and *Listener Port*. You may change these default values only if you have more than one Oracle database on this installation host. In this case, see [SAP Note 98252](#).
If you decide to keep the entries in an existing network configuration file, SAPinst will try to merge the new entries into the existing file instead of replacing the file.

Oracle Listener Configuration

Listener Name*

Listener Port*

Network Configuration Files

Keep listener.ora

Keep tnsnames.ora

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1
Choose Option

2
Define Parameters

3
Summary

4
Execute

5
Completed

SAP System > DDIC Users

DDIC Users in SAP System Clients

Account: *DDIC*, client *000*

Password of 'DDIC' in client 000 in the source system*

Additional Information
 SAPInst needs to create an RFC connection to the system that you are installing.
 A *SAP System Client* is a self-contained unit in an SAP system with separate master records and its own set of tables. ABAP user data is *SAP System Client*-specific.

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1
Choose Option

2
Define Parameters

3
Summary

4
Execute

5
Completed

Media Browser > Software Package Request

Enter the location of the required software packages

Software Package Request


Medium	Package Location	
Oracle Client 112		Browse...


Additional Information
 The required software packages available on the medium are detected using the identification files LABEL.ASC or LABELIDX.ASC.

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Parameter Summary

Choose 'Next' to start with the values shown. Otherwise, select the parameters to be changed and choose 'Revise'. You are then taken to the screen where you can change the parameter. You might be guided through other screens that have so far been processed.

Parameter List

Parameter Mode > Default Settings
 Parameter Mode

SAP System > General Parameters
 SAP System ID (SAPSID)

 SAP System Mount Directory

 Unicode System (recommended)


SAP System Instance Profiles Cannot Be Found
 The instance profile for the following SAP system instances exists:

SAPSID / Instance Name / Instance Host	Detected from	Profile Path

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Revise

SAP NetWeaver

SOFTWARE DELIVERY TOOL



1 Choose Option 2 Define Parameters 3 Summary 4 **Execute** 5 Completed

Task Progress

Running phase: Install common system files

Phase 2 of 26

- ✓ Create users for SAP system
- Install common system files
- ◇ Unpack SAP archives
- ◇ Create and load database
- ◇ Install/Check database
- ◇ Evaluate database parameters
- ◇ Install database server software
- ◇ Install Oracle client software
- ◇ Configure Oracle server network
- ◇ Prepare database server configuration
- ◇ Create database
- ◇ Create/Check tablespaces
- ◇ Oracle Account installation
- ◇ Check Oracle NLS_CHARACTERSET

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Creating system directories for SAP system TST...

Post SAP System Install Process

When the installation is complete, Basis will need to import a SAP_USER profile from the source system or another system if needed. The USR* tables were the only user info copied with System Build Plus to allow for an Basis logon once the target system was created. SAP Users, Authorizations, and Addresses will need to be copied with the SAP_USER profile before business users access the system. Transaction SCC8 can be used in the source system to save the SAP_USER profile to a transprot which can be imported into the target system.

Standard Post Installation steps need to be completed by Basis once the system is created. Some of the items could include (based on your SAP environment and procedures):

- Setup keys in transactions STRUST, SMT1, STRUSTSSO2
- Setup logon groups with transactions SMLG, RZ12
- Lock/Unlock or setup users in transaction SU01
- Update transaction SLICENSE if needed
- Check transaction SECSTORE if needed
- Check Queue with transaction SMQ1, SMQ2, SMQS, SMQR
- Update domain email address in transaction SCOT
- Check Workflow RFC in transaction SWU3
- Check printer status and setup
- Run transaction SGEN

Switch Framework

Inconsistencies in the Switch Framework may occur after the System Build target system is created. To resolve these inconsistencies:

- Run transaction SFW5 in the target system
- Highlight the entry with the inconsistency and select menu item System Settings -> Activate Restart
- If additional services are listed in the pop-up screen, select all and click Activate Again button

Support Information

Qlik Analytics (ISR) Ltd. can be contacted either by telephone or via email. Any support related issue regarding problems with or use of the Gold Client software and process can be reported for resolution.

If our offices are closed, or staff is unable to directly respond to a support request, we will respond within 24 hours of the initial call. Problems related to the export or import processing may require code enhancements. If a code enhancement or fix is required, resolution time may vary.

As per the maintenance agreement, any repairs or enhancements to the Gold Client software will immediately be deployed to all customers up-to-date with their maintenance contract. It is the choice of the customer as to if and when such enhancements are implemented. In addition, customers may request a planning session with Qlik to review changes in the software and how the changes might impact their environment.

We can also be contacted to discuss application or feasibility of using the Gold Client process to resolve a current challenge the project team faces. When this is required, a planning session can be scheduled in advance to ensure proper participation by both Qlik and the client.

Corporate Offices:

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