



# Asset Manager

Software Version: 9.63

Windows® and Linux® operating systems

# Migration

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# Introduction

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Upgrading from a previous version of Asset Manager to version 9.63 consist of the following two major parts:

- Upgrading the Asset Manager programs and configuration files to version 9.63.
- Migrating the Asset Manager database to a version 9.63-format database.

**Note:** If the version increment of the upgrade is on the minor.minor level, such as 9.41 to 9.41 Patch 1, there are no database structure changes and you only need to upgrade the Asset Manager programs and configuration files.

**Note:** This Migration Guide focuses on migrating Asset Manager database in particular. For more information about how to upgrade Asset Manager programs and configuration files, refer to **Installation and Upgrade** Guide, chapter **Upgrading from a previous version**.

The operations to be performed to upgrade from a previous version of Asset Manager database to version 9.63 depend on the version of your previous database.

## Operations to perform depending on the previous version number

The version of the old database	Operations to perform
Version 5.20 or later	Follow the instructions in this guide.
Versions earlier than 5.20	If the version of the database is earlier than 5.20, it cannot be directly migrated to version 9.63. You must migrate the database to version 5.20~9.31, and then migrate the database to version 9.63.  For more information about how to migrate a database from an earlier version to version 5.20~9.31, see the Migration Guide shipped with Asset Manager version 5.20~9.31.

## Audience of this guide

The migration should be performed by the engineers in charge of:

- Administering the Asset Manager database.
- Installing Asset Manager.
- Deploying Asset Manager.

## Required competencies

Migration is a complex process that requires:

- A thorough understanding of the earlier versions of Asset Manager and of version 9.63 (installation, configuration of parameters, database structure, functions, administration, interfacing with external applications).
- Preparation
- Technical competency: SQL, database administration.
- Methodology
- Time
- Resources



# Supported operating systems and DBMSs

The migration works with all operating systems and DBMSs supported by Asset Manager.

To learn which operating systems and DBMSs are supported, refer to the [Support Matrix](#) on the Web site.

# Prerequisite

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This chapter describes what you need to know before you perform the migration.

## Warning on using HPE Connect-It

You must not use HPE Connect-It to convert the **old-format production database**.

## What does migration entail?

This migration is a set of operations required to convert an earlier version of Asset Manager to the version 9.63:

- Identifying the database structural modifications.
- Converting the **old-format production database** (structure and contents) in order to make it compatible with the 9.63 version of Asset Manager programs.

Because converting a database is a complex process, this chapter begins by providing you some general principals.

## What does the conversion entail?

Converting a database entails:

- Making the structure of the current database conform to that of the 9.63 version of Asset Manager.
- Conserving original data whenever possible.
- Modifying the data that cannot be conserved in its original state due to the change of the database's structure. These modifications are performed automatically whenever possible, and manually otherwise.

## What is converted during the migration?

- The entirety of the database structure.
- Most of the data.

**Note:** The data that references the tables, fields and links in the database, however, must be verified and possibly modified manually.

## Migrating a database whose DBMS is not supported by version 9.63

If the DBMS of the old-format production database is not supported by version 9.63:

1. Transfer the old-format production database to a DBMS that is supported by Asset Manager 9.63.  
To learn how to do this, refer to the **Administration** guide, chapter **Creating, modifying and deleting an Asset Manager database**, section **Changing your DBMS**.
2. Proceed to the migration as it is described in this guide.

## Limitations of the Procurement module

After having converted the old-format production database, you will no longer be able to:

- Receive (receipt) the orders that were partially received before the conversion.
- Return the assets received before the conversion.

We thus recommend that you perform these operations before converting the old-format production database.

## Complexity of the migration

The methodology presented in this guide helps you anticipate and avoid numerous problems.

This methodology must be adapted to your company's own manner of using Asset Manager, however.

The complexity of the conversion depends on the degree of customizations made to the old-format production database.

# Step-by-step migration - preparation phase (production database)

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This chapter describes the operations to perform before converting.

## Preliminary analysis

Before implementing a migration process, you need to start by doing a complete analysis of your needs and your constraints:

1. Make sure you can handle all aspects of the migration as described in this guide.
2. Learn about the modifications made to Asset Manager 9.63. For more information, see [Other documentation](#).
3. Determine what impact these modifications (new functions, modifications of functions, and so on) will have on your use of Asset Manager.
4. Determine when you want to implement these new functions (at the same time as the migration or later).
5. Update the project specifications (work organization, data organization, parameter configuration, and so on) according to these impacts.
6. Update the documentation for users and their training.

## Launch the migration project

Taking into account the extent of the improvements and changes made to the version 9.63 of Asset Manager, the migration process needs to involve those people in charge of:

- Nomenclature
- Deploying the functional modules:
  - Procurement
  - Contracts
  - Financing
  - Helpdesk
- Inventory
- Customizing the database.
- Creating, reports, queries, workflow schemes, actions, and so on.
- Integrating Asset Manager with external applications.
- Training users
- Supporting users

It is important to identify and inform these people from the onset of the project.

**Tip:** We recommend that you find your project specifications that you used to implement your previous versions.

A project-initialization meeting should take place involving all the people previously mentioned to expose the purpose of the migration, divide its tasks and define its planning.

If your use of Asset Manager is quite advanced (numerous integrity rules, automatic mechanisms, parameter customizations), you can assign teams of people to each functional or technical domain, under the coordination of the project manager.

**Caution:** The migration covers several technical aspects. Thus, each team should possess at least one competent engineer. In particular, if you think you might modify the **migration.xml** conversion file that was provided by default, you will need someone with extensive SQL knowledge.

If you want to immediately take advantage of these new functions, you must revise your project specifications and reconfigure your parameters.

**Tip:** Out of prudence, certain enterprises prefer splitting up the migration process into several separate phases:

1. Starting out by obtaining the functional equivalent of the previous version of Asset Manager

and stabilizing this.

2. Exploring the new functionality in Asset Manager 9.63.

This will ensure a smoother transition.

**Tip:** Do not hesitate to call on HPE or its partners, who can provide you with specialized and experienced consultants willing to step in at any stage of the migration project.

## Train the users and support technicians

When you migrate your programs and convert the old-format production database, you might also want to think about training those people who use and support the use of Asset Manager.

To do this:

1. Define your training needs.
2. Define a training calendar.
3. Prepare the training material.
4. Update the user notes.

**Caution:** Users of Asset Manager need to be trained before you can put the **9.63-format production database** into production.

**Tip:** Do not hesitate to call on HPE or its partners, who can provide specialized and experienced consultants willing to handle your training needs.

## Prepare your conversion computers

Before you can convert the old-format production database, you must prepare at least one computer adapted for this conversion.

**Note:** We strongly recommend that you prepare two conversion computers for the simulation phase (converting the **simulation database**) and the migration phase (converting the **migration database**) respectively.

This chapter lists everything you need to install on the conversion computer.

### **Installing the Asset Manager version corresponding to the old-format production database**

You need to install this version of Asset Manager to access the production databases. For example, if you are trying to upgrade from Asset Manager 5.20, make sure that you have Asset Manager 5.20 programs installed on the conversion computers.

- **Production database**
- **Simulation database:** A backup of the production database. The simulation database is introduced in "[Step-by-step migration - simulation \(simulation database\)](#)" on page 18.
- **Migration database:** Another backup of the production database. The migration database is introduced in "[Step-by-step migration - final conversion \(migration database\)](#)" on page 41

At least, you must install the basic modules of Asset Manager.

### **Verify that you have access to the old-format production database**

You need to do this in order to:

- Prepare the old-format production database for the conversion.
- Make a backup of the old-format production database to simulate and then perform the conversion.

### **Installing an XML file editor**

The installation of an XML file editor is optional (a standard text editor is sufficient), but it is quite handy for editing the **migration.xml** conversion file and verifying proper XML structure.

### **Installing the Java Runtime environment**

You will need this tool to convert the customizations made to the structure of the old-format production database.

Increase Java's heap size to avoid memory issues:

1. Locate the **amdba.ini** file: For details, see **Installation and upgrade** guide, chapter **.ini and .cfg files**, section **Available .ini and .cfg files**.
2. Open the file in a text editor.
3. In the **[Option]** section, add or modify the **/Advanced/SduJavaCmd** parameter and set its value to **java -Xmx500M : /Advanced/SduJavaCmd=java -Xmx500M**.
4. Save **amdba.ini**.

### **Factors affecting the conversion rate**

- DBMS performances



- Throughput between the Asset Manager Application Designer machine and the machine of the old-format databases.
- Performances of the machines where Asset Manager Application Designer and the old-format databases are installed (but only minimally).

**Tip:** If you have a large volume of data in the old-format production database, you must position the computers where Asset Manager Application Designer is installed as close as possible to the databases (without going through a WAN network, for example). This is true in particular for tables containing very long fields and binary data (**amComment** and **amImage**, for example).

## Prepare the DBMS server

### Allotting enough space to the old-format databases

During the migration, you will have to convert the **old-format simulation database** and the **old-format migration database**.

You must make sure you have allotted sufficient space to each of these databases. If this is not done, the conversion risks failure.

### Rollback segments

**Note:** **Rollback segments** is the terminology used by Oracle.

Its equivalent in Microsoft SQL Server is **transaction logs**.

**All** rollback segments must be defined to support the largest required transaction during the conversion.

This transaction consists of performing an `INSERT` in one single operation on the entirety of the table occupying the most space.

# Step-by-step migration - simulation (simulation database)

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Before you can convert your old-format production database, you must perform simulations of this conversion.

These simulations cannot be performed on the **production database**, though. They can only be performed on a **simulation database**, which is a backup of the **production database**.

At the same time, the users can continue to use the old-format production database normally.

**Note:** We strongly recommend that you run the simulation on a computer other than the production server. This "simulation computer" must also meet the criteria described in "[Prepare your conversion computers](#)" on page 15.

After the simulations are complete, you can convert another backup of the old-format production database, named the **migration database**.

It is this **9.63-format migration database** that will be put into production.

This chapter explains the operations to perform on the **simulation database**.

## Step 1 - Create a copy (backup) of the old-format production database

This section describes how to create a copy (backup) of the old-format production database. This database backup is used as the **old-format simulation database** in the subsequent sections.

### Problems that can occur during a traditional backup

If you make a backup of the old-format production database using DBMS tools, the backup of the old-format production database will be identical to the original for everything concerning additions, modifications, or deletions of the following events using tools other than Asset Manager Application Designer:

- Index
- Triggers
- Stored procedures
- Views

However, the conversion program cannot manage these structural modifications.

You must delete these structural modifications before converting the old-format production database.

We propose two methods for making a backup that conform to the conversion's requirements:

- Make a backup using the DBMS tools, and cancel the structural modifications listed in this section.
- Make a backup of the old-format production database in an empty database using Asset Manager Application Designer.

**Note:** The backup of the old-format production database must be accessible via the conversion computer.

To learn how to make a backup of your database, consult the DBMS documentation.

### Solution 1: Back up the old-format production database using the DBMS tools

1. Back up the old-format production database using the DBMS tools.

The backup is identical to the original old-format production database.

2. Delete all the modifications made to:
  - Indexes
  - Triggers
  - Stored procedures
  - Views
3. Create an Asset Manager connection to **old-format simulation database**.

### **Solution 2: Back up the old-format production database into an empty database using Asset Manager Application Designer**

1. In the old version of Asset Manager Application Designer, create an empty, old-format Asset Manager database.
2. Create an Asset Manager connection to this empty database.
3. Open the **old-format production database** in Asset Manager Application Designer.
4. Copy the **old-format production database** into the previously created empty database (**Action/ Copy database to empty database** menu).

We recommend that you use this solution to back up the old-format production database.

To learn how to make a backup of the old-format production database in an empty database using Asset Manager Application Designer, refer to the **Administration** guide, chapter **Using a test database**, section **Copying your production database**.

## Step 2 - Verify the integrity of the old-format simulation database

1. Perform an optional initial verification with the old-version Asset Manager Application Designer:

**Caution:** This check is optional.

It may take more than a day to check the **Check validity of records** option for tables that have a **Validity** script and contain many records.

For such tables, the validity script will be executed for each record in the table.

In some instances, the check may never get through.

- a. Launch the old-version Asset Manager Application Designer.
  - b. Connect to the **old-format simulation database** (**File/ Open** menu, **Open existing database** option).
  - c. Display the database-diagnostics window (**Action/ Diagnostics / Repair database** menu).
  - d. Select (**All tables**) in the list of tables.
  - e. Specify the name and the location of the log file.
  - f. Only select the **Check validity of records** option.
  - g. Select the **Repair** option.
  - h. Click **Start**.
  - i. Consult the messages of the execution window.
  - j. Consult the log file if necessary.
2. Perform a second verification with 9.63-format Asset Manager Application Designer:
- a. Launch Asset Manager Application Designer 9.63.
  - b. Connect to the **old-format simulation database** (**File/ Open** menu, **Open existing database** option).
- Note:** It is fully possible to connect to the previous format database using Asset Manager Application Designer 9.63.
- c. Display the database-diagnostics window (**Action/ Diagnostics / Repair database** menu).
  - d. Select (**All tables**) in the list of tables.
  - e. Specify the name and the location of the log file.
  - f. Select all available options, make sure that the **Check validity of record** option is NOT selected.
  - g. Select the **Repair** option.
  - h. Click **Start**.
  - i. Consult the messages of the execution window.
  - j. Consult the log file if necessary.

For more information about the analysis and repairs program, consult the **Administration** guide, chapter **Diagnostic and repairs of a database**.

## Step 3 - Manually adjust the old-format simulation database

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Certain data must be modified before converting the **old-format simulation database** in order that the process is carried out smoothly.

Most of the constraints to respect in the **old-format simulation database** are inferred by the `Mapping` elements of the **migration.xml** conversion file.

This section provides the list of constraints inferred by the standard conversion files. If you modify the standard conversion files, you should identify and verify the constraints inferred by your own changes.

### Adjustments concerning all versions of the old-format simulation database

#### Updating the amCounter table

This section is for the users who have modified the stored procedure **up\_GetCounterVal**. This procedure manages the **amCounter** table according to the directives of the following technical notes:

- Microsoft SQL Server: TN317171736
- Oracle Database Server: TN12516652

If you made the modifications described in these technical notes, certain records in the **amCounter** table are no longer updated by the stored procedure **up\_GetCounterVal**.

Therefore, before converting the **old-format simulation database**, you must:

1. Make a copy of the **up\_GetCounterVal** stored procedure if you plan on modifying it in the same way after converting.
2. Manually update the counters in the **amCounter** table that were diverted to other tables.

3. Restore the stored procedure **up\_GetCounterVal** to its original state.

## Mandatory nature of fields and links

Certain fields and links need to be populated before a record can be created in a given table.

The mandatory nature of the fields and links is defined either in the Asset Manager database or in the **gbbase\*.\*** database-description files.

This mandatory nature can either be true in all cases, or it can be calculated with a script.

The records created or modified by the conversion program must respect the mandatory nature of the fields and links. This mandatory nature is stated in the **customized 9.63 gbbase\*.\*** database-description files.

Fields and links must have an explicit association (described in the **migration.xml** conversion file) or an implicit association (automatically deduced when fields or links share the same SQL name).

The **migration.xml** conversion files installed by default with Asset Manager 9.63 are intended to work properly when the format of the **old-format simulation database** and the database-description files, **standard 9.63 gbbase\*.\***, have not been modified.

The standard **migration.xml** conversion files cannot be adapted except for in the following cases:

- If ever you deleted the mandatory nature of a field or link during your use of the **old-format simulation database**.
- If you added the mandatory nature to certain fields or links of the **standard 9.63 gbbase\*.\*** database-description files.

To populate the mandatory fields and links, the conversion file might use certain data from the **old-format simulation database**.

You must make sure that the fields and links that are declared mandatory in the **customized 9.63 gbbase\*.\*** database-description files are populated in the **old-format simulation database** before the conversion.

This is the case, for example, with the **ICategId** field in the **amAsset** table.

If you have any doubts about populated links, verify that its external key is populated.

## Length of field values

Certain fields of the **old-format simulation database** are used to populate other fields in the **9.63-format simulation database**.

Certain of these source fields are longer than the destination fields.

In case of problems, you must verify that the length of the values stored in these source fields does not exceed the size of the destination fields.

If this problem comes up, you can solve it by:

- Reducing the length of the source values.
- Increasing the size of the target field (in the **customized 9.63 gbase\*. \* files**).

Values that are too long will be truncated during the conversion.

## ^ character

This character should not be in any of the values of the fields in your **old-format simulation database**, and certainly not in any of the values of the following fields (you can determine which of these fields you use in your version of the **old-format simulation database**):

### Fields that must not contain the ^ character - list

SQL name of the table	SQL name of the field
amProduct	Model
amProduct	CatalogRef
amSoftware	Name
amCatalog	Code
amCompany	Code
amCompany	Name
amProdSupp	PriceCur
amCatProduct	FullName
amAccessRestr	SQLName



**Fields that must not contain the ^ character - list, continued**

SQL name of the table	SQL name of the field
amAssetRent	Code
amBrand	BarCode
amBudgClass	Code
amBudgClass	Name
amBudget	Code
amBudget	Name
amBudget	Type
amBudgetCategory	Code
amCategory	Name
amCategory	BarCode
amCategory	FullName
amCategory	sLvl
amCntrRent	Code
amDateAlarm	Code
amDeprScheme	Code
amEscSchLevel	Code
amFloorPlan	Code
amFuncDomain	SQLName
amFuncDomain	Name
amReservation	ItemNo
amLocation	BarCode
amLocation	FullName
amLocation	Name
amLossValRule	Code
amModel	BarCode
amModel	FullName
amModel	Name

**Fields that must not contain the ^ character - list, continued**

SQL name of the table	SQL name of the field
amContract	Ref
amNature	Code
amNature	Name
amNews	Topic
amPeriod	Name
amPeriod	Code
amEstimate	PONumber
amEstimate	EstimNumber
amPOrdLine	FullName
amPOrdLine	ItemNo
amEstimLine	FullName
amEstimLine	ItemNo
amPortfolio	Code
amPortfolio	FullName
amConsUse	ItemNo
amAsset	FullName
amAsset	AssetTag
amProdCompo	FullName
amProfile	SQLName
amProject	Code
amReceipt	ReceiptNumber
amRequest	ReqNumber
amSoftLicCounter	Code
amThirdParty	Code
amUserRight	SQLName
amPOrder	PONumber
amTaxFormula	Code

## Procurement and Workflow modules

We recommend that you finish as many running executions as possible before the conversion (partially received orders, items to return, workflows, and so on).

**Caution:** We also recommend that you carefully conserve a copy of the old-format production database as a reference in case you run into any problems during the conversion.

## Step 4 - Upgrade the Asset Manager programs on the simulation computer

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On the simulation computer, upgrade the Asset Manager programs, which include all the binary and configuration files, to version 9.63.

For more information about the upgrade procedure (safeguards, steps to follow, and ways to install Asset Manager), refer to the Asset Manager 9.63 **Installation and Upgrade** guide.

You must also make sure that the version of the programs that interact with Asset Manager are still compatible with Asset Manager 9.63. If necessary, upgrade these programs as well.

To obtain a list of Asset Manager programs and other programs that interface with Asset Manager, refer to the **Installation and Upgrade** guide, chapter **Components of Asset Manager**.

To learn which program versions are compatible with Asset Manager 9.63, consult the Support Matrix at: <https://softwaresupport.hpe.com/group/softwaresupport/support-matrices>.

### Asset Manager 9.63

After you upgrade Asset Manager programs to version 9.63, make sure that at least the following components are available:

- Asset Manager client
- Asset Manager Application Designer
- Asset Manager Automated Process Manager

**Note:** Make sure that Automated Process Manager is properly configured. You need to keep

Automated Process Manager running as long as Asset Manager is in use.

- Documentation
- Migration
- Datakit
- Asset Manager Export Tool
- HP AutoPass License Management Tool

All the License Keys that apply to the database must be installed on this instance of HP AutoPass License Management Tool. For more information, see **Administration** guide, chapter **Installing License Keys**.

**Tip:** HP AutoPass License Management Tool is automatically installed with any Asset Manager 9.63 component that you install.

Installing License Keys is a manual process, though.

**Note:** If your **old-format production database** is multilingual (For details, see **Administration** guide, chapter **Creating, modifying and deleting an Asset Manager database**, section **Modifying Asset Manager client languages**), and you have customized certain multilingual items and you want to automatically convert the multilingual items (For details, see [Propagate the structural changes](#).), Asset Manager 9.63 must be available in the additional languages and you must install Asset Manager in these languages on the computer used for the conversion.

All multilingual elements will be propagated, except for contextual help on fields and links (For details, see [Help on fields](#)).

## Verify that Asset Manager can be launched without problems

If you are having problems launching Asset Manager 9.63, contact user support.

## Step 5 - Propagate structure changes made to the old-format simulation database

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**Caution:** To perform this operation, the **standard 9.63 gbbase\*.\*** database-description files that you use here must be the standard file installed with Asset Manager 9.63. You cannot use these files if any modifications were made.

This operation:

- Is for the users who modified the standard structure of the old-format production database (addition or modification of fields, indexes and tables) and want to keep those changes in the 9.63-format production database.
- Aims to propagate the structural modifications in the **standard 9.63 gbbase\*.\*** files.
  - Tip:** The **standard 9.63 gbbase\*.\*** files obtained will be used to structure the **9.63-format database** during the conversion.
- Uses a tool dedicated to this operation, which is available in Asset Manager Application Designer.

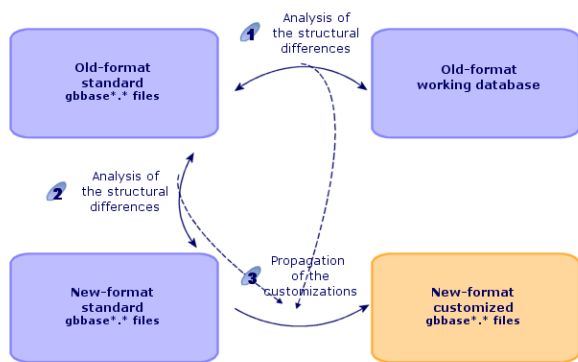
**Caution:** Only the structural changes made to the old-format production database using Asset Manager Application Designer will be accounted for.

You must manually delete all structural changes made by any other means in the old-format production database.

## General overview

The following describes the process of propagating structural changes:

### Propagating structural changes - process



1. The tool determines the differences between the structure of the old-format production database and the **standard old-format gbase\*. \* files**.
2. The tool determines the differences between the **standard old-format gbase\*. \* files** and the **standard 9.63 gbase\*. \* files**.
3. The tool copies and modifies the **standard 9.63 gbase \*. \* files** according to what it identified during steps 1 and 2. It does so by respecting the following rules:
  - The modifications performed on the standard tables that disappear in the version 9.63 are lost.
  - If a modification is detected for the same table, field, or link in the steps 1 and 2, it is the modification detected at step 2 that is applied. A warning message will then appear.

**Note:** Exception: If a **Name** or **Description** modification is detected for the same table, field or link in the steps 1 and 2, it is the modification detected at step 1 that is applied.

  - In the **old-format simulation database** - before definitively propagating the structural changes - you must modify the SQL names of tables, fields and indexes that appear in the version 9.63. Otherwise, they will conflict with the standard fields of the version 9.63 with the same name.

## Propagate the structural changes

1. Launch Asset Manager Application Designer 9.63.
2. Connect to the old-format **simulation database** with the **Admin** account (**File/ Open/ Open existing database** menu).

3. Select the **Migration/ Propagate the customized structure** menu.

**Note:** If the **old-format simulation database** is multilingual (For details, see **Administration** guide, chapter **Creating, modifying and deleting an Asset Manager database**, section **Modifying Asset Manager client languages**), one of the pages in the wizard offers to propagate the customizations made for the additional languages of the **old-format simulation database**. This requires Asset Manager version 9.63 to be available in each of the additional language versions, and that you install Asset Manager in these languages on the computer used for the conversion.

All multilingual elements will be propagated, except for contextual help on fields and links (For details, see [Help on fields](#)).

4. Follow the instructions given by the wizard.
5. Consult the **newdbb.log** log file, which is located in the folder defined by the **Generation** folder field.
6. If the **newdbb.log** log file shows error/warning messages and suggests you to modify the structure of the **old-format simulation database**, modify the structure as suggested. Then perform the migration starting from the section "[Step 1 - Create a copy \(backup\) of the old-format production database](#)" on page 19.

This must be repeated until you obtain a good **customized 9.63 gbbase\*.\*** files without any problem messages.

7. Certain scripts may not be propagated to the **standard 9.63 gbbase\*.\*** files.

There will be a message in the **newdbb.log** log file and an **.xml** file created in the **<Generation folder>\dbbscript** and **<Generation folder>\builddb\dbbscripts** folders for each script that is not propagated.

These customizations must be propagated manually in the **customized 9.63 gbbase\*.\*** files.

**Caution:** However, when you perform the operations described in "[Step 6 - Convert the old-format simulation database](#)" on the next page, and there is a problem caused by these manual modifications to the **customized 9.63 gbbase\*.\*** files, you must correct problem accordingly.

## Potential conflicts

If the propagation of structural changes is abnormally interrupted, verify that there is an **xerces.jar** file in the **/jre/lib/ext** sub-folder of the Java installation folder.

If there is, temporarily move this folder and try to execute the propagation of structural changes again.

## Step 6 - Convert the old-format simulation database

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**Caution:** The conversion tools must not be used to modify the structure of the **9.63-format production database** (adding, deleting or modifying tables, fields, indexes, stored procedures, triggers, screens, and so on).

Such modifications must be planned after the migration.

### Adapt the migration.xml conversion file

**Caution:** This operation must be carried out by a HPE certified technician for the migration.

HPE declines all responsibility if this condition is not strictly adhered to.

Asset Manager 9.63 is installed with conversion files by default (1 file per earlier version of Asset Manager that is supported by the migration).

These files describe what data to transform during the conversion of the **old-format simulation database**, as well as what transformations to perform.

The conversion files are named **migration.xml**.

They are generally located in the **C:\Program Files\HPE\Asset Manager 9.63 xx\migration\fromxxx** folder, where **xxx** is the number of the earlier version.

If you use Asset Manager in a standard manner, you can probably use one of the conversion files installed by default.

If you have particular needs (fields performing functions other than their default functions, added tables and fields, and so on) you must adapt the conversion file to your needs.

**Caution:** The standard or customized conversion file must be tested on **simulation database**



before being executed on the **migration database** in a later step.

Syntax of the conversion files and how to customize them: For details, see "[Adapting the migration.xml conversion file](#)" on page 63 .

Constraints caused by modifying the data in the **old-format production database**: For details, see section "[Step 3 - Manually adjust the old-format simulation database](#)" on page 22.

**Caution:** When you customize the **migration.xml** conversion file, you must neither rename it nor replace it. This is because the tools that use this file will search for it in the standard folder.

We also recommend that you make a backup of this conversion file before starting to modify it.

## Convert the old-format simulation database

To convert the **old-format simulation database**:

1. Launch Asset Manager Application Designer version 9.63.
2. Connect to the **old-format simulation database** with the **Admin** account (**File/ Open/ Open existing database** menu).

**Caution:** In the connection detail of Asset Manager:

- The **Owner** field must not be populated.
- The **User** field must reference a user that is the **owner** of the database tables (creation rights for all database objects).
- With Microsoft SQL Server, if the owner of the tables is **dbo**, the connection login must create default tables in the form **dbo.<table>** (typically the login: **sa**).

3. Select **Migration/ Convert the database**.
4. Follow the instructions given by the wizard.

**Tip:** Converting fields whose **User type** is **Comment** takes a lot time (several hours for a large database).

Because no messages appear during this phase, you might be wondering if the conversion process is still running.

To make sure, examine the activity on the conversion machine or on the database server (CPU or I/O).

5. Consult the messages of the **sdu.log** log file.

**Caution:** If even a minor error occurs during the conversion, you must:

1. Correct the source of the problem.
2. Restart the conversion from section "[Step 1 - Create a copy \(backup\) of the old-format production database](#)" on page 19.

## Information about the conversion

This section outlines some rules that are used during the conversion.

**Tip:** If you want a different behavior, modify the corresponding associations in the **migration.xml** conversion file.

### Rules used for all source versions of the old-format simulation database

#### Floor plan positions

Records in the **amFloorPlanPos** table are deleted:

#### Structural parameters of the database

The conversion program applies all the parameters of the tables, fields, links and indexes defined in the selected **customized 9.63 gbbase\*.\*** database-description files.

This is the case, for example, of the script that calculates the default value of fields.

#### Mandatory fields

If a destination field:

- Is mandatory or if it is part of an index requiring unique values.
- And it is not a part of an explicit association (described in the **migration.xml** conversion file) or an implicit association (automatically deduced when fields share the same SQL name).

Then a warning message will appear in the first phase of conversion.

This is the test phase that precedes any modification to the database.

The conversion is not interrupted unless you interrupt it yourself.

If you decide to interrupt the conversion, you must do so before any modifications have been made. Otherwise, you will have to restore the **old-format simulation database**.

You might want to populate the necessary information in order for the mandatory fields be populated. This information should go into the old-format production database.

### Default values of fields

The default values defined in the structure of the production database are not applied.

If you want an equivalent of the default value to be applied, you must define this in the conversion file.

**Tip:** The standard **migration.xml** conversion files already contain `value` attributes that perform such a task.

### Index of unique values

The conversion file does not systematically verify that unique values have been respected.

On the other hand, the DBMS will interrupt the conversion if an operation tries to undermine the integrity of the index.

### SQL validity of `value` attributes

The conversion file does not verify the SQL validity of `value` attributes, either.

On the other hand, the DBMS will interrupt the conversion if a `value` attribute that is non-valid in SQL terms is found.

### Grouped nature of the conversion

The conversion operations are performed in a **grouped** manner for nearly all data, and not record-by-record, (a global SQL order modifies the records of one whole table).

### Modified tables

For one table modified (table **A** in our example), the conversion tool proceeds in the following order:

1. Table **A** is renamed (**AOld** in our example).
2. A new table is created (**A** in our example).
3. The data is transferred from **AOld** to **A**.  
A `Mapping` element can define another behavior.
4. **AOld** is deleted.

Thus for a given table **A**:

Does table <b>A</b> exist in the old version?	Does table <b>A</b> exist in version 9.63?	Are there modifications to fields, links or indexes between the old version and version 9.63?	Then the conversion program:
Yes	Yes	No	Works directly on table <b>A</b> .
Yes	Yes	Yes	Creates the intermediary <b>AOld</b> table.
No	Yes	Does not apply	Creates the new table <b>A</b> .
Yes	No	Does not apply	Transfers the data from table <b>A</b> to other tables and deletes the table <b>A</b> at the end of the conversion.

**Tip:** The `From` attribute does not need to reference the **AOld** table (referencing **A** is enough; the conversion program knows when to look for information in **AOld**).

On the other hand, in the scripts executed outside of `Mapping` elements, you must distinguish between **A** and **AOld**.

**Note:** The unchanged and deleted tables are not renamed during the conversion.

### Fields storing application data to be converted manually

The fields that store application data to be manually converted are emptied using the orders defined in the description file.

The `migration.xml` conversion files installed by default are written so that the emptied fields correspond to exported application data.

## Potential sources of conflict

### Identifiers

During the conversion, the new IDs (primary keys) are created for each record created in a table.

However, the number of IDs is limited to  $2^{31}$  at the database level, no matter what DBMS you are using.

If this number is exceeded, the final database will be corrupt.

No error messages will warn you of this during the conversion.

You must therefore verify yourself before the conversion that this number has not been exceeded.

The maximum number of IDs created during the conversion depends on the version of the **old-format simulation database**.

To verify that this number has not been exceeded:

1. Determine the approximate value of the largest ID (let's call it **MaxId**) in the **old-format simulation database**.

To do this, create a record in any table (**amLocation**, for example). Note the value of this new record's primary key (**ILocalId** for the **amLocation** table).

**Tip:** To view this value, just add this field to the list: Right-click and select **Utilities/Configure list** from the contextual menu.

2. Verify that **MaxId** is less than  $(2^{31})/8$ .

### Order-line brand

The value of the **Brand** field (Brand) from the order lines linked to a product (**Product** link) is lost during the conversion. This is because the product itself is linked to a brand.

The value of the **Brand** field (Brand) from the other order lines is added to the **Description** field (LineDesc).

### Request-line brand

The value of the **Brand** field (Brand) from the request lines linked to a product (**Product** link) is lost during the conversion. This is because the product itself is linked to a brand.

The value of the **Brand** field (Brand) from the other request lines is added to the **Description** field (LineDesc).

### Unique indexes

Unique indexes have been added to certain tables in version 4.3.0 of Asset Manager.

**Note:** These new unique indexes provide you with reliable reconciliation keys where previously unavailable.

An example of their usefulness: When exporting data from Asset Manager to be modified outside of Asset Manager then reimported in Asset Manager. Using the reconciliation key, the previous records can be located and updated without any duplicate records being created.

Consequences: Certain uniqueness constraints might not be respected in the old-format database.

Whenever this happens, the database conversions is interrupted.

The conversion program warns you and provides a list of conflicts.

Follow the instructions given by the conversion program.

### Products whose brands and models are the same, but which the categories are different

Products such as these cannot be converted.

Whenever this happens, the database conversions is interrupted.

The conversion program warns you and provides a list of conflicts.

Follow the instructions given by the conversion program.

## Step 7 - Verify the integrity of the new-format simulation database

**Caution:** This check is optional.

It may take more than a day to check the **Check validity of records** option for tables that have a **Validity** script and contain many records.

For such tables, the validity script will be executed for each record in the table.

In some instances, the check may never get through.

1. Launch Asset Manager Application Designer 9.63.
2. Connect to the **9.63-format simulation database** (**File/ Open** menu, **Open existing database** option).
3. Display the database-diagnostics window (**Action/ Diagnostics / Repair database** menu).
4. Select (**All tables**) in the list of tables.
5. Specify the name and the location of the log file.
6. Select all the verification options, except for the **Check validity of records** option.
7. Select the **Analyze only** option.
8. Click **Start**.
9. Consult the messages of the execution window.
10. Consult the log file if necessary.

If problems are displayed by the program, follow these steps:

1. Modify the data in the **9.63-format simulation database**.
2. Repeat the steps in this section to verify the integrity of the **9.63-format simulation database** again.

For more information about the analysis and repairs program, consult the **Administration** guide, chapter **Diagnostic and repairs of a database**.

## Step 8 - Validate the new-format simulation database

Browse the **9.63-format simulation database** to see if the conversion appears correct.

You can:

- Compare the number of records found in the main tables between the **9.63-format simulation database** and the **old-format simulation database**  
If there is too big a difference in number, verify that this is normal.  
Example of a big - but normal - difference: The license contracts are deleted from the Contracts table during the conversion. It is thus normal that the number of records in the Contracts table greatly diminishes.
- Examine the detail of at least one record in each main table to see if the information is coherent.  
With contracts, especially, you should examine at least one record per contract type (lease, maintenance, and so on).  
You should pay particular attention to the sensitive links, such as the **Model** link at the asset level.
- Make sure the features and their values were correctly converted and that the conversion of features into fields has gone smoothly (one test per feature).

If you find any anomalies, perform one of the following operations:

1. Modify the **migration.xml** conversion file.
2. Start again from section "[Step 6 - Convert the old-format simulation database](#)" on page 32.

Or:

1. Modify the data in the old-format production database.
2. Start again from section "[Step 1 - Create a copy \(backup\) of the old-format production database](#)" on page 19.

**Note:** If you are upgrading Asset Manager from a version earlier than 9.60, the upgraded Application Designer cannot automatically load the existing connections because the path of the `amdb.ini` file is changed. You need to manually copy the `amdb.ini` file from `\<Documents and Settings>\All Users\Application Data\HP\AssetManager\conf` to `\<Documents and Settings>\All Users\Application Data\HPE\AssetManager\conf`.

## Step 9 - Adapt the integration with external tools

If you integrated external applications with the old-format production database, you will probably have to adapt the integration mode of these applications.

Potentially concerned applications: For details, see sections:

- ["Asset Manager Web" on page 54](#)
- ["HPE Connect-It scenarios" on page 54](#)

You only implement the new integration mode in these applications after the section ["Step 17 - Finalize the new-format migration database" on page 45](#).

However, you still need to make preparations for this implementation now.

This enables you to limit the time required for this operation.



# Step-by-step migration - final conversion (migration database)

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After the simulations are complete, you can convert another backup of the old-format production database, named the **migration database**.

After you successfully convert the **migration database** to 9.63-format, it can be put into production.

**Note:** We strongly recommend that you perform this "final conversion" on a computer other than the production server. This "migration computer" must also meet the criteria described in "[Prepare your conversion computers](#)" on page 15.

## Step 10 - Block and make a copy (backup) of the old-format production database

Blocking the old-format production database consists of prohibiting its use so that no modifications can be performed during the conversion (they might be lost).

Perform the following tasks:

1. Disconnect all users from the old-format production database.
2. Shut down the:
  - Asset Manager Automated Process Manager
  - Asset Manager APIs
  - External programs that access the old-format production database.
3. Block access to the old-format production database.
4. Make a backup of the old-format production database as described in section "[Step 1 - Create a copy \(backup\) of the old-format production database](#)" on page 19. This backup of the old-format production database is named the **migration database**:

You need to minimize the time the old-format production database is blocked in order to avoid problems for users.

This is why you need to take your time during the simulations that precede the real conversion to work out any issues.

## Step 11 - Verify the integrity of the old-format migration database

Verify the integrity of the **old-format migration database** as described in the section "[Step 2 - Verify the integrity of the old-format simulation database](#)" on page 20.

Instead of connecting to the **old-format simulation database**, you need to connect to the **old-format migration database** in this step.

## Step 12 - Manually adjust the old-format migration database

Manually adjust the **old-format migration database** as described in the section "[Step 3 - Manually adjust the old-format simulation database](#)" on page 22.

Instead of connecting to the **old-format simulation database**, you need to connect to the **old-format migration database** in this step.

## Step 13 - Upgrade the Asset Manager programs on the migration computer

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On the migration computer, upgrade the Asset Manager programs, which include all the binary and configuration files, to version 9.63.

For more information about the upgrade procedure (safeguards, steps to follow, and ways to install Asset Manager), refer to the Asset Manager 9.63 **Installation and Upgrade** guide.

You must also make sure that the version of the programs that interact with Asset Manager are still compatible with Asset Manager 9.63. If necessary, upgrade these programs as well.

To obtain a list of Asset Manager programs and other programs that interface with Asset Manager, refer to the **Installation and Upgrade** guide, chapter **Components of Asset Manager**.

To learn which program versions are compatible with Asset Manager 9.63, consult the Support Matrix at: <https://softwaresupport.hpe.com/group/softwaresupport/support-matrices>.

### Asset Manager 9.63

After you upgrade Asset Manager programs to version 9.63, make sure that at least the following components are available:

- Asset Manager client
- Asset Manager Application Designer
- Asset Manager Automated Process Manager

**Note:** Make sure that Automated Process Manager is properly configured. You need to keep Automated Process Manager running as long as Asset Manager is in use.

- Documentation
- Migration
- Datakit
- Asset Manager Export Tool
- HP AutoPass License Management Tool

All the License Keys that apply to the database must be installed on this instance of HP AutoPass License Management Tool.

For details, see **Administration** guide, chapter **Installing License Keys**.

**Tip:** HP AutoPass License Management Tool is automatically installed with any Asset Manager 9.63 component that you install.

Installing License Keys is a manual process, though.

**Note:** If your **old-format production database** is multilingual (For details, see **Administration** guide, chapter **Creating, modifying and deleting an Asset Manager database**, section **Modifying Asset Manager client languages**), and you have customized certain multilingual items and you want to automatically convert the multilingual items (For details, see "[Propagate the structural changes](#)" on page 30), Asset Manager 9.63 must be available in the additional languages and you must install Asset Manager in these languages on the computer used for the conversion.

All multilingual elements will be propagated, except for contextual help on fields and links (For details, see "[Help on fields](#)" on page 47).

## Verify that Asset Manager can be launched without problems

If you are having problems launching Asset Manager 9.63, contact user support.

## Step 14 - Propagate structure changes made to the old-format migration database

To propagate structure changes made to the old-format **migration database**, follow the instructions described in the section "[Step 5 - Propagate structure changes made to the old-format simulation database](#)" on page 29 .

**Note:** Instead of connecting to the **old-format simulation database**, you must connect to the **old-format migration database**.

## Step 15 - Convert the old-format migration database

To convert the old-format migration database, follow the instructions described in the section "[Step 6 - Convert the old-format simulation database](#)" on page 32 :

- Instead of connecting to the **old-format simulation database**, you must connect to the **old-format migration database**.

The actual conversion of the old-format migration database should be as brief as possible, because the old-format production database is blocked during this time.

If, despite the success of the previous simulations, you run into unexpected difficulties, you should:

1. Stop the conversion of the **old-format migration database**.
2. Put this blocked old-format production database back into production.
3. Redo simulations with a new **old-format simulation database**.
4. Perform the migration process again, starting up from the step "[Step 10 - Block and make a copy \(backup\) of the old-format production database](#)" on page 41.

## Step 16 - Verify the integrity of the new-format migration database

Verify the integrity of the **9.63-format migration database** as described in the section "[Step 7 - Verify the integrity of the new-format simulation database](#)" on page 38.

Instead of connecting to the **old-format production database**, connect to the **9.63-format migration database**.

## Step 17 - Finalize the new-format migration database

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You will need to make alterations to the **9.63-format migration database** for several reasons:

- Certain data will not have been converted by the conversion program.

You must test and manually alter certain data in the **9.63-format migration database**.

- Certain functions have been added or improved upon.

To fully take advantage of this, you must prepare for the use of these functions in the **9.63-format migration database**.

This provides an opportunity to improve upon the efficiency and the services performed by Asset Manager.

## Finalizations concerning all versions of the old-format production database

### Verifying the success of the conversion

We recommend that you verify that the conversion has been correctly carried out.

You can, for example:

- Scan the **9.63-format migration database** in search of any obvious anomalies.
- Compare the number of records from certain tables before and after the conversion. If there are any differences, they either correspond to purposeful specifications of the **migration.xml** conversion file or they are anomalies.

### Modifications to the stored procedure up\_GetCounterVal

This section concerns users who modified the stored procedure **up\_GetCounterVal** in the old-format production database.

Before converting the old-format production database, you need to have:

1. Manually updated the counters in the **amCounter** table that were diverted to other tables.
2. Restored the stored procedure **up\_GetCounterVal** to its original state.

You can adapt the stored procedure **up\_GetCounterVal** again according to the directives in the following technical notes:

- Microsoft SQL Server: TN317171736
- Oracle Database Server: TN12516652

## Triggers, indexes, stored procedures and views

Before the conversion, you put the old-format production database back to its original state for everything concerning the modifications to these items.

Now you can manually perform these modifications again if they are still necessary.

## Help on fields

The help on fields (and links) are stored in the **Help on fields** table (amHelp).

During the conversion of the **old-format migration database**, the contents of this table are not modified.

### **Saving the customizations performed on the earlier version of the help on fields**

1. Export the help on fields as they are.
  - a. Start Asset Manager 9.63.
  - b. Connect to the **9.63-format migration database (File/ Connect to database menu)**.
  - c. Display the list of records from the **Help on fields (Administration/ List of screens menu)**.
  - d. Configure the list so the fields and links appear in the order shown below:
    - Table (TableName)
    - Field (FieldName)
    - Description
    - Example

- Precautions
- e. Export the contents of the list (**Export the list** shortcut menu).
2. Export the standard help on fields from the earlier version.
    - a. Create an empty database with the DBMS of your choice.  
To learn how to create an empty database, refer to the **Administration** guide, chapter **Creating, modifying and deleting an Asset Manager database**, section **Creating an empty shell with the DBMS**.
    - b. Start the earlier version of Asset Manager.
    - c. Connect to the empty database (**File/ Connect to database** menu).
    - d. Display the list of records from the **Help on fields (Administration/ List of screens** menu).
    - e. Configure the list so the fields and links appear in the order shown below:
      - Table (TableName)
      - Field (FieldName)
      - Description
      - Example
      - Precautions
    - f. Export the contents of the list (**Export the list** shortcut menu).
  3. Compare the two exported files.  
The differences correspond to the modifications that you made.  
Conserve a copy of these modifications.

**Update the help on fields in the version 9.63.**

1. Start Asset Manager Application Designer.
2. Select the **File/ Open** menu.
3. Select the **Open database description file - create new database** option.
4. Select the **standard 9.63 gbase.xml** file, located in the **config** sub-folder of the Asset Manager 9.63 installation folder.
5. Start the database creation wizard (**Action/ Create database** menu).



- Populate the pages of the wizard as follows (navigate through the wizard pages using the **Next** and **Previous** buttons):

**Generate SQL script / Create database page:**

Fields	Value
Database	Select the connection to the <b>9.63-format migration database</b> .
Creation	Import line-of-business data
Use advanced creation options	Select this option.

**Creation parameters page:**

Fields	Value
Password	<p>Administrator password.</p> <p><b>Note:</b> The Asset Manager database administrator is the record in the <b>Employees and departments</b> (amEmplDept) table for which the <b>Name</b> (Name) field is set to <b>Admin</b>.</p> <p>The database connection login is stored in the <b>User name</b> (UserLogin) field. The administration name is <b>Admin</b>.</p>

**Create system data page:**

Fields	Value
Use time zones	Do not select this option
Use help on fields	Select this option.

**Data to import page:**

Fields	Value
Available data	Do not select any data.
Stop import if error	Do not select this option
Log file	Do not populate this field.

- Execute the options defined using the wizard (**Finish** button).
- Examine the messages in the **Database creation** page and then click **OK** to close.

**Reapplying customizations to help on fields**

By updating the help on fields of version 9.63, you are overwriting the customizations that you have already made.

You can thus redo this customization manually using the copy you saved of these customizations of the earlier version's help on fields.

You can, for example, import your modifications using the **Table** and **Field** fields (TableName and FieldName) as reconciliation keys.

## User rights, access restrictions and functional rights

Since new tables, fields and links have been added to the new database structure, you must adapt your user rights, access restrictions and functional rights of your user profiles.

Add the new tables, fields and links to the existing rights and restrictions and create new rights and restrictions if necessary.

## Transferring certain features to fields

Asset Manager 9.63 enables you to access new fields, whether they come from the standard 9.63-format database structure or customizations of your own.

You may want to use one of these new fields instead of a feature used in the **old-format production database**.

This is only useful for the features used extensively.

### Advantages

- The fields can be positioned easier than the features in a detail window.
- The access restrictions perform better on the fields than on the features.

**Tip:** The access restrictions perform equally on the links as on the features.

### Disadvantages

- The **Available** field (seAvailable) of the feature parameters does not have an equivalent at the field level.
- Unlike features, the fields cannot be associated to classes.

### Procedure

For information on this procedure, refer to the **Administration** guide.

## Views

A screen was created for all shared views.

You can delete obsolete views.

## SAP Crystal Reports

During the conversion of the **old-format migration database**, the reports are left as they are.

The changes to the database structure are thus not recovered.

It is probable that several SQL names of tables, fields and links become no longer valid.

### Reusing previous reports

1. Launch Asset Manager.
2. Display the list of reports (**Tools/ Reporting/ Reports** menu).
3. Delete the reports that you no longer want to keep.
4. Test each report that you want to keep one at a time.  
For each report:
  - a. Place your cursor in the context of that report (the list or details of an asset, for example).
  - b. Display the screen for printing reports (**File/ Print**).
  - c. Populate the **Type** field according to the type of report you want to test.
  - d. Select the report.
  - e. Click **Preview**.
  - f. If a warning appears, read it and correct the report in SAP Crystal Reports according to its message.
5. If you want to import the new, standard reports provided with Asset Manager 9.63:  
Modify the SQL name of the previous reports that you will keep before importing the new reports.

**Caution:** If you do not do this, the previous reports will be overwritten by the new reports with the same SQL name.

### Deciding not to use previous reports

1. Launch Asset Manager.
2. Display the list of reports (**Tools/ Reporting/ Reports** menu).
3. Delete all the previous reports.

### Importing the standard reports provided with Asset Manager 9.63

To import the **sample data** reports in the **9.63-format migration database**:

1. Start Asset Manager Application Designer.
2. Select the **File/ Open** menu.
3. Select the **Open database description file - create new database** option.
4. Select the **standard 9.63 gbbase.xml** file, located in the **config** sub-folder of the Asset Manager 9.63 installation folder.
5. Start the database creation wizard (**Action/ Create database**).
6. Populate the pages of the wizard as follows (navigate through the wizard pages using the **Next** and **Previous** buttons):

**Generate SQL script / Create database** page:

Fields	Value
Database	Select the connection to the database into which you wish to import the reports.
Creation	Import line-of-business data.
Use advanced creation options	Do not select this option

**Creation parameters** page:

Fields	Value
Password	<p>Enter the administrator's password.</p> <p><b>Note:</b> The Asset Manager database administrator is the record in the <b>Employees and departments</b> (amEmplDept) table for which the <b>Name</b> (Name) field is set to <b>Admin</b>.</p> <p>The database connection login is stored in the <b>User name</b> (UserLogin) field. The administration name is <b>Admin</b>.</p> <p>The password is stored in the <b>Password</b> field (LoginPassword).</p>

**Data to import** page:

Reports are grouped and imported from the perspective of business, select the following option(s) according to your business requirement.

Fields
Shared data
Portfolio - Line-of-business data
Mobile asset tracking
Virtualization - Line-of-business data
Cable and Circuit - Line-of-business data
Contracts - Line-of-business data
Procurement - Line-of-business data
Financials - Line-of-business data
Software Asset Management - Line-of-business data
Helpdesk - Line-of-business data

**Note:** The **Shared data** option contains the fundamental data and system reports. Therefore, if you select any other options in the table above, the following system reports of **Shared data** are automatically imported.

- List of itemized lists
- List of projects
- List of queries
- List of calculated fields
- List of reports
- List of feature classes
- Count Asset Manager users
- Internal directory

7. Execute the options defined using the wizard (**Finish** button).

# Step 18 - Upgrade the external software components that access the Asset Manager database

## **Asset Manager Web**

You must uninstall your old version of Asset Manager Web and install version 9.63.

Asset Manager Web has been completely redesigned since 5.0.0. Web client screens are now the same as those found in the Windows client (with the exception of a few administration screens).

As for the Windows client, Asset Manager Application Designer is used to customize Web client screens.

All customizations that were made in the previous version of Asset Manager Web will be lost.

## **HPE Connect-It scenarios**

To access the **9.63-format migration database** using HPE Connect-It, you must use the version of HPE Connect-It supported by Asset Manager 9.63.

If you use standard HPE Connect-It scenarios, you must now use the new standard scenarios.

If you created your own scenarios:

1. Save the previous non-standard scenarios.
2. Upgrade HPE Connect-It.
3. Open each scenario one by one in HPE Connect-It.
4. For each scenario:
  - a. Examine the possible warning messages displayed by HPE Connect-It when you open a scenario.
  - b. Correct the scenario according to the warning messages.
  - c. Execute the scenario using test data.
  - d. Correct the possible problems that present themselves during this test.

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This chapter explains the operations to perform to get your **9.63-format migration database** up and running.

### Step 19 - Upgrade Asset Manager programs on all administration and user computers

On all administration and user computers, upgrade the Asset Manager programs, which include all the binary and configuration files, to version 9.63.

For more information about the upgrade procedure (safeguards, steps to follow, and ways to install Asset Manager), refer to the Asset Manager 9.63 **Installation and Upgrade** guide.

You must also make sure that the version of the programs that interact with Asset Manager are still compatible with Asset Manager 9.63. If necessary, upgrade these programs as well.

To obtain a list of Asset Manager programs and other programs that interface with Asset Manager, refer to the **Installation and Upgrade** guide, chapter **Components of Asset Manager**.

To learn which program versions are compatible with Asset Manager 9.63, consult the Support Matrix at: <https://softwaresupport.hpe.com/group/softwaresupport/support-matrices>.

## Step 20 - Clean up the legacy programs and data

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After you have successfully converted the Asset Manager database, you may clean up the legacy data of Asset Manager.

### Delete the Asset Manager caches of the new-format migration database

If you use a cache with the connection to your **9.63-format migration database**, we recommend that you delete this cache.

To learn more about how caches work, refer to the **User Interface** guide, chapter **Reference information**, section **Connections**, sub-section **Asset Manager performances**.

### Remove the old connections to databases and create new ones

The objective is to have the users connect to the **9.63-format migration database**.

Refer to the **User interface** guide, chapter **Reference information**, section **Connections**.

If you prefer, you can modify the previous connections.

Create an Asset Manager cache for your connections if you consider this will be useful.



## Modify the customizations of Asset Manager at the level of the client machines if you consider this to be useful

Refer to the **Tailoring** guide, part 1 **Customizing client computers**, chapter **Customizing a client workstation**.

## Step 21 - Put the new-format migration database into production

This is the last step of the migration process.

You have already:

- Totally converted the **old-format migration database** and properly tuned the **9.63-format migration database**.
- Upgraded the Asset Manager programs on all user and administration computers.

Now you must perform the following tasks:

1. Put Asset Manager Automated Process Manager into production on the finalized **9.63-format migration database**.
2. Relaunch the external programs that access the **9.63-format migration database**.
3. Inform users that they can use the database.

## Step 22 - Uninstall programs that are no longer used

At the start of the migration process, you will have installed certain programs on the conversion computer (For details, see ["Prepare your conversion computers" on page 15](#)).

You can uninstall the following programs from the conversion computer:

## Migration

### Step-by-step migration - final phase

- HPE Connect-It
- XML file editor
- Java Runtime

By and large, once the conversion process is finished, the conversion computer and software are no longer required for the day-to-day running of Asset Manager 9.63 and the production database.

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This chapter explains the terms used in this guide.

## Migration

The migration is a set of operations required to convert an earlier version of Asset Manager to the version 9.63:

Migration includes:

- Converting the old-format production database (structure and contents) in order to make it compatible with the 9.63 version of Asset Manager.
- Updating the Asset Manager programs to the 9.63 version on all administration and user machines.

## Updating Asset Manager programs

One of the operations required by the Asset Manager migration.

Updating the programs involves reinstalling all the Asset Manager programs on all administration and user machines so that they are a version 9.63.

**Do not confuse with ...**

[Converting the old-format production database](#)

## Converting the old-format production database

One of the operations required by the Asset Manager migration.

Converting the old-format production database involves modifying its structure and contents in order to make it compatible with the 9.63 version of Asset Manager.

The conversion is performed in several steps. Certain steps are performed manually, others with the use of additional tools.

**Do not confuse with ...**

[Updating Asset Manager programs](#)

## Conversion file

A conversion file is a file that describes which data to transform during the conversion of the old-format production database and what transformations to perform.

The conversion files are named **migration.xml**.

They are generally located in the **C:\Program Files\HPE\Asset Manager 9.63 xx\migration\fromxxx** folder.

Asset Manager is installed with conversion files by default (1 file per version of Asset Manager that is supported by the migration).

You can customize these files.

## Conversion computer

The conversion computer is a computer you use to convert the old-format production database to the 9.63 format.

**Note:** We strongly recommend that you prepare two conversion computers for the simulation phase (converting the **simulation database**) and the migration phase (converting the **migration database**) respectively.

This computer requires a specific configuration, which is described in this guide.

## Production database

The production database is the Asset Manager database that you use to manage your portfolio.

### **Do not confuse with ...**

Demonstration database

## Trigger

A trigger is an action that is automatically "triggered" by Asset Manager when a database field or link is modified.

## Data

**Data** is information from a record that is stored in the database using a field.

## Application data

**Application data** designates data that is stored in the production database (and not in its structure). It is this data that you must verify during the conversion.

**Tip:** This application data needs to be verified because it references tables, fields or links that might have been deleted or modified in the version 9.63.

The different application data enter into one of the following categories:

- Basic script
- AQL query
- Field that stores the name of a table.
- Field that stores the name of a field.
- Wizard

- Calculated string (string of links and fields in a given context).

## Database structure

The database structure assembles the following items:

- Tables
- Fields
- Links
- Index

As well as their parameters, such as:

- Description string
- Validity
- Relevance
- History
- Read only
- Mandatory
- Irrelevance
- Default value

These parameters are defined by a fixed value or a script with Asset Manager Application Designer.

They are stored in **gbbase\*.\*** database-description files or in the database itself.

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This section provides additional information that can be used when you perform the migration.

## Adapting the migration.xml conversion file

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This section describes how to adapt the migration.xml conversion file.

## Warning

This reference section is intended for certified engineers only.

**Caution:** Adapting the conversion file requires strong technical skills, an in-depth understanding of the source version of Asset Manager, as well as the 9.63 version.

Thus, the conversion file can only be adapted by a HPE certified engineer.

All modifications of the conversion file made by an uncertified person are done under the sole responsibility of the person making the modification(s), and not under the responsibility of HPE.

**Tip:** Keep in mind that HPE and its partners can provide specialized and experienced consultants who can adapt this conversion file for you.

**Caution:** When you customize the **migration.xml** conversion file, you must neither rename it nor replace it. This is because the tools that use this file will search for it in the standard folder.

We also recommend that you make a backup of this conversion file before starting to modify it.



## Reminders

Definition of a conversion file: For details, see [Conversion file](#).

To learn when a conversion file needs to be adapted: For details, see [Adapt the migration.xml conversion file](#).

## What does the conversion file do?

The conversion file defines the rules for converting fields whose values cannot be conserved as they are because:

- The table to which the field belongs has disappeared or changed its SQL name.
- The field has disappeared or changed its SQL name.
- The field is part of a feature transferred to a direct field or a table in the **9.63-format database**.

**Caution:** If you wish to convert into fields any other features that are not covered in the standard mappings, do not create new mappings. Refer to section [Transferring certain features to fields](#).

**Note:** The links are processed via foreign keys (which are actually fields).

The conversion file is used to generate SQL commands for modifying an **old-format database** (SQL used for the DBMS).

## Conversion rules

Certain conversion rules are automatically determined by the conversion program:

- If a table's structure is identical between the earlier version and the 9.63 version of Asset Manager (the SQL names, fields, links and indexes are the same):  
The fields do not need to be declared in the conversion file: Their values will not change.

**Tip:** You can, however, define conversions for the fields and links of a table that is structurally

unchanged if you need to.

- If the SQL names of the fields are the same for the associated source and target tables in a `Mapping` element of the conversion file:  
These fields are automatically associated. You do not need to cite them in the conversion file unless you want to modify their values.

## Syntax of the conversion file

### Global syntax

```
<?xml version="1.0" encoding="iso-8859-1"?>
<!DOCTYPE MigrationFile SYSTEM "acmig.dtd">
<MigrationFile continueonerror=[AA]>
  <StartScript engine='[G] '>
    [A]
  </StartScript>
  <Translate table="[R]" into "[S]"/>
  <Mapping to="[C]" from="[B]" where="[K]" orderby="[O]" groupby="[P]" having="[Q]"
autofill="[L]">
  <PreActions engine='[T] '>
    [U]
  </PreActions>
  <Field sqlname="[E]" value="[F]" translate="[X]" feature="[Y]" featuretable="[Z]
">
    <Exception engine='[M]' value="[N]"/>
  </Field>
  <PostActions engine='[V] '>
    [W]
  </PostActions>
</Mapping>
<Script engine='[O] '>
  [I]
</Script>
<!--[J]-->
<!--[P]-->
</MigrationFile>
```

```
<?xml version="1.0" encoding="iso-8859-1" ?> line
```

This line is mandatory.

It cites the XML version as well as the character set used in the file.

You can modify this character set, but only if it corresponds to the character set used in the **.xml** file.

```
<!DOCTYPE MigrationFile SYSTEM  
"acmig.dtd"> line
```

This line indicates which **.dtd** to associate to the **.xml** file.

Asset Manager installs the **acmig.dtd** file next to the **migration.xml** conversion files.

The **acmig.dtd** is not mandatory, but it is useful to validate the structure and make it easier to read the **.xml** file.

The **acmig.dtd** requires the use of an XML editor in order to be active.

## MigrationFile element

This element contains four elements that describe the operations to perform during the conversion:

- StartScript
- Translate
- Mapping
- Script

## continueonerror attribute

This attribute is optional.

When `AA` is set to `No`, the conversion is interrupted at the first sign of a conversion error.

When `AA` is set to `Yes`, the conversion continues as long as possible despite any errors found during the conversion.

By default, this attribute is set to `No`.

## engine attribute

This optional attribute is used by several elements to define the DBMS to which the element is applied.

Possible values:

- `MSSQL`
- `Oracle`
- `DB/2`

You must respect the case.

## StartScript element

This element contains an `[A]` SQL script, which you will execute before the conversion of an **old-format database** (and even before you rename the previous tables).

Whenever possible, we recommend that you use a `PreActions` element. This element facilitates the maintenance of the conversion file.

A `StartScript` element is useful when:

- Several `Mapping` elements need to execute the same `PreActions` element.
- You need to remove the customizations made to the **old-format database** structure.
- You need to deactivate triggers.

The script must be written in an SQL language conforming to the one used in the DBMS of the **old-format database**.

**Tip:** There is one exception to this constraint: To concatenate strings, you can use the `||` operator with all engines (it is transformed into `+` for `MSSQL`).

**Caution:** The AQL language of Asset Manager is not recognized.

Each SQL command line is executed using a `GO` line.

For example:

```
UPDATE amPortfolio SET lParentId=0 WHERE lPortfolioItemId IN (SELECT
p.lPortfolioItemId FROM amAssetOld a, amPortfolio p WHERE a.lParentId=0 AND
p.lAstId=a.lAstId)
GO
DELETE FROM amItemListVal WHERE lItemListId=(SELECT lItemListId FROM amItemizedList
WHERE Identifier='amBrand')
GO
```

### **engine attribute**

The `StartScript` element with the `engine` attribute replaces the `StartScript` element without the `engine` attribute when the `StartScript` element is executed on a database where the DBMS is [G].

## **Translate element**

This element is used during the conversion of fields that store table names (an action's context, for example).

A `Translate` element must be defined when a source table **[R]** is associated with several destination tables **[S]** inside several `Mapping` elements.

The `Translate` element is used to indicate which of these **[S]** tables is the destination table for the automatic conversion of fields that store table names.

The conversion of fields that store table names uses a mapping table, which is automatically created at the onset of the conversion using information in the **migration.xml** conversion file.

The mapping table maps:

- The tables associated in a `Mapping` element by the `to=" [C] "` and `from=" [B] "` attributes when tables **[C]** and **[B]** are different.
- The tables associated in a `Translate` element by the `table=" [R] "` and `into " [S] "` attributes.  
The associations performed from `Translate` elements take superiority over those performed from `Mapping` elements.

The `maptable` is used by a conversion-file script using the `UPDATE` command.

This enables the replacement of the old table name by the new table name:

Example:

```
UPDATE amDocument SET DocObjTable = ( SELECT newsqlname FROM sdutrans WHERE  
oldsqlname = amDocument.DocObjTable ) WHERE amDocument.DocObjTable IN( SELECT  
oldsqlname FROM sdutrans)
```

## Mapping element

This element enables you to transfer and convert the fields of a table in the previous structure to a table in the version 9.63 structure.

### **from attribute**

The `from` attribute is mandatory. It identifies the [B] table of the previous structure.

In the case of a join, several tables can be used by respecting the following syntax:

```
from="[SQL name of table 1] alias1, [SQL name of table 2] alias2, ..., [SQL name of  
table n] aliasn"
```

### **to attribute**

The `to` structure is mandatory. It identifies the [C] table of the new structure.

### **where attribute**

The `where` attribute is optional. It specifies the [K] SQL condition, which defines the records of the [B] table that must be processed by the `Mapping` element.

By default, the `where` clause excludes the null primary-key record from source table [B] (internal join - `where [SQL name of the primary key] <> 0`).

By default, the `where` clause includes null primary-key records from remote tables linked to table [B] (external join).

For example, in the following association:

```
<Mapping to="amCatProduct" from="amProdSoftInfo s, amSoftware soft"  
where="s.lSoftId = soft.lSoftId">
```

The records for which `s.lSoftId` and `soft.lSoftId` are equal are retained.

To learn about what null primary-key records do, refer to the **Advanced use** guide, chapter **AQL queries**, section **Recommendations for writing AQL queries**, sub-section **Reason for and usefulness of primary key 0 records**.

### **orderby attribute**

The `orderby` attribute is optional. It specifies the order of the SQL sort [O].

### **groupby attribute**

The `groupby` attribute is optional. It specifies the [P] SQL sub-set.

### having attribute

The `having` attribute is optional. It specifies the [Q] SQL search conditions.

### autofill attribute

The `autofill` attribute is optional. It can accept either `yes` or `no` as its value. By default, its value is `yes`.

When its value is `no`, only the fields of the [C] table processed by a `Field` element are populated.

The fields automatically associated by the conversion program are not populated. (These are the fields whose SQL name is the same in tables [B] and [C].)

## PreActions element

This element contains an SQL script [U] to execute before executing the `Field` element that follows it.

A `PreActions` element is useful when you:

- Create natures that are independent of the contents of the database to convert.
- Create a feature.

**Caution:** If you wish to convert into fields any other features that are not covered in the standard mappings, do not create new mappings. Refer to section [Transferring certain features to fields](#).

This element's syntax is the same as for a `StartScript` element.

The advanced users will execute such a script in order to perform operations that cannot be done using a `Mapping` element.

At the time you execute the `PreActions` element, the previous tables are not yet deleted.

You can thus still use the previous data.

The `PreActions` element is intended for users who have modified the standard structure of the old-format production database.

## Field element

This element enables you to populate the new SQL name field [E] with the value calculated by the SQL expression [F].

The SQL expression [F] must rely on fields from the [B] table identified by their SQL name.

If the SQL expression [F] is not valid for a given DBMS, you must populate the `Exception` element just after the `Field` element line.

#### **feature attribute**

This attribute is used to convert a source feature value to a field in the **9.63-format database**.

**Caution:** If you wish to convert into fields any other features that are not covered in the standard mappings, do not create new mappings. Refer to section [Transferring certain features to fields](#).

This attribute's [Y] value corresponds to the SQL name of the feature whose values are to be converted.

#### **featuretable attribute**

This attribute is used to convert a source feature value to a field in the **9.63-format database**.

**Caution:** If you wish to convert into fields any other features that are not covered in the standard mappings, do not create new mappings. Refer to section [Transferring certain features to fields](#).

This attribute's [Z] value corresponds to the SQL name of the table that stores the feature values to be converted.

**Caution:** The table that stores the feature values that are associated to it in the [Z] table is declared at the level of the `from` attribute in the `Mapping` element.

For example: The `amFVAsset` table stores the features values that are associated to its records in the `amAsset` table. To convert the [Y] feature values to a field, the `amAsset` table must be declared at the level of the `from` attribute. And the `amFVAsset` table is declared at the level of the `featuretable` attribute.

## Exception element

This element enables you to create an exception specific to a given DBMS for the `Field` element that precedes it.

#### **engine attribute**

The `engine` attribute enables you to define the [O] DBMS to which the exception applies.

The `Exception` element replaces the `Field` element for the [O] DBMS.

#### **value attribute**

The `value` attribute enables you to define the SQL expression that is valid for the [O] DBMS.



In the case of a join, the alias must be used according to the following syntax:

```
value="[alias of the table].[SQL name of the field]"
```

### **SDU\_NEWID variable**

This variable is sometimes used by the `value` attributes that define new values for the primary keys.

`SDU_NEWID` is the value of the primary key ID having the largest numeric value in the **old-format database** increased by 1.

`SDU_NEWID` is automatically calculated by the conversion program.

## **PostActions element**

This element contains an SQL script `[W]` to execute after executing the `Field` element that precedes it.

A `PostActions` element is useful when you:

- Calculate the value of the **Full name** field.
- Delete the features and feature values when they are transferred to a field.

**Caution:** If you wish to convert into fields any other features that are not covered in the standard mappings, do not create new mappings. Refer to section [Transferring certain features to fields](#).

This element's syntax is the same as for a `StartScript` element.

The advanced users will execute such a script in order to perform operations that cannot be done using a `Mapping` element.

At the time you execute the `PostActions` element, the previous tables are not yet deleted.

You can thus still use the previous data.

The `PostActions` element is intended for users who have modified the standard structure of the old-format production database.

## **Script element**

This element contains an `[I]` SQL script to execute after having executed the `Mapping` elements, but before deleting the previous tables that are now obsolete.

Whenever possible, we recommend that you use a `PostActions` element. This element facilitates the maintenance of the conversion file.

A `Script` element is useful when:

- Several `Mapping` elements need to execute the same `PostActions` element.
- You want to perform clean-up operations that cannot be done using the `Mapping` element.
- You delete obsolete enumerations.

This element's syntax is the same as for a `StartScript` element.

At the time you execute the `Script` element, the previous tables are not yet deleted.

You can thus still use the previous data.

The `Script` element is intended for users who have modified the standard structure of the old-format production database.

## **! -- element**

This tag enables you to insert a `[J]` comment in the code. This comment will not be taken into account by the conversion program.

## **! -- element**

This tag enables you to insert a `[J]` comment for the user of the conversion file. This comment will not be taken into account by the conversion program.

## Using special characters

Here are the indications for using certain characters that can be interpreted in a particular manner.

These indications are not exhaustive. For more information, we recommend that you consult SQL and XML documentation.

In general, the general structure of the conversion file must respect XML constraints, and the attribute values must respect SQL constraints.

Here are some characters whose interpretation is particular:

Special character	Interpretation	Example	Equivalent when the character must be interpreted as text.	Example
"	Delimits the value of an XML attribute.	value="lAssetRentId"	\"	value="'\"'"
'	Delimits the SQL text string inside the value of an attribute.	value="soft.Publisher+'/' +soft.Name"	'	value="''''"
<	Opens an XML tag.	</Mapping>	&lt;	value="'\$lt;'"
>	Closes an XML tag.	</Mapping>	\$gt;	value="'&gt;'"
&	Marks the beginning of an entity.	&lt;	&amp;	value="'&amp;'"
;	Marks the end of an entity.	&lt;	; without & before	value="';'"
\	SQL escape character.		\\	value="'\\\"'"
	SQL string-concatenation character (valid for all DBMSs).	value="'A'    'B'"	' '  ' ' ' '	value="'A '  ' ' B'"

## Dividing the fields of an previous table between several new tables

For example, the earlier version of Asset Manager used the Assets table. In this version, there is a Portfolio items table and an Assets table. Thus, the fields from the earlier Assets table must now be divided between these two new tables. And, one record in the earlier Assets table now gives rise to two records (one in each of the new tables).

For this reason, you must create primary IDs in the Portfolio items table now. This is because these records must be unique throughout the entire Asset Manager database, and not just throughout one table.

You must create a `Mapping` element of the following type:

```
<Mapping to="amPortfolio" from="amAsset">  
  <Field sqlname="lPortfolioItemId" value="SDU_NEWID+lAstId"/>  
</Mapping>
```

## Transferring a feature to a field

Asset Manager 9.63 includes new fields.

In certain cases, these new fields are used instead of features used in the old-format production database.

**Caution:** The information in this section is useful to understand the syntax of the existing mappings.

On the other hand, if you do not wish to convert other features to fields, do not create new mappings, but refer to section [Transferring certain features to fields](#).

### Syntax

```
<Mapping to="[SQL name of the destination table]" from="[SQL name of the source  
table that stores the feature values]">  
  <Field sqlname="[SQL name of the destination field]" value="[SQL name of the  
field that stores the feature values]" feature="[SQL name of the source feature]"  
featuretable="[SQL name of the table that stores the feature values]"/>  
</Mapping>
```

Aliases are used for all the tables. These aliases are used at the attribute level, except in the case of the `value` attribute, which references the field that stores feature values.

The `Value` attribute can take the following values:

- **ValString** if the features stores text.
- **fVal** if the feature stores a number.
- **dtVal** if the feature stores a date.

### Example

```
<Mapping to="amComputer A" from="amAsset">  
  <Field sqlname="VideoCard" value="ValString" feature="Video Card"  
featuretable="amFVAsset"/>  
</Mapping>
```

### Limitations

This methodology of transferring features to fields has a few limitations:

- It requires using numerous joins.
- It risks slowing the conversion performances.
- It does not enable you to manage feature heritages.
- It does not enable you to manage the deletion of transferred feature values nor those of the features themselves.

We can add a `PostActions` element after the `Field` element to perform this task.

Otherwise, the deletion is performed manually after the conversion.

To convert multiple features, we have chosen to use the `<Script>` element, as shown in the following example:

```
UPDATE amComputer  
SET ComputerDesc = (SELECT F.ValString  
  FROM amFVAsset F, amFeature V, amAsset A  
  WHERE lComputerId = SDU_NEWID * 2 + A.lAstId AND F.lFeatId = V.lFeatId AND  
V.SQLName='fv_BiosMachine')  
GO  
DELETE FROM amFVAsset WHERE lFeatValId IN ( SELECT lFeatValId FROM amFVAsset F,  
amFeature V WHERE F.lFeatId = V.lFeatId AND V.SQLName='fv_BiosMachine' )  
GO
```

### Potential problem with link-type features

When transferring the values of the link-type features to a link in the 9.63 database, the link is not populated if its target table has changed during the conversion.

Example: Before the conversion, the feature points to the Assets table. After the conversion, the link replacing the feature points to the Portfolios table.

In this example, the ID of the asset disappears, and an ID is created for the new portfolio item.

After the conversion, a query must be executed to identify the records whose links (the ones that replaced the features) are not populated.

## Converting a field that stores application data to be manually converted

The fields that store application data to be manually converted are purposely emptied during the conversion using the `Mapping` element. Here is such an example:

```
<Mapping to="amAccessRestr" from="amAccessRestr">  
  <Field sqlname="ReadCond" value="''"/>  
</Mapping>
```

The records containing emptied application data are still conserved during the migration, though.

The application data to be manually converted is not lost. This is because it was exported with Asset Manager Application Designer before the conversion, and it will be restored later during the conversion process.

The fields that store the names of tables not used as contexts for the elements to manually convert are automatically converted.

The conversion mechanism can be configured using a `Translate` element.

## Using joins

Joins must respect the following rules:

- An alias must be defined for each of the tables of the join.
- Expressions of `where`, `orderby`, `groupby`, `having` and `value` attribute of `Field` elements must identify tables by their aliases.

**Caution:** The joins concerning **Integer (32-bit)** or **variable length binary fields** are not supported.

### Example

```
<Mapping from="amProdSoftInfo s, amSoftware soft" to="amCatProduct"
where="s.lSoftId = soft.lSoftId">
  <Field sqlname="lCatProductId" value="s.lProdSoftId"/>
  <Field sqlname="InternalRef"
value="soft.Publisher+'/' +soft.Name+'/' +soft.VersionLevel"/>
  <Field sqlname="FullName"
value=" '/' +soft.Publisher+' ':' +soft.Name+' ':' +soft.VersionLevel+' '/'"/>
  <Field sqlname="dtLastModif" value="s.dtLastModif"/>
</Mapping>
```

**Note:** The first table specified by a `from` attribute has a particular status.

This table's fields are automatically associated with the fields in the destination table having the same SQL name if they are not in the conversion file.

## Populating foreign keys

The foreign keys are used to create links between the records of different tables.

### Example

```
<Mapping from="amAsset" to="amPortfolio"
  <Field sqlname="lParentId" value="SDU_NEWID+lParentId"/>
</Mapping>
```

## Dividing source tables between two or more destination tables

If you must divide a source table between two or more destination tables, you need to have a technique to make sure the primary IDs created in the destination tables will be unique throughout the Asset Manager database.

This technique involves creating a `Field` element of the type:

```
<Mapping to="amPortfolio" from="amAsset">
  <Field sqlname="lPortfolioItemId" value="SDU_NEWID * 2 + lAstId"/>
</Mapping>
```

## Converting a numeric string into a text string

The conversion of data is sometimes necessary to convert a numeric string into a text string.

This is the case when you must calculate the value of a **Text** field according to a **Number** field, for example.

This is a complex conversion to carry out using an SQL language, and it varies from engine to engine.

We have created a `SDUSTR` macro that can easily handle this conversion for all engines and all types of numeric fields.

For example:

```
<Mapping to="amPortfolio" from="amSoftInstall">  
  <Field sqlname="Code" value="'^' || SDUSTR lInstId"/>  
</Mapping>
```

In this example:

- The `lInstId` field is a **Integer (32-bit)** type field.
- The `Code` field is a **Text** type field.
- The `lInstId` is transformed into a text string by the `SDUSTR` macro.
- The converted string is concatenated with the `^` character.
- The concatenated string is inserted into the `Code` field.

## Manually converting application data

The role of certain `Mapping` elements is to empty the application data to manually convert.

Here is such an example:

```
<Mapping to="amAccessRestr" from="amAccessRestr">  
  <Field sqlname="TableName" value="''"/>  
</Mapping>
```

The emptied fields are populated again during the restoration of the application data that was manually converted.



## SQL commands generated from a conversion file

The conversion file is used to generate SQL commands that the DBMS uses to modify the **old-format database** (structure and data).

### Example

The following `Mapping` element:

```
<Mapping from=[F] to=[T] where=[W]>  
  <Field sqlname=[F1] value=[V1]/>  
  <Field sqlname=[F2] value=[V2]/>  
  ...  
  <Field sqlname=[Fn] value=[Vn]/>  
</Mapping>
```

Has as its SQL equivalent:

```
Insert Into to T(F1; F2, ..., Fn)  
Select V1 as F1, V2 as F2, ..., Vn as Fn  
From A  
Where W
```

## Verifying the conversion file before using it

**Caution:** You must validate how the conversion file conforms to the `acmig.dtd` file before using it for the conversion.

To validate its conformity, you must use Internet Explorer or a text editor.

Here are some other tests that we recommend doing:

- The conversion file must not contain any occurrences of the combinations (`from`, `to`, `where`, `groupby`).
- The `Mapping` elements are in line with how you use the database.
- The multiple primary keys created from the same source primary key are different (appropriate use of the `SDU_NEWID` variable).
- The foreign keys that store primary keys created during the conversion correspond to the correct primary keys.

- The source and destination fields that are not associated (either manually in the conversion file or automatically by the conversion tool) are purposely unassociated.  
To perform this verification:
  - a. Display the **sdu.xml** file (located in the conversion log folder).
  - b. Search for **NotMappedSrc** and **NotMappedDst**.
- The sub-set of records defined by the `where` attributes are not recovered.  
They cover all the records.
- The tables associated several times do not trigger the creation of multiple links to the same record when such links can only exist once (**IParentId** or **ICommentId**, links for example).

## Transferring assets who do not have specific tables

In certain cases, there are **overflow tables** that enable you to describe certain types of specific assets (computers, for example).

In this case, `Mapping` elements have been added to the conversion files.

If there is no specific **overflow** table (for vehicles, for example), we recommend that you do not change data organization as it is in your old-format production database.

## Structural modifications to the standard database compared to previous versions

Asset Manager 9.63 is installed with files (**diff\*.\***) that describe the differences in the database structures between:

- Version 9.63.
- A given previous version.

**Caution:** The **diff\*.\*** files do not take into account any customizations you might have made to the **old-format production database**.

The **diff\*.\*** files are available in several formats:

- Text (**diff\*.txt**).

- XML (**diff\*.xml**).
- HTML (**diff\*.htm**).

They are generally located in the **C:\Program Files\HPE\Asset Manager 9.63 xx\doc\infos** folder.

They are installed if you select the **Documentation** package during the installation.

The name of these files is in the form:

**diff<earlier version of Asset Manager>.\***

**Tip:** You can find the version number by launching the old version of Asset Manager and opening the **Help/About Asset Manager** menu.

### Using diff\*.txt files

Open these files under Excel or another tool specifying that the file is a DOS (or ASCII) format text file.

**Tip:** Under Excel, we recommend applying an automatic filter to the first line in order to be able to filter the information according to the changes you wish to see.

The heading explains the contents of each column.

Each line after the heading corresponds to a structural modification in the standard database.

Here is some information about certain of the available columns:

- Name of the table containing the object:
  - Creation of table:  
<SQL name in the 9.63-format standard database>
  - Deletion of table:  
<SQL name, or if that doesn't exist, technical name in the old-format standard database>
  - Creation, deletion or modification of field, index or link; Modification of table:  
<SQL name, or if that doesn't exist, technical name in the old-format standard database> (<SQL name in the 9.63-format standard database>)
- Name of the object that has been modified:
  - Object destroyed:  
<SQL name, or if that doesn't exist, technical name in the old-format standard database>

- Object modified:  
  
    <SQL name, or if that doesn't exist, technical name in the old-format standard database> (<SQL name in the 9.63-format standard database>)
- Object added:  
  
    <SQL name in the 9.63-format standard database>
- Description:
  - Object modified or created: new description of the object.
  - Object destroyed: previous description of the object.

### Using the diff\*.htm files




These files can be consulted using an HTML browser.

Here is the structure. You can search the following expressions to browse through these files.

#### 1. Deleted table information

This title is at the beginning of each section that describes a deleted table.




For each table you will find:

- Information about the deleted table.
-  Fields of the deleted table.
-  Links of the deleted table.
-  Index of the deleted table.

#### 2. Inserted table information

This title is at the beginning of each section that describes an added table.

For each table you will find:

- Information about the added table.
-  Fields of the added table.
-  Links of the added table.
-  Index of the added table.

#### 3. Modified table

- Deleted objects
- Inserted objects
- Modified objects

### Using the diff\*.xml files

These files will come in handy if you are experienced in XML and have needs that require an XML file.

Examine these files yourself to determine what needs you might have for them.

## Other documentation

This guide only deals with information directly linked to the migration process.

To obtain associated information not covered in this guide, we recommend that you read the following documents:

### Other documentation - list

Document	Information	Location in the Asset Manager installation folder
Readme	<ul style="list-style-type: none"> <li>Last-minute information.</li> </ul>	<ul style="list-style-type: none"> <li>Text: <code>readme.txt</code></li> </ul>
Release Notes	<ul style="list-style-type: none"> <li>List of documents provided with Asset Manager</li> <li>Overview of new functions</li> </ul>	<ul style="list-style-type: none"> <li>Printed: <code>\doc\pdf\ReleaseNotes*.pdf</code></li> <li>Online: <code>\doc\pdf\ReleaseNotes*.pdf</code></li> </ul>
Installation	<ul style="list-style-type: none"> <li>List of Asset Manager programs</li> <li>Supported operating systems and minimum configuration</li> <li>Supported DBMSs</li> <li>Installing Asset Manager</li> <li>Simple upgrade of Asset Manager version 4.2.x, 4.3.x or 4.4.x</li> </ul>	<ul style="list-style-type: none"> <li>Printed: <code>\doc\pdf\Installation*.pdf</code></li> <li>Online: <code>\doc\chm\install*.chm</code></li> </ul>
Structure of the database	<ul style="list-style-type: none"> <li>List of the database's tables, fields, links and indexes</li> <li>Agents automatically triggered by Asset Manager</li> </ul>	<ul style="list-style-type: none"> <li>Text: <code>\doc\infos\database.txt</code> <code>\doc\infos\tables.txt</code></li> <li>Online: <code>\doc\chm\dbstruct*.chm</code></li> </ul>
Structural differences between different database versions	<ul style="list-style-type: none"> <li>List of tables, fields, links and indexes that have changed.</li> </ul>	<ul style="list-style-type: none"> <li>Html: <code>\doc\infos\diff*.html</code></li> </ul>
Administering Asset Manager	<ul style="list-style-type: none"> <li>Asset Manager Application Designer</li> <li>Import</li> </ul>	<ul style="list-style-type: none"> <li>Printed: <code>\doc\pdf\Administration*.pdf</code></li> </ul>

**Other documentation - list, continued**

		<ul style="list-style-type: none"><li>• Online: <b>\\doc\chm\admin*.chm</b></li></ul>
Advanced use	<ul style="list-style-type: none"><li>• Data export</li></ul>	<ul style="list-style-type: none"><li>• Printed: <b>\\doc\pdf\AdvancedUse*.pdf</b></li><li>• Online: <b>\\doc\chm\advanced*.chm</b></li></ul>

For more information about XML, consult the Web site: <http://www.w3.org/XML/>.

# Send documentation feedback

If you have comments about this document, you can [contact the documentation team](#) by email. If an email client is configured on this system, click the link above and an email window opens with the following information in the subject line:

## **Feedback on Migration (Asset Manager 9.63)**

Just add your feedback to the email and click send.

If no email client is available, copy the information above to a new message in a web mail client, and send your feedback to [ovdoc-ITSM@hpe.com](mailto:ovdoc-ITSM@hpe.com).

We appreciate your feedback!