Asset Manager

Software Version: 9.60

Windows® and Linux® operating systems

Installation and Upgrade

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Chapter 1: Introduction

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Who is this guide intended for?

This guide is intended for all organizations intending to using Asset Manager 9.60.

It is specifically intended for the engineers who wish to:

- Installing Asset Manager and Asset Manager Web for the first time
- Upgrade a previous version of Asset Manager

What does this guide do?

This guide explains:

- Which programs belong to Asset Manager
- In which environments Asset Manager functions.
- How to upgrade a previous version of Asset Manager
- How to install Asset Manager and Asset Manager Web for the first time.
- How to configure Asset Manager
- How to tune Asset Manager.

> **Tip:** In order to correctly install this application, you must strictly adhere to the instructions that we provide here.

Precautions for preserving Asset Manager data integrity

Asset Manager is extremely rich in functionality. This richness relies on a complex database structure:

- The database contains a large number of tables, fields, links and indexes
- Certain intermediary tables are not displayed by the graphical interface
- Certain links, fields and indexes are automatically created, deleted or modified by the software
- You can create additional tables, fields, links and indexes.

To modify the **contents** of the database with respect to its integrity, you absolutely must use one of the following applications:

- Windows client
- Asset Manager API
- Asset Manager Import Tool
- Web client
- HP Software gateways
- HPE Connect-It
- Asset Manager Automated Process Manager
- Asset Manager Web Service

To modify the **structure** of the database with respect to its integrity, you absolutely must use Asset Manager Application Designer.

> **Caution:** You must never modify the structure or the contents of the database by any means other than those intended for use with the software. Such modifications might corrupt the database in the following ways:
>
> - Involuntary loss or modification of data or links.
> - Creation of "ghost" links or records.
> - Serious error messages, and so on.

Chapter 2: Components of Asset Manager

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Asset Manager packages

Program name	Program's interface	Windows support
Windows interface to access the Asset Manager database	Graphical	Yes
Web interface to access the Asset Manager database	Graphical	Yes
Asset Manager Export Tool	Graphical	Yes
	Command line	Yes
Asset Manager Import Tool	Command line	Yes
Asset Manager Automated Process Manager	Graphical	Yes
	Command line	No
Asset Manager Application Designer	Graphical	Yes
	Command line	Yes
Asset Manager API	Non graphical	Yes
Asset Manager Web Service	Non graphical	Yes
Asset Manager Script Analyzer	Graphical	Yes
HP AutoPass License Management Tool	Graphical	Yes

Asset Manager modules

The Windows and Web interfaces to the Asset Manager database provide access to the following modules:

Marketing name	Name displayed by the File/ Manage modules... menu (Windows client)	Name displayed by the Action/ Activate database... menu (Asset Manager Application Designer)	Name displayed by HP AutoPass
AM Asset Portfolio	Administration	Admin (Administration)	
AM Asset Portfolio	Asset Portfolio	ITAM (Asset Portfolio)	Asset Portfolio ServiceCatalog
AM Asset Portfolio	Barcode inventory	BarCode (Barcode inventory)	BarCode
AM Asset Portfolio	Integration with Client Automation	OVCM (Integration with Client Automation)	OVCM
AM Contract Management	Contracts	Contract (Contracts)	Contract
AM Contract Management	Contracts	Leasing (Leasing Management option)	Leasing
AM Software Asset Management	Software Asset Management	SAM (Software Asset Management option)	SAM
AM Financial Management	Financials	Finance (Financials)	Finance
AM Procurement	Procurement	Procurement (Procurement)	Procurement
AM Asset Portfolio	Helpdesk	Helpdesk	

Your access to these modules depends on your HP AutoPass License Keys, which is provided with Asset Manager. See the **Administration** guide, **Installing License Keys** chapter.

Peripheral Programs

The following software applications can be integrated with Asset Manager:

- HPE Connect-It
- SAP Crystal Reports
- HPE Discovery and Dependency Mapping Inventory

- HPE Project and Portfolio Management
- HPE Universal CMDB

  > **Note:** After you install Asset Manager, the `AMGenericAdapterAPI_<version>.zip` and `AMPushAdapterAPI_<version>.zip` files are created in the `<AMInstallDir>\integrations\ucmdb` folder. These two zip files contain the APIs for Asset Manager adapters and you can have them deployed to UCMDB.

- HPE Service Manager
- OpenSSL and OpenLDAP

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Supported operating systems

Asset Manager client programs

The Asset Manager client programs support:

- Windows
- Linux

To find out what operating system versions are supported, consult the Support Matrix at: https://softwaresupport.hpe.com/group/softwaresupport/support-matrices.

See **Installation** guide, chapter **Supported environments**, section **Supported operating systems\Asset Manager client programs**.

Asset Manager database server

The server may be used with all the operating systems and hardware platforms supported by your DBMS.

To acquire the list of these supported items, refer to the documentation of your DBMS.

Minimal and Recommended System Configuration in Windows

Minimal Configuration

All programs except Asset Manager Automated Process Manager and Asset Manager Web and Asset Manager Web Service

Environment	Windows 7, Windows 8, Windows Server 2008 R2, and Windows Server 2012
CPU	Intel Xeon or equivalent
RAM	2 GB
Disk space (*)	4 GB (all packages installed)

(*) The files installed with Asset Manager require about 700 MB disk space (excluding production database and client database layers).

Asset Manager Automated Process Manager

Environment	Windows Server 2008 R2 and Windows Server 2012
CPU	Intel Xeon dual-core or equivalent
RAM	1 GB reserved for Asset Manager Automated Process Manager
Disk space	4 GB

Recommended Configuration

All programs except Asset Manager Automated Process Manager and Asset Manager Web and Asset Manager Web Service

Environment	Windows 7, Windows 8, Windows Server 2008 R2, and Windows Server 2012
CPU	Intel Xeon or equivalent
RAM	4 GB
Disk space (*)	50 GB (all packages installed)

(*) The files installed with Asset Manager (client only) require about 350 MB disk space (excluding production database and database layers).

Asset Manager Automated Process Manager

Environment	Windows Server 2008 R2 and Windows Server 2012
CPU	Intel Xeon quad-core or equivalent

Environment	Windows Server 2008 R2 and Windows Server 2012
RAM	2 GB reserved for Asset Manager Automated Process Manager
Disk space	4 GB
Network	High speed link with DBMS server. (For example: Ethernet 100 Mbps or Gigabit) and low latency (<5 ms).

Asset Manager Web
For details of the configuration needed to support Asset Manager Web, see the **AM Sizing Guide Using Oracle DB2 or MSSQL**. This White Paper is delivered in the locations indicated in the **Release Notes**, **Related documentation** chapter, **Asset Manager reference documents/ White papers** section.

Supported DBMSs

The following DBMSs are supported for the Asset Manager database:

- Microsoft SQL Server
- Oracle Database Server
- IBM DB2 UDB

To find out what DBMS versions are supported (servers, clients, network protocols, drivers, and so on) consult the Support Matrix at: https://softwaresupport.hpe.com/group/softwaresupport/support-matrices.

> **Caution:** We do not guarantee the proper functioning of Asset Manager with versions (even later versions) or Service Packs different from those described in the Support Matrix.

> **Caution:** We do not guarantee the proper functioning of Asset Manager with versions or Service Packs that are no longer supported by their respective vendors.

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The upgrade type depends on the previous installed version:

Upgrade type according to the Asset Manager version number

Number of the version to upgrade	Operations to perform	Documentation to consult
Version 4.2.x, 4.3.x, 4.4.x, 5.0x or 5.1x	1. Upgrade the Asset Manager programs (binary and configuration files) to a version between 5.20 and 9.31. 2. Migrate the database to the corresponding format. For example, if you have upgraded the Asset Manager programs from version *4.2.0* to version *5.20* in step 1, you need to migrate the *4.2.0*-format database to a *5.20*-format database. 3. Upgrade the Asset Manager programs from version 5.20~9.31 to version 9.60. In the previous example, upgrade the Asset Manager programs from version *5.20* to	For more information about how to upgrade Asset Manage programs, see this chapter, section "Upgrading Asset Manager Programs" on page 18 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. For more information about how to migrate a database from 5.20~9.31 to 9.60, see the Migration Guide

Upgrade type according to the Asset Manager version number, continued

Number of the version to upgrade	Operations to perform	Documentation to consult
	version *9.60*. 4. Migrate the database to the 9.60 format. In the previous example, migrate the database format from version *5.20* to version *9.60*.	shipped with this version of Asset Manager (9.60).
Versions 5.2.x and later versions	1. Upgrade the Asset Manager programs (binary and configuration files) to version 9.60. 2. Migrate the database to the 9.60 format.	For more information about how to upgrade Asset Manage programs, see this chapter, section "Upgrading Asset Manager Programs" on the next page. For more information about how to migrate a database from 5.20 and later versions to 9.60, see the Migration Guide shipped with this version of Asset Manager (9.60).

Upgrading Asset Manager - Overview

What Does the Upgrade Process Consist Of?

You need to upgrade:

- The Asset Manager programs to version 9.60.
- The **old-format production database** to the 9.60-format (structure and contents). For more information about how to migrate the database to version 9.60, see the Migration Guide shipped with Asset Manager (9.60).

> **Note:** If the version increment of the upgrade is on the minor.minor level, such as 9.60 to 9.60 Patch 1, there are no database structure changes and you do not need to migrate the Asset Manager database.

Required Competencies

The upgrade process is relatively simple and requires:

- An understanding of Asset Manager (installation, administration).
- Preparation
- Technical competency: database administration.
- Methodology

Back up configuration files

Before you upgrade Asset Manager programs, we recommend that you back up the following configuration files as necessary.

- `<AM installation directory>\amsrv\bin\amsrvcf.ini`
- `<AM installation directory>\websvc\package.properties`
- `<AM installation directory>\websvc\quicksearch.properties`
- `<AM installation directory>\webtier\package.properties`

After you upgrade the Asset Manager programs, the customizations in these configuration files are overwritten by standard properties. Therefore, you need to manually apply the changes again after the upgrade.

Upgrading Asset Manager Programs

You must upgrade all the Asset Manager programs on all administration and user machines.

You must also make sure that the versions of any programs that interact with Asset Manager are still compatible with Asset Manager 9.60. If necessary, upgrade these programs as well.

For the list of Asset Manager programs and programs that interface with Asset Manager: Components of Asset Manager.

To learn which program versions are compatible with Asset Manager 9.60, consult the HPE customer support site.

> **Tip:** For further information on compatibility, refer to chapter Configuring in Windows (except Asset Manager Web).

This section does not describe how to migrate an Asset Manager database. For more information about migrating the database to version 9.60, see the Migration Guide shipped with Asset Manager (9.60).

> **Note:** If the version increment of the upgrade is on the minor.minor level, such as 9.60 to 9.60 Patch 1, there are no database structure changes and you do not need to migrate the Asset Manager database.

Upgrade procedure

To upgrade the programs:

1. Install Asset Manager 9.60.

   For more information about the installation procedure (precautions, methodology and different ways to install Asset Manager), refer to the other chapters of this guide.

   > **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`.

2. Uninstall the earlier version of Asset Manager.

   > **Tip:** If you are installing Asset Manager 9.60 on a conversion machine, be sure to conserve your previous version of Asset Manager for the time being.

   For more information about the uninstallation procedure (safeguards, steps to follow, and ways to remove Asset Manager), refer to the **Installation and upgrade** guide corresponding to the version of Asset Manager to be removed.

Verify that Asset Manager can be launched without problems

If you are having problems launching Asset Manager 9.60, contact user support.

Upgrading Asset Manager Web

The Asset Manager Web archive files (.war files) are also upgraded when you upgrade the Asset Manager programs. Then, you must re-deploy the Asset Manager Web service and Web tier. To do this, follow these steps:

1. After you upgrade the Asset Manager programs, the customizations in the following configuration files are overwritten by standard properties. Therefore, you need to manually apply the changes again after the upgrade.
   - `<AM installation directory>\websvc\package.properties`
   - `<AM installation directory>\websvc\quicksearch.properties`
   - `<AM installation directory>\webtier\package.properties`
2. Uninstall Asset Manager Web. For more information, see "Uninstalling Asset Manager Web" on page 110.
3. Install Asset Manager Web. For more information, see "Installing Asset Manager Web" on page 55.

Upgrading the external programs that access the Asset Manager database

HPE Connect-It scenarios

To access the **copy of the 9.60-format production database** using HPE Connect-It you must use the version of HPE Connect-It provided with Asset Manager 9.60.

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.

Other external programs

To upgrade other external programs, refer to the documentations of these programs.

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This chapter explains how to install Asset Manager for the first time.

Before Installing Asset Manager

Installing Oracle Client Layers

Incorrectly installed or configured Oracle client layers (SQL*Net) can affect the way Asset Manager handles accented characters. This problem appears, for example, when a record containing accented

characters is inserted: When you reselect it, the text is not displayed correctly. To solve this problem, verify the configuration of SQL*Net.

Installing (or not) SAP Crystal Reports

Before installing Asset Manager, determine whether you should install the runtime of SAP Crystal Reports.

If you already have Crystal Reports Server installed and the runtime version is 12, you do not have to install the SAP Crystal Reports runtime again.

> **Note:** You can install SAP Crystal Reports Runtime by using the Asset Manager installation program.

Installing in Windows

You need to have Windows administrative rights on the machine to install the software. Without these rights, the installation program will not be able to modify the Registry. It is highly recommended that you use the following method to run .exe files during the installation:

1. Locate the .exe file.
2. Right click the .exe file, and then select **Run as administrator**.

Installing in Client-Server

1. Install the DBMS on the server and the client workstations.
2. Test communications between client and server.
3. Install Asset Manager on each client computer.

Saving Time When Installing Client Machines

The **amdb.ini** file contains the list of connections declared at the level of the **File/ Manage connections** screen.

Location of this file: .ini and .cfg files.

Rather than defining these options via the user interface on each client machine, you can define them on one machine and copy the **amdb.ini** file to each client machine.

> **Tip:** Performing a full installation of Asset Manager (named **Typical** by the setup program) may take a significant amount of time; this is true for installation as well as subsequent uninstallation and update.
>
> Often, you will not need all program features to be installed; this is particularly true when you install a regular Asset Manager client.
>
> If that is the case, on the first page of the setup screen, select **Custom** and click **Next**.
>
> On the following screen, features that can typically be omitted are:
>
> - Asset Manager Automated Process Manager
> - Database administration (includes Asset Manager Application Designer and database migration)
> - Demonstration database
> - Bar-code reader
> - Web Services and Web Client

Installing Asset Manager in several languages

You can install the Asset Manager Windows client in several languages on the same computer. If you do this, make sure that you install each language version in a separate folder.

By default, the installation program uses the same installation folder regardless of the language version.

Installing Asset Manager on 64-bit Windows systems

When installing Asset Manager Windows client in 64-bit of Windows systems:

- Do not create an ODBC datasource through **Control Panel/ System and Security/**

Administrative Tools/ Data Sources (ODBC). This instance of ODBC is 64-bit and does not work with Asset Manager.
Use Asset Manager to create the ODBC datasource. To do this, use the button next to the **Data source** field on the **Manage connections** window (**File/ Manage connections**).

- When creating a connection to a Microsoft SQL database on the Asset Manager Windows client, make sure that the **System connection** box in the **Manage connections** window is not selected.

Manual Installation (graphical)

1. Open the installation media.
2. If the graphical installation program window does not automatically appear when you open the installation media:
   a. Open the Windows Explorer.
   b. Go to the root directory of the installation media.
   c. Right-click the `Setup.exe` file in the `ac` folder, and then click **Run as Administrator**..
3. Follow the instructions given by the installation program

   Tip: Performing a full installation of Asset Manager (called **Complete** by the setup program) may take a significant amount of time; this is true for installation as well as subsequent uninstallation and update.

   In many cases, you will not need all program features to be installed; this is particularly true when you install a regular Asset Manager client.

   If that is the case, on the first page of the setup screen, select **Custom** and click **Next**.

   On the following screen, features that can typically be omitted are:

   - Asset Manager Automated Process Manager
   - Database administration (includes Asset Manager Application Designer and database migration)
   - Demonstration database
   - Bar-code reader
   - Web Services and Web Client
   - UsageHub

After you finish installing Asset Manager for the first time, you can run the installer again to install these feature to your Asset Manager instance. However, as an exception, if you did not select to install **UsageHub** for the first time you install Asset Manager and try to rerun the installer to enable **UsageHub**, it will not be installed.

Notice that by default, the **UsageHub** feature will not be installed. Therefore, if you want to install **UsageHub**, you must select the **Custom** installation mode and make sure **UsageHub** is selected.

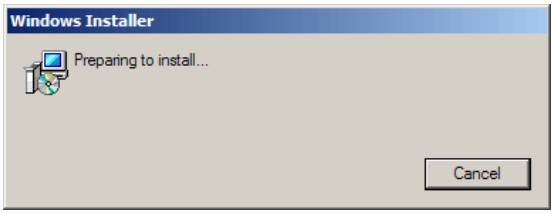
If you choose the **FullDemo** option when installing Asset Manager, all Asset Manager components including the Web tier will be installed and deployed. In addition, to streamline the deployment work of a runnable demonstration environment, an embedded MSSQL LocalDB, Tomcat, and Windows Services will also be installed and created. If you choose the **FullDemo** option, you must make sure that the 32-bit JRE is installed in the `Program Files (x86)` folder.

> **Note:** All these third-party software are freeware, but we do not recommend that you use these directly in the production environment.

If you install Asset Manager on Windows 8 or Windows Server 2012, you must remove the following file manually:

```
C:\Users\<login user>\AppData\Local\VirtualStore\ProgramData\HPE\AssetManager\conf\amdb.ini
```

Caution: During the installation, a popup window of the following type is repeatedly displayed:



This is normal.

You must not click **Cancel**.

Since simply pressing **Enter** on the keyboard selects the **Cancel** button, we recommend not working with other applications while performing the installation. You might press **Enter** without realizing that the popup window has just been displayed.

> **Note:** If the previous installation failed, we recommend that you delete the AM installation folder and restart the computer before you re-install Asset Manager.

Manual Uninstallation (graphical)

Before Uninstalling Asset Manager

If You Installed the Demonstration Database

The demonstration database is deleted during uninstallation.

You will need to make a copy of the demonstration database if you want to keep it.

To learn how to make a copy of your demonstration database, consult the documentation provided with the DBMS used for the demonstration database.

> **Note:** You may need to temporarily stop any services such as SQL Server which access the database and thus might lock the file and prevent it being deleted.

If You Installed the Web client

Before uninstalling Asset Manager, you must stop the application servers being used by Asset Manager Web Tier and Asset Manager Web Service in order to unlock the files that will be uninstalled.

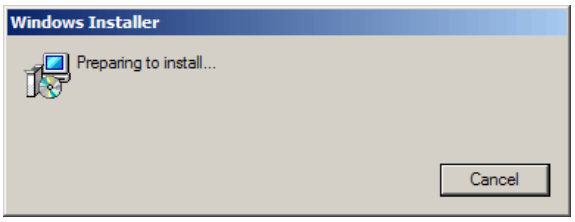
You should also manually delete any Asset Manager files that you manually copied as part of the Asset Manager Web deployment, for instance to Tomcat subdirectories. This will allow avoid file incompatibilities if you later reinstall or upgrade Asset Manager. See Uninstalling Asset Manager Web

Uninstalling Asset Manager

To remove Asset Manager fully from a machine, use the `Add/ Remove programs` icon in the Windows Control Panel.

> **Caution:** During the uninstallation, a popup window similar to the following will be repeatedly

displayed:



This is normal.

You must not click **Cancel**.

Since pressing **Enter** on the keyboard selects the **Cancel** button, we recommend not working with other applications while performing the uninstallation. You might press **Enter** without realizing that the popup window has just been displayed.

The uninstallation program normally:

- Removes all the files and program groups that have been installed.
- Modifies the configuration files to remove some of the modifications made by Asset Manager's installation program.
- Updates the Registry.

Note: In some cases due to file-locking and so on the automatic uninstaller may fail to delete certain files or folders. After uninstalling, check for the existence of the following folders, and if necessary manually delete them:

- Instances of Asset Manager located for instance in **C:\Program Files\HPE**
- Asset Manager program groups and shortcuts in your Start Menu, for instance **C:\Documents and Settings\All Users\Start Menu\Programs\HPE**

Automatic installation and uninstallation from the command line

This section provides information on the following points:

- Overview
- Preparation
- Execution

Overview

A command-line installation enables you to standardize and automate the installation of Asset Manager for multiple computers.

Before executing the command-line installation, you must define certain parameters.

The Asset Manager installation parameters are defined in an **.msi** file.

The file provided by default on the Asset Manager installation media is named **AssetManager.msi**.

Modifying an **.msi** file is performed using a program from Microsoft named **Orca**.

You must install Orca on the computer that will be used to perform the configuration.

Preparation

Installing Orca

To install Orca:

1. Start a web browser.
2. Go to the following URL:
   http://msdn.microsoft.com/en-us/library/windows/desktop/aa370557(v=vs.85).aspx
3. Follow the instructions.

Obtaining Help on Using Orca

To display the Orca documentation:

1. Start a web browser.
2. Go to the following URL:

   ```
   http://support.microsoft.com/kb/255905/
   ```

Obtaining Help on the .msi Files and the setup.exe and msiexec.exe Parameters

To display the documentation on these files and executables, consult the Microsoft Platform SDK on-line Help.

This on-line Help can be displayed using the **Start/ Programs/ Microsoft Platform SDK XXX/ Platform SDK Documentation** menu in Windows.

Configuring the Asset Manager Installation

Configuring the Asset Manager installation consists of modifying the **AssetManager.msi** file with Orca.

> **Caution:** The **AssetManager.msi** file can be modified but not renamed.

This section only describes certain parameters of the **.msi** files.

For all other parameters, consult the help on the **.msi** files.

1. Start a Windows Explorer.
2. Copy the contents of the Asset Manager installation folder (installation media, **am** folder) to your hard drive (example **C:\Temp\am**).
3. Start Orca.
4. Open the **AssetManager.msi** file (**File/ Open** menu). It is located in the folder where you copied the contents of the installation media.
5. Configure the components to install:
   a. Select **Feature** in the **Tables** column.
      Orca displays the list of components likely to be installed.
      The **Title** column enables you to identify a component.
      The **Level** column enables you to control the way a component is installed.
   b. For each component, populate the **Level** column as follows:

Value of the Level column	Installation behavior from the command line	Behavior of Typical graphical installation	Behavior of Custom graphical installation
0	Not installed	Not installed	Not available
1	Installed	Installed	Available and selected by default
200	Not installed	Not installed	Available and not selected by default

6. Configure the program groups for the Windows **Start** menu to be created.
   For example, by default, Asset Manager is installed in the following group: **Start/ Programs/ HPE/ Asset Manager 9.60 <language>/ Client**.
   To modify the paths:
   a. Select **Shortcut** in the **Tables** column.
      Orca displays a line by program-group entry.
      The **Name** column enables you to identify the entry.
      The **Directory** columns indicates the program group in which the entry is created.
      It is the identifier of a record in the **Directory** table that stores the path of the program group.
   b. Note the identifiers of the program groups to modify.
      For example: The Asset Manager client is identified by the value **HPE|HPE Software Asset Manager** in the **Name** column. The value of the **Directory** column is **newfolder2**. Note this value.
   c. Search each one of these identifiers in the **Directory** table:
   d. Select **Directory** in the **Tables** column.
   e. Click the header of the **Directory** column to sort it.
   f. For each program group to modify, select its identifier in the **Directory** column and modify the value of the **DefaultDir** column.
      In our example, search **newfolder2**.

      > **Caution:** The sort is case sensitive. **newfolder2** is therefore at the end of the list.

7. Save your settings (**File/ Save** menu).
8. Exit (**File/ Close** menu).

Execution

Overview

To launch the installation, open a command-line window and execute **setup.exe**. It is highly recommended that you open the command-line window with administrative permission:

1. Right click **cmd.exe**
2. Select **Run as administrator**.

The parameters available for **setup.exe** can be displayed using the following command:

```
setup.exe /?
```

Example of executing using the parameter to hide the initialization dialog box:

```
setup.exe /S
```

1. **setup.exe** installs or updates the **MsiExec.exe** program installed by default by Windows.
2. **setup.exe** triggers the **MsiExec.exe** program which performs the installation using the settings in the **AssetManager.msi** file that you have customized using Orca.

The parameters available for **MsiExec.exe** can be displayed using the following command:

```
MsiExec.exe /?
```

> **Caution:** This option only available for **MsiExec** version 3 or later.
>
> For earlier versions, consult the documentation corresponding to your versions of **MsiExec.exe**.

Example of execution with the parameter that enables unattended installation without the graphical interface:

```
MsiExec.exe /qn
```

In order for a parameter to be sent by **setup.exe** to **MsiExec.exe**, the parameter must be prefixed by:

```
/V
```

Example of execution with the parameter that enables unattended installation:

```
setup.exe /V/qn
```

> **Caution:** Whatever follows **/V** must follow **/V** without a space.

Executing an Installation from the Command Line

There are several ways of installing Asset Manager from the command line.

This section provides an installation example with the following characteristics:

- **setup.exe** is executed without a dialog box.
- **msiexec.exe** executes without user input or GUI.
- Messages from the installation program are saved to the **C:\Temp\log.txt** file.
- Asset Manager is installed in the folder **C:\Program Files\HPE\Asset Manager 9.60 xx**

1. Open a DOS command prompt.

   > **Note:** It is highly recommended that you open the command prompt by using the following method:
   >
   > a. Locate the **cmd.exe** file.
   >
   > b. Right click the **cmd.exe** file, and then select **Run as administrator**.

2. Go to the Asset Manager installation folder where the **setup.exe** program file and the **AssetManager.msi** file, which may or may not be customized, are located.
3. Execute the following command:

   ```
   setup.exe /S /V"/qn /l* C:\Temp\log.txt INSTALLDIR=\"C:\Program Files\HPE\Asset Manager 9.60 xx\""
   ```

   Comments:

   - **setup.exe**: The installation is triggered by **setup.exe** in order to test the local version of **msiexec.exe** and to update it if required.

     > **Note:** The installation of Asset Manager requires version 2 or higher.

   - **/S**: **setup.exe** is executed without an initialization dialog box.
   - **/V**: The following parameters are sent to **msiexec.exe**.
     Note the double quotation marks which surround everything after **/V**.
   - **/qn**: **msiexec.exe** executes without user input or GUI.

- **/l* C:\Temp\log.txt**: Saves most messages from the installation program to the **C:\Temp\log.txt** file.
- **INSTALLDIR=\"C:\Program Files\HPE\Asset Manager 9.60 xx\"**: installs Asset Manager in the **C:\Program Files\HPE\Asset Manager 9.60 xx** folder.
  Note the use of **\"** to includes spaces in the path between **Program** and **Files**.

4. **Note:** After you execute the command line above, the command prompt will be immediately displayed. You will not be notified that the installation has ended.

   To find out if the installation has ended, look for the text **Installation complete** on the last line of the log file (**C:\Temp\log.txt** in our example).

Executing an Uninstallation from the Command Line

There are several ways of uninstalling Asset Manager from the command line.

We recommend the following example:

1. Identify the Registry key number corresponding to the Asset Manager uninstallation:
   a. Start the Registry editor **regedit.exe** (**Start/ Run** menu in Windows).
   b. Expand the branch **HKEY_LOCAL_ MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall**
   c. Search for the key corresponding to Asset Manager: Display the details of the keys surrounded by curly brackets (left pane), and examine the value of the **DisplayName** field (right pane); This field should contain the name Asset Manager and its version.
   d. Select this key.
   e. Copy the name of the key (**Copy Key Name** shortcut menu).
   The part that interests us is between curly brackets. Example:

   ```
   {A79E51C8-4E8E-40CE-A56E-143395D011C1}
   ```

   f. Exit the Registry editor.
2. Open a DOS command prompt.
3. Execute a command with the following form:

   ```
   msiexec.exe /x <Registry key> /qn /l* <Full path of the log file>
   ```

   Example:

   ```
   msiexec.exe /x {A79E51C8-4E8E-40CE-A56E-143395D011C1} /qn /l* C:\Temp\log.txt
   ```

Comments:

- Executing an installation from the command line
- **/x**: **msiexec.exe** Executes an uninstallation.

> **Note:** It is not possible to perform a partial removal from the command line.

4. > **Note:** After you execute the command line above, the command prompt will be immediately displayed. You will not be notified that the uninstallation has ended.
   >
   > To find out if the uninstallation has ended, look for the text **Uninstallation completed successfully** on the last line of the log file (**C:\Temp\log.txt** in our example).

Chapter 6: Configuring in Windows (except Asset Manager Web)

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Once the Asset Manager programs are installed, some further steps are required to complete your installation. These depend on the components and applications that you want to use or integrate with Asset Manager.

This chapter explains these additional operations.

Oracle DLL

There are several DLL versions that can be used to access Oracle. Asset Manager tries to load the supported versions dynamically, starting with the most recent version and working toward the oldest version supported, that is:

1. **oraclient12.dll**
2. **oraclient11.dll**

However, you can override this order to load a particular DLL by adding the following entry in **am.ini**:

```
[DLL]
orcl = <xxx>.dll
```

Location of this file: .ini and .cfg files.

Messaging system

Messaging standards supported in Windows

- VIM
- Extended MAPI
- SMTP

> **Note:** Simple MAPI is not supported.

Installation of the external messaging system

For the external messaging system to function correctly with Asset Manager, the following conditions must be met:

Messaging system standard	Required conditions
VIM	The **PATH** environment variable of your system must point to the folder containing the **vim32.dll** file. Example: In general, the Lotus Notes DLLs are installed by Notes, in the same folder as Notes, and are not included in the PATH.
SMTP	The TCP/IP layers must be installed. This is the case when an SMTP messaging system has been installed correctly.

Configuring Asset Manager to send messages to the external messaging system

To take advantage of all your messaging system's functions, you need to perform the following tasks:

Task to perform	Documentation to consult
Populate the messaging addresses of administrators and other users.	See **Administration** guide, chapter **Messaging**, section **Configuring Asset Manager to use messaging systems**.
Create **Messaging** type actions to be used by procurement, technical support, alarms, and so on.	See **Advanced use** guide, chapter **Actions**, section **Creating an action**, sub-section **Populating the Messaging tab**.
Configure Asset Manager Automated Process Manager to send messages linked to procurement, technical support, alarms, and so on.	See **Administration** guide, chapter **Asset Manager Automated Process Manager**.

Task to perform	Documentation to consult
Execute Asset Manager Automated Process Manager.	See **Administration** guide, chapter **Asset Manager Automated Process Manager**.
Troubleshooting	See **Administration** guide, chapter **Messaging**, section **Common connection problems**.

The use of messaging systems is dealt with in more detail in the **Administration** guide, chapter **Messaging**.

Asset Manager Automated Process Manager

Asset Manager Automated Process Manager is a program independent of the Asset Manager client. The program monitors alarms, messages and actions to be triggered within the domains of procurement, stocks, history, leasing; calculates the values of certain fields, and so on.

In order for these functions to work properly, you must execute Asset Manager Automated Process Manager on at least one machine permanently and connect it to your production database.

The following actions are required before a Windows or Web client can access the database:

- Asset Manager Automated Process Manager must be running and connected to the database
- The Asset Manager Automated Process Manager **Signal presence of database server** (UpdateToken) module must be activated and scheduled to execute at least once per week.

For further information on Asset Manager Automated Process Manager, refer to the Asset Manager **Administration** guide, chapter **Asset Manager Automated Process Manager**.

The Asset Manager Automated Process Manager modules use HPE Connect-It and its connectors for all automatic data imports, like in the following examples:

- Inventories carried out by the HPE Discovery and Dependency Mapping Inventory inventory application.
- Data imports from external applications.

If you use such modules, you will need to install HPE Connect-It.

To find out which environments are supported by HPE Connect-It, and to learn how to install HPE Connect-It, refer to its documentation.

To learn how to integrate HPE Connect-It with Asset Manager Automated Process Manager, refer to the Asset Manager **Administration** guide, chapter **Asset Manager Automated Process Manager**, section **Configuring the modules monitored by Asset Manager Automated Process Manager**.

Implementing Asset Manager Automated Process Manager in Windows

To be able to use this program, you must install at least one computer with a supported version of Windows.

Asset Manager Automated Process Manager is installed to be executed in one of the following modes:

- Manually, by executing the shortcut from the Windows **Start** menu.
- Automatically, as a service.

> **Tip:** We recommend that you launch Asset Manager Automated Process Manager as a service.

> **Note:** To install the Asset Manager Automated Process Manager service correctly, we recommend that you do so as follows:
>
> 1. Create a user account in Windows (on the computer where this service will be installed).
>   This account must have the rights necessary to start the Asset Manager Automated Process Manager service.
>   The environment linked to this account must allow you to use the client layers of the DBMS installed on the computer where the Asset Manager Automated Process Manager service is installed.
>   By default, the local system account only accesses the system environment variables.
> 2. Install the Asset Manager Automated Process Manager service in this account.

By default, the service is configured to be launched automatically. You can modify this.

The **Services** applet in the Control Panel allows you to start, stop, and configure services available on the machine:

- Depending on your version of Windows, this might work like this:
  - : starts a stopped service.
  - : stops the service.
  - : reboots the service.
  - : interrupts the service.

To start the Asset Manager Automated Process Manager service in automatic mode in Windows:

1. Select the Asset Manager Automated Process Manager service in the services window.

2. Right-click and select **Properties** in the shortcut menu.
3. In the **Startup type** column, select **Automatic**.

> **Note:**
>
> - In practice, once Asset Manager Automated Process Manager is operational, we recommend setting the startup mode to **Automatic** so that it is launched whenever Windows is started.
> - By default, the services use the system account. If Asset Manager Automated Process Manager cannot connect to a database, click **Startup** to configure the service so that it uses an account that can access the database.

SAP Crystal Reports

To install, configure and use SAP Crystal Reports, refer to the **Advanced use** guide, chapter **SAP Crystal Reports**.

Distributing Software on Sets of Computers

To learn how to distribute software on sets of computers, refer to the Asset Manager **Software Distribution** guide.

Integrating with HPE Connect-It

Asset Manager is provided with the complete HPE Connect-It software application and its corresponding documentation.

Required version of HPE Connect-It

Integrating HPE Connect-It with Asset Manager requires that you use the version of HPE Connect-It provided on the Asset Manager installation media (or a later version).

Utility of HPE Connect-It

You will need to use HPE Connect-It to perform certain automatic actions, which are triggered by Asset Manager Automated Process Manager, such as:

- Adding NT users to the database in order to use NT security during an Asset Manager database

connection.

> **Caution:** The **Windows** version of Asset Manager Automated Process Manager is required.

- Recovering the computers declared in an NT domain in the database.

  > **Caution:** The **Windows** version of Asset Manager Automated Process Manager is required.

- To import inventory data from HPE Discovery and Dependency Mapping Inventory, for example.

To find out which environments are supported by HPE Connect-It, and to learn how to install HPE Connect-It, refer to its documentation.

To learn how to integrate HPE Connect-It with Asset Manager Automated Process Manager, refer to the Asset Manager **Administration** guide, chapter **Asset Manager Automated Process Manager**, section **Configuring the modules monitored by Asset Manager Automated Process Manager**.

Demonstration Databases

Asset Manager is installed with a demonstration database.

This database:

- Can be activated by Instant license, which allows user to use for 60 days.
  See the **Administration** guide, **Installing License Keys** chapter.
- Can also be accessed by Asset Manager Automated Process Manager and Asset Manager Application Designer.

The demonstration database has been copied to the **demo** sub-folder of the Asset Manager installation folder.

The corresponding file is named **AMDemo96.mdf**.

> **Note:** During the installation, the demonstration database is declared to Microsoft SQL Server using an instance for which the user is **itam** and the password is **password**.

Connect to the Database

1. Make sure that a SQL Server instance has been installed and that the corresponding Windows service is started.

2. Start Asset Manager.
3. Asset Manager displays the **Connect to database** window.

   Populate this window as follows:

Field	Value
Connection	AMDemo96en
Login	Admin
Password	Empty

> **Note:** Other logins may also be used.

Chapter 7: Installing and Configuring in Linux (except Asset Manager Web)

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Note: The Linux programs do not have a native graphical interface. However, Asset Manager Automated Process Manager can be partially configured in Linux using a Web interface. When installing in Linux, certain files must be prepared and then copied from a Windows computer. You must install and configure at least one Windows computer with the following:

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

You can thus configure Asset Manager Application Designer and Asset Manager Automated Process Manager graphically, even if you will run them from the command line on a Linux server.

Installing Asset Manager

To install Asset Manager in Linux:

1. Create the Asset Manager database in Windows as described in the **Administration** guide, chapter **Creating, modifying and deleting an Asset Manager database**.

2. Create a Linux user that will be used to install and configure Asset Manager.

   Caution: If you have already installed HPE Connect-It on the same computer, use the same account to install Asset Manager.

3. Locate the **.tgz** file on the Asset Manager installation CD-ROM.
4. Uncompress the **.tgz** file by using GNU tar and launching the following command line:

   ```
   tar xzvf <Name of the tgz>
   ```

   Note: This operation must be performed from a specific installation folder, for example **/usr/local**.

   Tip: To check whether the tar you are using is GNU tar, you may launch the following command line:

   ```
   tar --version
   ```

   This should return something like:

   ```
   tar (GNU tar) 1.19
   ```

   If you do not get this confirmation, it means that you are using a non-GNU version of tar, or that the GNU version of tar is in another location.

   If the GNU version of tar is not used, some files name may be truncated without notice by the standard tar.

5. The path of the **libaamapi96.so** dynamic library (**/usr/local/Asset Manager/bin** folder) must be included in the system-library search path:

   - Linux: environment variable `LD_LIBRARY_PATH`.
   - Linux: Configuration file of **ld.so**, also.

   Caution: You must leave the **libaamapi96.so** file in the **bin** sub-folder of the Asset Manager installation folder.

   Example, for compatible **SH** (Shell) command interpreters: Execute or place the following lines in a script that you will execute before launching Asset Manager:

   ```
   LD_LIBRARY_PATH=/usr/local/Asset Manager/bin:$LD_LIBRARY_PATH
   export LD_LIBRARY_PATH
   ```

   The **ld.so** configuration file is usually **/etc/ld.so.conf**. In the **ld.so.conf** configuration file, add, for example, the following line:

   ```
   /usr/local/Asset Manager/bin
   ```

Then relaunch the `ldconfig --verbose` command so that the new parameters are taken into account.

6. Asset Manager can use both 32-bit and 64-bit DBMS clients. You need to make sure that the environment variable **LD_LIBRARY_PATH** points to the corresponding directory of libraries.

   For 32-bit Oracle clients, make sure that the environment variable **LD_LIBRARY_PATH** points to the **$ORACLE_HOME/lib32** directory (32-bit libraries).

   For 64-bit Oracle clients, make sure that the environment variable **LD_LIBRARY_PATH** points to the **$ORACLE_HOME/lib** directory (64-bit libraries).

   For a client with 32-bit Oracle layers and 32-bit DB2 layers, the environment variables resemble the following:

   ```
   ORACLE_HOME=/space/home/oracle/OraHome1
   LD_LIBRARY_
   PATH=/space/home/oracle/OraHome1/lib32:/home/db2inst1/sqllib/lib:$LD_LIBRARY_
   PATH

   PATH=/space/home/oracle/OraHome1/bin:/home/db2inst1/sqllib/bin:/home/db2inst1/s
   qllib/adm:/home/db2inst1/sqllib/misc:$PATH
   ```

   For a client with 64-bit Oracle layers and 64-bit DB2 layers, the environment variables resemble the following:

   ```
   ORACLE_HOME=/space/home/oracle/OraHome1
   LD_LIBRARY_PATH=/space/home/oracle/OraHome1/lib:/home/db2inst1/sqllib/lib:$LD_
   LIBRARY_PATH

   PATH=/space/home/oracle/OraHome1/bin:/home/db2inst1/sqllib/bin:/home/db2inst1/s
   qllib/adm:/home/db2inst1/sqllib/misc:$PATH
   ```

7. Configure the DBMS client so that it has access to the DBMS and the Asset Manager database.

   > **Caution:** Use the same database and server names that you used when creating the database in Windows. For example, if your Oracle server is named **AssetManagerServer** in **tnsnames.ora**, use this name again in the **tnsnames.ora** file on the client computer.

8. Use an SQL query tool to make sure you can connect to the DBMS and the Asset Manager database.

   Example for Oracle: **sqlplus**.

   Example for DB2: **db2**.

   > **Tip:** If you encounter a problem, contact the technical support hotline of your DBMS vendor.

> Your client is probably misconfigured.

9. Create an **amdb.ini** file on the computer.

   This file stores the declaration for the database connections.

   To make these connections accessible to computers:

   a. Launch Asset Manager in graphical mode on a Windows computer.

   b. Select **File/ Manage connections**.

   c. Create the connections.

   d. Close the window (click **Close**).

   e. Edit the **amdb.ini** file so that the **AmApiDll** entry points to the **libaamapi96.so** file (**/usr/local/Asset Manager/bin** directory).

   f. Copy **amdb.ini** and paste it in the folder containing **amdb.ini** on the computers where Asset Manager will be launched. Location of these files: .ini and .cfg files.

      The following components, among others, are installed:

      - **amdbal**, **amimpl**, **amexpl**, **libaamapi96.so** (in **/usr/local/Asset Manager/bin**).
        These components are used in the same way as they are in Windows.
        To learn more, consult the relevant documentation.
      - **amsrvl** (in **/usr/local/Asset Manager/amsrv/bin**):
        This component is used in a specific way for Linux.
        Implementing Asset Manager Automated Process Manager

      > **Tip:** By executing the above components with the `-h` option, you will obtain the list of available options.
      >
      > Example: `amimpl -h`

Implementing Asset Manager Automated Process Manager

The Asset Manager Automated Process Manager connection to a database is triggered by a Linux command line such as:

```
amsrvl -svc
-webadmin
-cnx:<name of the Asset Manager connection>
```

```
-login:<login to connect to the database>
-password:<password associated to login>
-log:<full path of the activity log file>
&
```

With:

- `-svc`: executes the process in the same way as an NT service.
- `-webadmin`: starts the Asset Manager Automated Process Manager Web server.
  For more information about this option: Configuring Asset Manager Automated Process Manager using the Web interface.
- `-cnx`, `-login`, `-password`: Do not use these options if you follow the indications in Enabling Asset Manager Automated Process Manager to be configured using the Web interface.
  If you populate the `-login` option, the login specified must have administration rights for the Asset Manager database.
- `&`: executes the process as a background task.

Configuring Asset Manager Automated Process Manager for the First Time Using the Windows Interface

Certain configurations in Asset Manager Automated Process Manager cannot be made directly in Linux, even using the Web interface. For this reason, you must start by configuring Asset Manager Automated Process Manager in Windows, then copy the **amsrvcf.ini** and **amsrv.cfg** files from the Windows computers to the Linux computer (location of these files: .ini and .cfg files)

1. Launch Asset Manager Automated Process Manager in graphical mode on a Windows computer.
2. Select the **File/ Connect to database** menu.
3. Specify the connection parameters by selecting the option **Use this connection in service mode**.
4. Click **Open**.
5. Select the **Tools/ Configure modules**.
6. Configure the modules to be used.

> **Caution:** The following modules do not function in Linux:
>
> - Add the computers listed in the NT domain to the database (AddCpu)
> - Add NT users to the database (AddUser)

> **Note:** The configuration of the modules is saved in the **amsrv.cfg** file.
>
> Location of this file: .ini and .cfg files.

7. Configure the password to connect to the Asset Manager database.

> **Note:** The password is stored in the **amsrvcf.ini** file.
>
> Location of this file: .ini and .cfg files.
>
> When you configure this file in Windows, the password saved in the **amsrvcf.ini** file remains masked, like the following:
>
> `Password=8D5D1F3C77FE9FC78DE77FA7676E73CB517186D0B71B124254200200`

8. Select **File/ Disconnect from database**.
9. Exit Asset Manager Automated Process Manager.
10. Edit the **amsrv.cfg** file and remove all references to the modules that do not function in Linux (**AddCpu**, **AddUser**).
    To do this, delete the whole of the sections corresponding to these modules.
    Example for the **AddUser** module:

```
{ Module AddUser
  Active=1
  UserData="\"$connectit_exedir$/conitsvc.exe\" -once -wpplog '$connectit_
exedir$/../scenario/ntsec/ntac$version$/adduser.scn' -
dc:AssetCenter.SERVER=$cnx$ -dc:AssetCenter.LOGIN=$login$ -
dc:AssetCenter.TEXTPASSWORD=$pwd$"
  { Plan
sunday = ENUM/01:00
  }
}
```

    Location of this file: .ini and .cfg files.
11. If you wish to use a module that calls HPE Connect-It, edit the **amsrvcf.ini** file:
    In the `[Option]` section (you will need to create this if it does not already exist), makes sure there is a line resembling the following:

```
/ExecEvent/ConnectItExeDir=/usr/local/ConnectIt/bin
```

12. Copy the following files from the Windows computer to the Linux computer hosting Asset Manager Automated Process Manager:
    - **amsrvcf.ini**
    - **amsrv.cfg**

      Location of the files: .ini and .cfg files.

Make Sure Asset Manager Automated Process Manager Connects Correctly to the Asset Manager Database

For this, execute the following command:

```
amsrvl -cnx:<name of the Asset Manager connection> -login:<login to connect to the
database> -password:<password associated with the login>
-log:<full path of the activity log>
```

Next, take a look at the activity log to make sure there are no connection errors.

If the connection fails, check all the points in the installation procedure, in particular make sure that:

- The execution rights are correct
- The libraries are correctly located and that read rights have been assigned to them (read-only is sufficient).
- The name of the DBMS server and the name of the Asset Manager database indicated in the **amdb.ini** file match the names declared when installing the client layers of the DBMS (a frequent error).
  Location of this file: .ini and .cfg files.
  Example for Oracle (taken from an **amdb.ini** file):

  ```
  [BaseAssetManagerOracle]
  Engine=Oracle
  Location=TITANIUM  // MAKE SURE THAT THIS NAME IS THE NAME DECLARED IN THE DBMS
  CLIENT LAYERS (TNSNAMES.ORA FOR ORACLE)
  Base=AM
  EngineLogin=AM
  ```

```
EnginePassword=37681ED114D187562F4561D6B901D7F686BEC410CB21C2855D22E3EA00A6A1F94
9C885124254200200
ReadOnly=0
CacheSize=5120000
AmApiDll=/usr/local/AssetManager/bin/libaamapi96.so // MAKE SURE THIS PATH HAS
BEEN MODIFIED
```

Example for DB2 (taken from an **amdb.ini** file):

```
[BaseAssetManagerDB2]
Engine=DB/2
Location=MARANELL  // MAKE SURE THAT THIS NAME IS THE NAME DECLARED IN THE DBMS
CLIENT LAYERS
Base=AMDB2
EngineLogin=db2admin
EnginePassword=CF188FEB2E1CBEBCE568414D4BB27232D1C43644B4E10CF9124254200200
AmApiDll=/usr/local/AssetManager/bin/libaamapi96.so // MAKE SURE THIS PATH HAS
BEEN MODIFIED
```

If it is possible to connect to the database but there are still persistent errors, they probably originate from the **amsrv.cfg** and **amsrvcf.ini** configuration files.

Location of these files: .ini and .cfg files.

If necessary, contact HPE technical support. You must provide a log file obtained when connecting to the database.

Enabling Asset Manager Automated Process Manager to be Configured Using the Web Interface

The administrator can access Asset Manager Automated Process Manager graphically using the Web interface.

To enable this possibility:

1. Open the **amsrvcf.ini** file.
   Location of this file: .ini and .cfg files.
2. Attribute the value **1** to the **WebAdmin** parameter.

3. Modify the value of the **WebPort** parameter to assign a valid port (in general, port **82**, which is the default port, is not authorized; Port 1024 or higher is generally required. Contact your system administrator to verify which port to use.

Configuring Asset Manager Automated Process Manager Using the Web Interface

To administer Asset Manager Automated Process Manager via the Web (once the initial configuration has been performed in Windows), execute the command that starts Asset Manager Automated Process Manager with the `-webadmin` option.

Thus, executing the command line:

1. Launches Asset Manager Automated Process Manager.
2. Connects Asset Manager Automated Process Manager to the database.
3. Activates the Web access to Asset Manager Automated Process Manager.

The administrator has graphical access to Asset Manager Automated Process Manager from any workstation with a Web browser (URL: `http://<server name of Asset Manager Automated Process Manager>:<port selected in amsrvcf.ini>`). Use the **webadmin** login (the default password is empty).

Accessing the Asset Manager Database Using the API

To access the Asset Manager database using the API (for example, using HPE Connect-It), first make sure that the Asset Manager API can be used on the computer.

Execute **genasset** without any parameters.

This program is located in the **bin** sub-folder of the Asset Manager installation folder.

This program tries to access the API. You may receive one of the following messages:

- ```
  Genasset.exe - Version 1.2
  All rights reserved.
  ```
  ```

```
Powered by AssetManager APIs Version XXX
Usage: genasset cnx [AdminPwd]
Wrong number of arguments
```

In this case, you have access to the API.

```
ld.so.1: genasset: fatal: libaamapi96.so: open failed: No such file or directory
```

- In this case, you have a problem with the configuration of your environment.

If you encounter a problem, check all the points in the installation procedure. In particular, make sure that:

- The execution rights are correct
- The libraries are correctly located and that read rights have been assigned to them.
- The name of the DBMS server and the name of the Asset Manager database indicated in the **amdb.ini** file match the names declared when installing the client layers of the DBMS (a frequent error).
  Location of this file: .ini and .cfg files.

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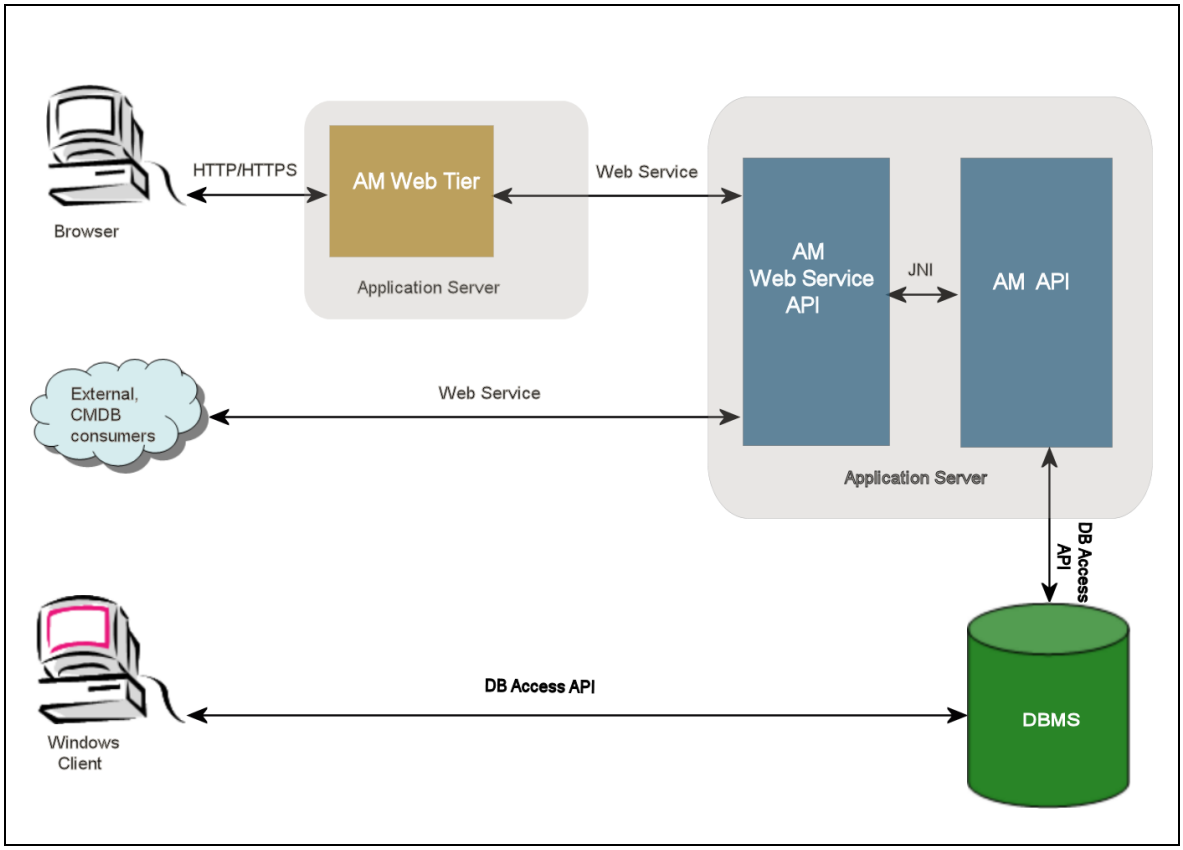
Asset Manager Web Architecture

Asset Manager Web Architecture



- Users access Asset Manager Web client via a browser.
- The browser and Asset Manager Web Tier communicate using the HTTP/HTTPS protocol.
- Asset Manager Web Tier receives requests from the browser and sends them to Asset Manager Web Service.
- Asset Manager Web Service consults or modifies the Asset Manager database using APIs.
- Asset Manager Web Service sends data from the database to Asset Manager Web Tier.
- Asset Manager Web Tier sends the pages to display to the browser.

> **Tip:** Deployment recommendations for optimized performance and scalability:
>
> - Asset Manager Web Tier and Asset Manager Web Service should be hosted on different

application servers.

- In order to improve system performance, the number of Asset Manager Web Tier and Asset Manager Web Service instances can be increased as the number of connections to Asset Manager Web Tier increases.

Installing Asset Manager Web

Note: It is recommended that Asset Manager Web is installed only by persons with the skills required to properly configure the Web and application servers that will be used to run Asset Manager Web.

This guide does not explain how to install and configure these application and Web servers. This is not the object of this guide.

Consult the guides applicable to the application and Web servers that you will be using for more information on how to use them.

Practical Case

Caution: This section provides an example of Asset Manager Web installed on a local test machine with the following configuration:

- Operating System: the x64 version of Windows Server 2008 R2
- Application server: Tomcat 7.0.59
- DBMS: SQL Server 2008 R2
- Database: demonstration database installed with Asset Manager

This practical case does not attempt to optimize the performance of Asset Manager Web.

Tomcat and J2SE JDK versions do not necessarily correspond to the software applications that are currently available, or that need to be used and supported in production mode.

Refer to the Support matrices at: https://softwaresupport.hpe.com/group/softwaresupport/support-matrices for more information about supported software.

For information about installing in a production environment: the remaining sections in this chapter.

1. Install J2SE JDK in the **C:\Program Files (x86)\Java\jdk1.7.0_75** folder from the Oracle website.
2. Add or modify the **JAVA_HOME** system variable to have it point to the J2SE JDK installation folder. To do this, open **Control Panel**, double-click the **System** tool and then click **Advanced system settings**. On the **Advanced** tab, click **Environment Variables** and then set the **JAVA_HOME** variable to the following value:

   ```
   C:\Program Files\Java\jdk1.7.0_75
   ```
3. Install Microsoft SQL Server 2008 R2.
4. Install Asset Manager in the **C:\Program Files (x86)\HPE\Asset Manager 9.60 xx** folder, where **xx** is replaced by the two letter language code of your Asset Manager installation.

   Select the **Custom installation** mode.

   Select the following components:

   - Asset Manager Automated Process Manager
   - Asset Manager Application Designer
   - Database administration
   - Asset Manager API
   - Demonstration database
   - Web Service and Web Client
5. Install the HP AutoPass License Keys that you received with Asset Manager to use the demonstration database, and then activate the demonstration database with Asset Manager Application Designer.
   For more information, refer to: Asset Manager **Administration** guide, chapter **Installing License Keys**.
6. Install Tomcat in the **C:\Tomcat70** folder.
   Accept the options that are provided by default by the installation program except for the following:

   - **Run Apache Tomcat when the installation is completed**
7. Start the Tomcat configuration console (In Windows click **Start/ Programs/ Apache Tomcat 7.0 Tomcat 7/ Configure Tomcat**).
8. Click the **Java** tab.
9. Populate the following fields:

Field	Value
Java Virtual Machine	`C:\Program Files (x86)\Java\jre7\bin\client\jvm.dll`
Java Classpath	`C:\Program Files (x86)\Java\jdk1.7.0_75\lib\tools.jar;C:\Tomcat70\bin\bootstrap.jar`

Java Options	Add the following lines:
	`-Djava.library.path=C:\Program Files (x86)\HPE\Asset Manager 9.60 xx\bin`
	`-Dsun.lang.ClassLoader.allowArraySyntax=true`
	where **xx** is replaced by the two letter language code of your Asset Manager installation.

Initial memory pool	512 (or another value adapted to your computer)
Maximum memory pool	1024 (or another value adapted to your computer)
Thread stack size	1000 (or another value adapted to your computer ; it should be less than the total RAM of the computer ; at least 250 Mb less than the total RAM of the computer)

10. Close the Tomcat configuration console.
11. Open a DOS command prompt.
12. Change to the **C:\Program Files\HPE\Asset Manager 9.60 xx\deploy** folder.
13. Execute the command lines (separately):

    ```
    deploy.bat /x64 ..\websvc\package.properties
    ```

    ```
    deploy.bat /x64 ..\webtier\package.properties
    ```

14. Copy **C:\Program Files (x86)\HPE\Asset Manager 9.60 xx\websvc\AssetManagerWebService.war** and **C:\Program Files (x86)\HPE\Asset Manager 9.60 xx\webtier\AssetManager.war**, where **xx** is replaced by the two letter language code of your Asset Manager installation.
    Paste them in **C:\Tomcat70\webapps**.

15. Start Tomcat:
    a. Start the Tomcat monitoring console (In Windows click **Start/ Programs/ Apache Tomcat 7.0 Tomcat 7/ Monitor Tomcat**).
    b. Right-click the Tomcat icon in the lower-right corner of the Windows taskbar.
    c. Select the **Start service** menu item.
    d. Wait until the red square becomes a green triangle pointing to the right.
16. Start Internet Explorer.
17. Configure Internet Explorer by selecting the following options:
    - Execute JavaScript: (**Tools/ Internet Options** menu, select **Security** tab, click **Custom Level**, scroll to the **Scripting** section of the list, select **Enable** for the **Active scripting** option.)
    - Accept cookies (**Tools/ Internet Options** menu, select **Privacy** tab, click **Advanced**, select **Override automatic cookie handling**, then select **Accept**)
    - Display pop-up windows: (**Tools/Pop-up Blocker** menu, if turned on, select **Turn Off Pop-up Blocker**)
18. Close and restart Internet Explorer.
19. Verify that the Asset Manager Web Service is successfully deployed:
    a. Start Internet Explorer.
    b. Go to the following URL:

    ```
    http://localhost:8080/AssetManagerWebService
    ```

    > **Caution:** Text is case sensitive.

    c. Do not reload or refresh the page until Asset Manager Web Service has started. This may take a few minutes.
    d. If Asset Manager Web Service is successfully deployed, the page located at the URL will display a header similar to the following:

    ```
    Database
    Base:
    Name            AMDemo95en
    Engine          MSSQL
    User            sa
    Owner           itam
    AmApiDll        'C:\Program Files (x86)\HPE\Asset Manager 9.60 en\bin\aamapi95.dll'
    User: Admin
    ```

```
Version: 9.60 - build xxxx
Dll path: C:\Program Files (x86)\HPE\Asset Manager 9.60 en\bin\aamapi95.dll
```

> **Tip:** If this header is displayed followed by an error, try redefining the application server's **Initial memory pool** and **Maximum memory pool** settings.

20. Go to the following URL:

    ```
    http://localhost:8080/AssetManager
    ```

    > **Caution:** Text is case sensitive.

    This will lead you to the logon page of Asset Manager Web.

21. Populate the following fields to log on:

Field	Value
Login	Admin
Password	Leave the password empty.

Installation Overview

Asset Manager Web Tier and Asset Manager Web Service are installed following the same procedures:

1. Finish all the preparatory tasks.
   Preparing your Asset Manager Web installation.
2. Update the archive files for Asset Manager Web Tier and Asset Manager Web Service deployment.
   Updating the archive files.
3. Deploy the archive files to your application server.
   Deploying the archive file to the application server.
4. Test that the deployment is successful.
   Testing that the deployment is successful.

> **Note:** You can install Asset Manager Web Service and Asset Manager Web Tier:
>
> - Separately (test or production mode): If WebSphere Application Server is your application server and If WebLogic is your application server.

- At the same time (test mode only): Installing Asset Manager Web Tier and Asset Manager Web Service at the same time.

Preparing Your Asset Manager Web Installation

Components to Install

Note: Refer to the Support Matrix at: https://softwaresupport.hpe.com/group/softwaresupport/support-matrices to know which versions of the following components are supported:

- Application servers
- Web servers

Before installing Asset Manager Web, you must install, configure and start the components listed below and do so by following the recommendations provided by each of the components' editors.

- Asset Manager database on the database server.
- Asset Manager Automated Process Manager, on any server from which Asset Manager Automated Process Manager can access the Asset Manager database.

The following actions are required before a Web client can access the database:

- Asset Manager Automated Process Manager must be running and connected to the database.
- The Asset Manager Automated Process Manager **Signal presence of database server** (UpdateToken) module must be activated and scheduled to execute at least once per week. See **Administration Guide**, chapter **Asset Manager Automated Process Manager**, section **Configuring the modules monitored by Asset Manager Automated Process Manager**.

Install the following applications on the same computer:

Note: You may need to deploy the same set of applications on several computers to enhance the performance of Asset Manager Web, for example.

- Application servers
  The application servers must be protected by your network infrastructure (firewall, proxy, and so on)

but allow connections from an Internet browser.
The application server must be properly configured in order to achieve maximum performance with Asset Manager Web.
Application server configurations - special cases and samples for tips and examples for configuring your application server.
For more configuration information, refer to the documentation provided with your application server.

- Java Development Kit (JDK)

  > **Note:** To benefit from the improved performance and stability brought by the latest version of Oracle JDK, it is strongly recommended to use Oracle J2SDK 7.0, Update 75 or above with your Tomcat application server.

  For the application server to function properly, make sure a JDK version that is compatible with the application server you choose is installed with the application server.

  Refer to the Support Matrix at: https://softwaresupport.hpe.com/group/softwaresupport/support-matrices.

  You should add or modify the **JAVA_HOME** system variable to have it point to the JDK installation folder.

  > **Note:** For WebLogic, the Oracle JRockit or Sun JDK provided with the WebLogic installation package must be used.
  >
  > Oracle recommends using the SUN JDK for a WebLogic domain in **Development mode** and JRockit for a WebLogic domain in **Production mode**. For more information, consult the WebLogic server documentation.

- Database access API (depending on your DBMS, ODBC in the case of SQL Server, for example)

  The computers hosting the application servers must be able to access the Asset Manager database. This requires that the database access API for the DBMS used for the Asset Manager database be installed on these computers.

- The following Asset Manager components, which can be installed via the Asset Manager installation program:
  - Web Service and Web Client
  - Asset Manager API
  - LDAP authentication, if you plan on implementing this functionality

    > **Note:** Install the language version of Asset Manager that you want displayed by the Web clients.

The Asset Manager database, which can be multilingual, must include this language.

If you have installed several language versions of the Web client, you must install the same number of Asset Manager Web instances (Asset Manager Web Service and Asset Manager Web Tier).

These instances can all point to the same database if the database includes the languages being used.

Different URLs will enable users to select the display language used by their Web client.

See **Administration** guide, chapter **Creating, modifying and deleting an Asset Manager database**, section **Modifying Asset Manager client languages**.

Note: In order for some required libraries to be found by Asset Manager Web, make sure **<Asset Manager installation folder>\bin** (32-bit) or **<Asset Manager installation folder>\x64** (64-bit) is included in the system-library search path:

- Windows: environment variable **Path**
- Linux: environment variable **LD_LIBRARY_PATH**.
- Linux: Configuration file of **ld.so**, also.

If both **bin** and **x64** are present in the path, make sure the one desired precedes the other.

Note: If you install Asset Manager Web Service on a Linux server, make sure you follow the instructions in sections Installing Asset Manager and Accessing the Asset Manager database using the API, giving special attention to the **.so** files.

Application Server Configurations - Special Cases and Samples

This section does not intend to describe how to configure the application server in detail. Refer to the application server's documentation for detailed configuration procedures and recommendations.

Instead, it describes some additional application server configurations in certain hardware and/or software configurations. These configurations should be created together with the normal configuration required for the application server.

It also provides some sample configurations under specific hardware and software configurations for you to reference and adapt to your own environment.

JVM configurations

- If you install Asset Manager Web Tier on a Linux server, you must configure the Java Virtual Machine (JVM) to not use the Linux graphics resources.
  To do this, add the following parameter to your application server's JVM setting:

  ```
  -Djava.awt.headless=true
  ```

- Sample JVM configuration used by Asset Manager Web Tier:

  If Asset Manager Web is deployed on a 32-bit operating system with 8 GB of RAM dedicated to Asset Manager Web:

  ```
  -Xms1500m
  -Xmx1500M
  -XX:+UseParNewGC
  -XX:+UseConcMarkSweepGC
  -XX:+UseTLAB
  -XX:SurvivorRatio=2
  -XX:+UseBiasedLocking
  -XX:NewSize=256m
  -XX:MaxNewSize=256m
  -server
  ```

  If Asset Manager Web is deployed on a 64-bit operating system with 24 GB of RAM dedicated to Asset Manager Web:

  ```
  -Xmx4000m
  -Xms4000m
  -XX:+UseParNewGC
  -XX:+UseConcMarkSweepGC
  -XX:+UseTLAB
  -XX:SurvivorRatio=8
  -XX:NewSize=512m
  -XX:MaxNewSize=512m
  -XX:+UseBiasedLocking
  -Dsun.lang.ClassLoader.allowArraySyntax=true
  -server
  ```

- Sample JVM configuration used by Asset Manager Web Service:

  > **Note:** The memory used by the Asset Manager Web Service process is the sum of the JVM **-Xmx** parameter + the RAM used by Asset Manager API and third party tools such as the DBMS access APIs.
  >
  > On a 32-bit operating system, the memory used by the Asset Manager Web Service process cannot exceed 2 GB.

> On a 64-bit operating system, the memory used by the Asset Manager Web Service is only limited by the capacity of the physical RAM of its server.

If Asset Manager Web is deployed on a 32-bit operating system with 8 GB of RAM dedicated to Asset Manager Web:

```
-Xmx600M
-Xms600M
-XX:+UseTLAB
-XX:+UseParNewGC
-XX:+UseConcMarkSweepGC
-XX:SurvivorRatio=2
-XX:NewSize=128m
-XX:MaxNewSize=128m
-XX:+UseBiasedLocking
-XX:CMSIncrementalDutyCycleMin=0
-XX:CMSIncrementalDutyCycle=10
-XX:CMSInitiatingOccupancyFraction=70
-XX:+UseCMSCompactAtFullCollection
-server
```

If Asset Manager Web is deployed on a 64-bit operating system with 24 GB of RAM dedicated to Asset Manager Web:

```
-Xmx2000M
-Xms2000M
-XX:+UseTLAB
-XX:+UseParNewGC
-XX:+UseConcMarkSweepGC
-XX:SurvivorRatio=2
-XX:NewSize=256m
-XX:MaxNewSize=256m
-XX:+UseBiasedLocking
-server
```

Tomcat-specific configurations

- Sample configuration
  Below is a sample Tomcat configuration that was successfully tested using Windows Server 2003 on a computer equipped with two Intel Quadcore 3 GHz processors and 8 GB of RAM, and with Asset Manager Web Tier and Asset Manager Web Service running on separate Tomcat instances:
  - Tomcat configuration used by Asset Manager Web Tier:
    If Asset Manager Web is deployed on a 32-bit operating system:

    ```
    <Connector acceptCount="575" connectionTimeout="900000"
    disableUploadTimeout="true" port="8080" redirectPort="8443" maxThreads="550"
    ```

```
minSpareThreads="200" maxSpareThreads="200" maxKeepAliveRequests="1000"
keepAliveTimeout="180000" />
```

If Asset Manager Web is deployed on a 64-bit operating system:

```
<Connector port="8081" maxHttpHeaderSize="8192" maxThreads="300"
minSpareThreads="25" maxSpareThreads="300" enableLookups="false"
redirectPort="8443" acceptCount="700" connectionTimeout="60000"
disableUploadTimeout="true"
maxKeepAliveRequests="1000" keepAliveTimeout="3000" compressionMinSize="2048"
noCompressionUserAgents="gozilla, traviata"
compressableMimeType="text/html,text/xml"/>
```

- Tomcat configuration used by Asset Manager Web Service:

  If Asset Manager Web is deployed on a 32-bit operating system:

  ```
  <Connector port="8081" maxThreads="250" minSpareThreads="49"
  maxSpareThreads="100" enableLookups="false" redirectPort="8443"
  acceptCount="745" debug="0" connectionTimeout="1000"
  disableUploadTimeout="true" maxKeepAliveRequests="15" keepAliveTimeout="100"
  />
  ```

  If Asset Manager Web is deployed on a 64-bit operating system:

  ```
  <Connector port="8080" maxHttpHeaderSize="8192" maxThreads="900"
  minSpareThreads="100" maxSpareThreads="300" enableLookups="false"
  redirectPort="8443" acceptCount="1200" connectionTimeout="60000"
  disableUploadTimeout="true"
  maxKeepAliveRequests="1000" keepAliveTimeout="5000" compression="on"
  compressionMinSize="2048" noCompressionUserAgents="gozilla, traviata"
  compressableMimeType="text/html,text/xml,text/css,text/javascript"/>
  ```

Licenses to Acquire

You do not need a specific license to access the Asset Manager database via Asset Manager Web (via Asset Manager Web Tier + Asset Manager Web Service).

Asset Manager Web is handled in the same way as the Windows client.

The number of named, guest or floating accesses used to connect to the Asset Manager database, whether via the Windows client or Asset Manager Web Tier, is set by your Asset Manager license.

However, if you want to access the Asset Manager database by another method in addition to the Asset Manager Windows client and Asset Manager Web, and this method uses Asset Manager Web Service, you must acquire a specific Asset Manager Web Service license.

Passwords Encryption

During the installation, you will need to enter certain passwords in the **package.properties** file:

- Password associated with the Login for a user connecting to the Asset Manager database.
- Password associated with the MSSQL User, DB2 User or Oracle Account of the Asset Manager database.

Or, during the deployment the web service/record search, enter the passwords in the command-line tool.

The passwords are then encrypted with Password-Based Key Derivation Function 2 (PBKDF2), The location of the two key files are defined by the **PBKDF2.Password.First.File** and **PBKDF2.Password.Second.File** parameters. For more information about these two parameters, see "Updating the Archive Files" on the next page.

Tag the Web Services

To ensure that Asset Manager Web is deployed successfully, tag the Web services before deploying Asset Manager Web Service.

See **Tailoring** guide, chapter **Customizing the database**, section **Development best practices/ Tag the Web services**.

Check the Consistency of the Functional Domains Associated with the Web Services

If you have modified some data in the functional domains, make sure that the Web services have not been impacted.

See **Tailoring** guide, chapter **Customizing the database**, section **Development best practices/ Verify the functional domains associated with the Web services**.

If this is not the case, you will get an error message similar to: **No such operation 'XXX'**.

If they have been impacted, you need to re-tag the Web services.

See **Tailoring** guide, chapter **Customizing the database**, section **Development best practices/ Tag the Web services**.

Updating the Archive Files

The Asset Manager Web applications are delivered as archive files (**.war** or **.ear** files). These adhere to a standard format and include a **web.xml** file that contains configuration data for the application server and for Asset Manager Web.

Best Practice: Never edit the Asset Manager Web **web.xml** directly. Instead, edit all the configurable parameters in Asset Manager Web via the **package.properties** file, then use the deployment script (deploy.bat or deploy.sh) to update **web.xml** contained in the archive files with your custom configurations.

Editing the .properties Files

> **Note:** Before editing the property file, make sure to:
>
> - Make a backup copy of the file first.
> - Stop your application server if it is started.

The **.properties** file you need to edit depends on the application you are planning to install:

Choose the .properties file to edit

If you want to install this web application...	Edit .properties file in this directory...
Asset Manager Web Service	<Asset Manager installation folder>\websvc\package.properties
Asset Manager Web Tier	<Asset Manager installation folder>\webtier\package.properties
Asset Manager Web Tier and Asset Manager Web Service (install at the same time)	<Asset Manager installation folder>\websvc\package.properties <Asset Manager installation folder>\webtier\package.properties
Asset Manager Record Search	<Asset Manager installation folder>\websvc\quicksearch.properties

The following sections describe the parameters contained in the **.properties** file.

> **Note:** If a parameter is changed, you need to re-deploy the Asset Manager Web Service to make it effective. For examle, after changing the **AssetManager.UserPwd** parameter, you need to re-deploy the Asset Manager Web Service.

The package.properties parameters for Asset Manager Web Service

File path:

<Asset Manager installation folder>\websvc\package.properties

Required or most commonly modified parameters

Parameter	Description	Value
DB.engine	The database engine that is used by this installation of Asset Manager	Example: `MSSQL`
DB.datasource	The name of the database **Note:** If you install the 64-bit Asset Manager Web client, you must first manually create a 64-bit ODBC connection.	Example: `AMDemo96en`
DB.login	The database engine login id	Example: `sa`
DB.cache.enabled	Whether the database cache is enabled	Example: `true`
DB.cache.dir	The cache directory	Example: `/tmp`
DB.cache.size	The cache size in KB (1048576 = 1GB)	Example: `1048576`

DB.expand.typedlinks	If you want to display typed link in Asset Manager Web, set the SQL name of the table here.	Example:
		`amDocument`
		`amReconProposal`

DB.owner	The owner of the database	Example: `itam`

Parameter	Description	Value
DB.library.path	The path to the aamapi96 library. • If deployed on a 32-bit operating system, you should use the aamapi96 library stored in **<Asset Manager installation folder>\bin**. • If deployed on a 64-bit operating system, you should use the aamapi96 library stored in **<Asset Manager installation folder>\x64**.	Example: • `Windows: C:\Program Files\HPE\Asset Manager 9.60 xx\bin\aamapi96.dll` • `Linux: /opt/lib/aamapi96.so`
AssetManager.UserLogin	Asset Manager user login to be used by the WebService **Note:** In order to be used as this parameter, the user login must have the administrative rights.	Example: `Demo`

war	This parameter provides the possibility to use a different **.war** file than that found in the **<Asset Manager installation folder>\websvc** folder as the base for the transformed **.war**	Example:
		Asset Manager Web Service:
		`../websvc/AssetManagerWebService.war`
		Asset Manager Web Tier:
		`../webtier/AssetManager.war`

war.deployment	Whether you are deploying a **.war** file. War deployments alter the war specified by the **war** parameter.	• Set the value of this parameter to **true** if your application server is Tomcat • Set the value of this parameter to **false** if your application server is WebSphere or WebLogic
ear.deployment	Whether you are deploying a **.ear** file.	• Set the value of this parameter to **true** if your application server is WebSphere or WebLogic

Parameter	Description	Value
	Ear deployments create a copy of the war file for modification and inclusion in the **.ear** file specified by the **ear** parameter.	• Set the value of this parameter to **false** if your application server is Tomcat
ear	**Note:** This parameter is only relevant for deployments where your application server is WebSphere or WebLogic Absolute or relative path to the **.ear** to be created by the deployment script during an ear deployment	**../weblogic/AssetManager-webservice.ear**
PBKDF2.Password.First.File	The path to the first key file that is used to encrypt the password of the **Admin** account and the database account. If this parameter is not specified, the key file is stored in the *<AMinstallation>\deploy\secret-share* folder. **Note:** We strongly recommend that you use a path that can be accessed by all Asset Manager web service instances.	Example: • For Windows: `c:\\temp\\secret1.txt` • For Linux: *c:/temp/secret1.txt*
PBKDF2.Password.Second.File	The path to the second key file that is used to encrypt the password of the **Admin** account and the database account. If this parameter is not specified, the key file is stored in the *<AMinstallation>\deploy\se*	Example: • For Windows: `c:\\temp\\secret1.txt` • For Linux: *c:/temp/secret1.txt*

Parameter	Description	Value
	cret-share folder. **Note:** We strongly recommend that you use a path that can be accessed by all Asset Manager web service instances.	

Optional or less frequently edited parameters:

Parameter	Description	Value
DB.password	The password for the MSSQL, DB2 or Oracle database. You can enter it in the **package.properties** file so that you do not need to type it in during the execution of the deployment script	Enter the **unencrypted** form of the password. The deployment script will encrypt the password for use in the Asset Manager Web Service **web.xml**. **Note:** Leave it blank if **promptForPwd** is set to **true**.
AssetManager.UserPwd	The password for the Asset Manager database user login You can enter it in the **package.properties** file so that you do not need to type it in during the execution of the deployment script	Enter the **unencrypted** form of the password. The deployment script will encrypt the password for usage in the Asset Manager Web Service **web.xml**. **Note:** Leave it blank if **promptForPwd** is set to **true**.
promptForPwd	When this parameter is set to **true**, the user will be prompted to enter all required passwords during the execution of the deployment script In this case, the user does not need to store the passwords in the **package.properties** file	Example: `true`
ant.tasks.dir	The location of the **.jar** files required by the deployment	Example: **lib**

Parameter	Description	Value
	script By default, the script uses those found in **<Asset Manager installation folder>\deploy\lib**.	
combination.ear	**Note:** This parameter is only relevant for deployments where your application server is WebSphere or WebLogic Whether the created **.ear** file is to contain both the webtier and webservice (true) or not (false)	Example: `true`
manifest.classpath	**Note:** This parameter is only relevant for deployments where your application server is WebSphere or WebLogic Additional file references to the **Java classpath**. (These files should be added to the **.ear** file via the **addl.files** parameter)	`/am-jni-96.jar /am-constants-96.jar` **Note:** These default file references should be kept for the Asset Manager Web to work.
addl.files.root	**Note:** This parameter is only relevant for deployments where your application server is WebSphere or WebLogic The base directory in which all files referenced by **addl.files** are found	Example: `..`
addl.files	**Note:** This parameter is only relevant for	

Parameter	Description	Value
	deployments where your application server is WebSphere or WebLogic The list of files to add to the **.ear** file in addition to the modified Asset Manager Web **.war** (see the **war** parameter)	

For information about any other Asset Manager Web Service parameters, see the **Tailoring** guide, chapter **Customizing Web clients**, section **Modifying the Web client's default behavior**.

The package.properties parameters for Asset Manager Web Tier

File path:

<Asset Manager installation folder>\webtier\package.properties

Required or most commonly edited parameters

Parameter	Description	Value
WebService.EndPoint.SOAP	The SOAP Asset Manager Web Service URL	Example: `http://localhost:8080/AssetManagerWebService/services` **Note:** The host name and port used by different application servers may vary. Therefore, you need to change the URL accordingly.
WebService.EndPoint.REST	The REST Asset Manager Web Service URL	Example: `http://localhost:8080/AssetManagerWebService/rest` **Note:** The host name and port used by different application servers may vary. Therefore, you need to change the URL accordingly.
WebService.EndPoint.RS	The RS Asset Manager Web	Example: `http://localhost:8080/AssetManagerWebService/rs`

Parameter	Description	Value
	Service URL	**Note:** The host name and port used by different application servers may vary. Therefore, you need to change the URL accordingly.
WebService.Version	The Asset Manager Web Service tag to use	Example: `Head`
war.deployment	Whether you are deploying a **.war** file. War deployments alter the war specified by the **war** parameter.	• Set the value of this parameter to **true** if your application server is Tomcat • Set the value of this parameter to **false** if your application server is WebSphere or WebLogic
ear.deployment	Whether you are deploying a **.ear** file. Ear deployments create a copy of the war file for modification and inclusion in the **.ear** file specified by the **ear** paramete	• Set the value of this parameter to **true** if your application server is WebSphere or WebLogic • Set the value of this parameter to **false** if your application server is Tomcat

Parameter	Description	Value
	r.	
ear	**Note:** This parameter is only relevant for deployments where your application server is WebSphere or WebLogic Absolute or relative path to the **.ear** to be created by the deployment script during an ear deployment	**../weblogic/AssetManager-webservice.ear**

Parameter	Description	Value
combination.ear	**Note:** This parameter is only relevant for deployments where your application server is WebSphere or WebLogic Whether the created **.ear** file is to contain both the webtier and webservice (true) or not (false)	Example: `true`
FullTextSearch.Enabled	Enable or disable full-text search. This	Example: `true`

Parameter	Description	Value
	parameter must be enabled if you want to enable Record Search.	
FullTextSearch.Server.URL	The URL of the full-text search server. This parameter must be configured if you want to enable Record Search.	Example: `http://<hostname>.<domain>:<AssetManagerWebServicePort>/quicksearch/search`
PBKDF2.Password.First.File	The path to the first key file that is used to encrypt the password of the **Admin** account and the database account. This key file is used during the run time.	Example: • For Windows: `c:\temp\\secret1.txt` • For Linux: *c:/temp/secret1.txt*
PBKDF2.Password.Second.File	The path	Example:

Parameter	Description	Value
	to the second key file that is used to encrypt the password of the **Admin** account and the database account. This key file is used during the run time.	• For Windows: `c:\temp\\secret1.txt` • For Linux: *c:/temp/secret1.txt*
Documents.Downloads.OpenInBrowser.AllowedFileTypes	The list of the allowed file types that can be downloaded from Asset Manager. If a file type is not in the list and you try to download it, the file will still be downloaded , however, a "_" character will be	Example: `txt|pdf|png|gif|jpg|jpeg|xls|xlsx`

Parameter	Description	Value
	appended to the file extension. For example, if xls file type is not in the list, the downloaded .xls file will be renamed as ._xls. By default, this parameter is not in the package.properties file, to edit this parameter, you must manually create the parameter. By default, the list contains .txt, .pdf, .png, .gif, .jpg, .jpeg file types.	

Less frequently edited parameters:

Parameter	Description	Value
war	This parameter provides the possibility to use a	Example:

	different **.war** file than that found in the **<Asset Manager installation folder>\websvc** folder as the base for the transformed **.war**	`../websvc/AssetManager.war`
ant.tasks.dir	The location of the **.jar** files required by the deployment script By default, the script uses those found in **<Asset Manager installation folder>\deploy\lib**.	Example: **lib**
Workflows.Diagrams.Captions.Font	This parameter sets the font of the text in the workflow diagram displayed in the web client. For windows, you can find the font list from: http://www.microsoft.com/typography/fonts/product.aspx?PID=161	Example: `Arial`
ListDetail.layout	This parameter defines the way how lists and list details are displayed on one single page.	Example: • `Horizontal` • `Vertical`
PBKDF2.Password.Splitting	Flag for distinguishing web applications that need PBKDF2 password splitting. DO NOT modify. **Note:** Only if combination.ear=true is set, this attribute is necessary. Copy and paste the same entry from websvc\package.properties.	Example: • `True`
org.owasp.csrfguard.Enabled	This property determines whether CSRF protection is enabled. You can edit this property to true to enable protection, thus requiring clients to use a token when connecting to the server. By default, the value is True. **Note:** In some cases, a request from a load balance server will be considered as a cross site access. That will cause the request to be rejected. To prevent this situation from happening, configure the load balance server properly or disable csrfguard. We strongly recommend that you configure the load balance server rather than disabling the property because disabling csrfguard can cause security	Example: • True

	risks.	
Lists.RemoveLinkNameInHeader	When this property is set to False (the default value), the SQL name of the field will be displayed in the list heading.	Example: • False
maskMessageDelay	This property controls when a loading icon is displayed. By default, the value is 3, and the loading icon appears 3 seconds after an operation. **Note:** The value can only be between 0 to 30, any value that is not in this range will be reset to 3.	Example: • 3
WebService.Timeout	This property controls when a web service call times up. By default, the value is 600,000 (ms), and the timeout occurs if the web tier does not receive a response from the web service in 10 minutes. For example, you have an operation that takes more than 10 minutes to complete. However, the timeout period is set by this property as 600,000 ms (10 minutes). In this situation, you need to increase the value of this property in order for the operation to be successfully completed. **Note:** The value can only be larger than 300,000 (ms), any value that is smaller than 300,000 (ms) will be reset to 300,000 (ms).	Example: • 600,000
Exports.Excel.OneTime_Fetching_Size	When exporting records to Excel, this property indicates the number of records that Asset Manager fetches in a single call. By default, the value of this property is 1000. For example, you try to export 10000 records to an Excel file. If this property is set to 2000, it takes Asset Manager 5 web service calls to export the records, each call fetches 2000 records. This property is only used to adjust the performance, it does not affect the output.	Example: 1000
Lists.RemoveLinkNameInHeader	This property controls whether a link name is displayed in the header of a list.	Example: False

	If the value is True, the link is not displayed. If the value is False, the link is displayed. By default, this property is set to False.	
Lists.Checkbox.AutoSync	This property controls whether the status of a check box is synchronized to the backend immediately. For example, you check a check box and then refresh the page before making any changes to the record, if the property is set to False, the selection will be cleared. This does not happen if the property is set to True. **Note:** By default, this property is set to False. Turning it on may have impact on the performance.	Example: False
Fields.Labels.AutoEllipsis	When this property is set to True, a long text of a label is displayed as a short text with ellipsis on the web client. When the cursor is hovering on the label, you can see the full value. By default, this property is set to False.	Example: False
sessionTimeout	This property stands for the timeout (in minutes) of a user session. By default, it is set to 30.	Example: 30
uploadMaxFileSize	The maximum size of a file that can be uploaded by Asset Manager. If you do not append a unit, by default it is in bytes. You can also append one of the following units: • **m** stands for MB • **g** stands for GB • **k** stands for KB **Note:** The unit must be lower case.	Example: • 1 • 1k • 1m • 1g
Navigation.DisabledModules	If you do not want to hide certain modules in the web client's navigation tree, add the module names (separated by commas) to this property. If you use this property, we recommend that you create the same property with the same value in the Record Search properties file so that the Record Search feature does not take these modules into account.	Example: Cables,Contracts

The quicksearch.properties parameters for Asset Manager Record Search

File path:

<Asset Manager installation folder>\websvc\quicksearch.properties

Required or most commonly edited parameters

Parameter	Description	Value
AssetManager.RecordSearchIndexDir	The index directory for full text record search	Example: `c:/index`
AssetManager.ServiceTag	Asset Manager service tag name for full text search	Example: `Head`
AssetManager.UserLogin	Asset Manager user login to be used by the WebService **Note:** In order to be used as this parameter, the user login must have the administrative rights.	Example: `Demo`
DB.engine	The database engine that is used by this installation of Asset Manager	Example: `MSSQL`
DB.datasource	The name of the database	Example: `AMDemo96en`
DB.login	The database engine login id	Example: `sa`
DB.owner	The owner of the database	Example: `itam`
war.deployment	Whether you are deploying a **.war** file. War deployments alter the war	• Set the value of this parameter to **true** if your application server is Tomcat • Set the value of this parameter to **false** if your application server

Parameter	Description	Value
	specified by the **war** parameter.	is WebSphere or WebLogic
ear.deployment	Whether you are deploying a **.ear** file. Ear deployments create a copy of the war file for modification and inclusion in the **.ear** file specified by the **ear** parameter.	• Set the value of this parameter to **true** if your application server is WebSphere or WebLogic • Set the value of this parameter to **false** if your application server is Tomcat
LWSSO.domain	The name of the domain in which you want to install Record Search	Example: `yourdomain.net`
LWSSO.userNameHeaderName	The user name contained in the request header key	Example: `SM_USER`
LWSSO.initString	The shared encryption key	Example: `lwsso-shared-encryption-key`
PBKDF2.Password.First.File	The path to the first key file that is used to encrypt the password of the **Admin** account and the database account. This key file is used during the run time.	Example: • For Windows: `c:\temp\\secret1.txt` • For Linux: *c:/temp/secret1.txt*
PBKDF2.Password.Second.File	The path to the second key file that is used to encrypt the password of the **Admin** account and the database account. This key file is used during the run time.	Example: • For Windows: `c:\temp\\secret1.txt` • For Linux: *c:/temp/secret1.txt*

Less frequently edited parameters:

Parameter	Description	Value
AssetManager.CronConfig	Full text indexing scheduler configuration	Example: `0 0 1 * * ?`
AssetManager.TopTreeNumber	Max number of sections displayed in a single search result page	Example: `10`
AssetManager.TreeRecordsNumber	Max number of records under a single section	Example: `100`
AssetManager.IndexRsNumber	Max number of indexed results	Example: `5000`
AssetManager.UserPwd	The password for the Asset Manager database user login You can enter it in the **package.properties** file so that you do not need to type it in during the execution of the deployment script	Enter the **unencrypted** form of the password. The deployment script will encrypt the password for usage in the Asset Manager Web Service **web.xml**.
DB.password	The password for the MSSQL, DB2 or Oracle database. You can enter it in the **package.properties** file so that you do not need to type it in during the execution of the deployment script	Enter the **unencrypted** form of the password. The deployment script will encrypt the password for usage in the Asset Manager Web Service **web.xml**.
arch	32-bit or 64-bit version application.	Example: `64`
Navigation.DisabledModules	If you have set the Navigation.DisabledModules property in the web tier's properties file, we recommend that you set this property with the same value so that the Record Search feature does not take these modules into account.	Example: Cables,Contracts

Generating Key Files

Before you update the archive file using the deployment script, you must trigger a CMD window with administrator right and run the generatepassword.bat file (in Windows) or generate-password.sh (in Linux) to generate the key files.

By default, after you run the generate-password.bat file or the generate-password.sh file, the key files are created in the *<AMinstallation>\deploy\secret-share* folder with the names `secret1.txt` and `secret2.txt`. If you have set the **PBKDF2.Password.First.File** and **PBKDF2.Password.Second.File** properties in the package.properties (or quicksearch.properties) files of the web service, web tier, and record search, you must manually copy the key files to the folders you have specified.

For example, in the package.properties file of the web service, you set **PBKDF2.Password.First.File** to `c:\temp\key1.txt` and set **PBKDF2.Password.Second.File** to `c:\temp\key2.txt`. After you run the generate-password.bat file, you must copy the `secret1.txt` and `secret2.txt` files in the *<AMinstallation>\deploy\secret-share* folder to the `c:\temp` folder, and then rename them as `key1.txt` and `key2.txt`.

> **Caution:** All web service and web tier servers must share the same set of key files. Web service and web tier servers with different key files cannot communicate with each other.

The path and file name for the key file generating script is:

Windows	**<Asset Manager installation folder>\deploy\generate-password.bat** Example: `C:\Program Files\HPE\Asset Manager 9.60 xx\deploy\generate-password.bat`
Linux	**<Asset Manager installation folder>/deploy/generate-password.sh** Example: `/home/<user>/AssetManager/deploy/generate-password.sh`

Updating the Archive File Using the Deployment Script

The path and file name for the deployment script is:

Windows	**<Asset Manager installation folder>\deploy\deploy.bat** Example: `C:\Program Files\HPE\Asset Manager 9.60 xx\deploy\deploy.bat`
Linux	**<Asset Manager installation folder>/deploy/deploy.sh** Example: `/home/<user>/AssetManager/deploy/deploy.sh`

In Windows

To update the archive file:

1. Make sure correct parameter values for the **.properties** file of the Web application you are going to deploy have been set before you execute the deployment script. Refer to the description of the parameters:
   - If you are going to deploy Asset Manager Web Service, The package.properties parameters for Asset Manager Web Service.
   - If you are going to deploy Asset Manager Web Tier, The package.properties parameters for Asset Manager Web Tier.
   - If you are going to deploy Asset Manager Record Search, The quicksearch.properties parameters for Asset Manager Record Search.
2. Change any of the Asset Manager Web Service parameters you wish to change as found in the **Tailoring** guide, chapter **Customizing Web clients**, section **Modifying the Web client's default behavior**.
3. Open a command-line window.
4. Go to the **C:\Program Files\HPE\Asset Manager 9.60 xx\deploy** folder.

   > **Caution:** The **.war** file in the **deploy** directory will be modified and should be backed up in advance.

   To update the Web Service and Web Tier archives, execute the following command line:

   ```
   deploy.bat [/64] [/ws8] <relative path to package.properties>
   ```

   /64 or **/x64**: use this parameter if you deploy Asset Manager Web Service on a 64-bit version of Windows.

   /ws8 : use this parameter if you deploy version 8 of WebSphere Application Server (no parameter required for earlier versions of WebSphere Application Server).

   Example:

```
deploy.bat /64 C:\Program Files\HPE\Asset Manager 9.60
xx\websvc\package.properties
```

> **Note:** You need to enter the passwords of the **Admin** account and the database account if they are not specified in the package.properties file.

5. To update the Record Search archive, execute the following command line:

   ```
   deploy.bat [/wls12c] [/ws8] <relative path to quicksearch.properties>
   ```

   /wls12c: use this parameter if you deploy WebLogic Server 12c.

   /ws8: use this parameter if you deploy version 8 of WebSphere Application Server (no parameter required for earlier versions of WebSphere Application Server).

   Example:

   ```
   deploy.bat ..\websvc\quicksearch.properties
   ```

   > **Note:** You need to enter the passwords of the **Admin** account and the database account if they are not specified in the package.properties file.

In Linux

1. Make sure correct parameter values for the **.properties** file of the Web application you are going to deploy have been set before you execute the deployment script. Refer to the description of the parameters:
   - If you are going to deploy Asset Manager Web Service, The package.properties parameters for Asset Manager Web Service.
   - If you are going to deploy Asset Manager Web Tier, The package.properties parameters for Asset Manager Web Tier.
   - If you are going to deploy Asset Manager Record Search, The quicksearch.properties parameters for Asset Manager Record Search.
2. Change any of the Asset Manager Web Service parameters you wish to change as found in the **Tailoring** guide, chapter **Customizing Web clients**, section **Modifying the Web client's default behavior**.
3. Make sure the following environment variables are set:

Variable	Value
JAVA_HOME (if you are using Tomcat)	path to the JDK installation directory.

Variable	Value
TMPDIR	path to the a temporary directory to be used during compilation. by default, **deploy.sh** uses the **/tmp** directory

4. Open a command shell.
5. Change to the **<Asset Manager installation folder>/deploy** folder.
6. > **Caution:** The **.war** file in the **deploy** directory will be modified and should be backed up in advance.

   Execute the command line:

   ```
   deploy.sh [-ws8] <relative path to the .properties file>
   ```

   -ws8: use this parameter if you deploy version 8 of WebSphere Application Server (no parameter required for earlier versions of WebSphere Application Server and the Asset Manager Web Service application).

   Example:

   ```
   deploy.sh -ws8 ../websvc/package.properties
   ```

   > **Note:** Warning messages like the one below might be thrown when running the command on Linux systems.
   >
   > ```
   > expr: warning: unportable BRE: `^\\(-D\\)..*=..*': using `^' as the first
   > character of the basic regular expression is not portable; it is being
   > ignored
   > expr: warning: unportable BRE: `^\\(-\\).*': using `^' as the first
   > character of the basic regular expression is not portable; it is being
   > ignored
   > ```
   >
   > The warnings can be ignored.

Deploying the Archive File to the Application Server

For performance reasons, in production mode Asset Manager Web Service and Asset Manager Web Tier must be installed on two distinct application servers.

These instances can be located on the same computer.

For example, if you are using Tomcat, Tomcat must be installed in two different folders. One for Asset Manager Web Service and the other for Asset Manager Web Tier.

If Tomcat is Your Application Server

Perform the following steps to deploy the archive file (**.war** file) to your Tomcat application server:

> **Note:** Minimal required JVM parameters for webtier:
>
> `-Xms1024m -Xmx1024m -XX:PermSize=128M  -XX:MaxPermSize=256m`
>
> Minimal required JVM parameters for web service:
>
> `-Xms1024m -Xmx1024m -XX:PermSize=128M  -XX:MaxPermSize=256m`
>
> In Java 8, replace `PermSize` with `MetaspaceSize` and replace `MaxPermSize` with `MaxMetaspaceSize`.
>
> For more information about JVM configuration in production, refer to the Asset Manager Deployment Sizing Guide.

Installing Asset Manager Web Service

1. Make sure the archive file (**AssetManagerWebService.war**) to be deployed has been updated with your custom configurations.
   Updating the archive files.
2. Copy **<Asset Manager installation folder>\websvc\AssetManagerWebService.war** to the **webapps** sub-folder of the Tomcat installation folder.

   > **Note:** If you have deployed the **.war** file previously, you need to delete the existing **.war** file and the sub-folder with the same name before copying the **.war** file to the **webapps** folder.

3. Enter the Java properties for Tomcat:

Property	Value
Java Classpath	Add the full path to **tools.jar** from the J2SE SDK (located by default in the **lib** sub-folder of the J2SE SDK installation folder) The paths are on the same line and are separated by a semi-colon **;**.
Java Options	Add the full path to the folder containing the **amjnii96.dll** file (located by default in the **C:\Program Files\HPE\Asset Manager 9.60 xx\bin** (32-bit) or **C:\Program Files\HPE\Asset Manager 9.60 xx\x64** (64-bit) folder where **xx** is replaced by the two letter language code of your Asset Manager installation).

Property	Value

	Parameter example:
	`-Djava.library.path=C:\Program Files\HPE\Asset Manager 9.60 xx\bin`
	Note: In a 64-bit OS, if **-Djava.library.path** contains pathes to both **x64** and **bin** sub-folder of the Asset Manager installation folder, make sure the path to **x64** precedes the path to **bin**.
	Note: If you frequently upload big files through the Web client, you need to set up the JAVA option **java.io.tmpdir** as the server start-up parameter. When doing this, you need to create a temp folder on the Web tier server.
	For example, you need to create a temp folder under `C:\Tomcat 7.0` if you have the following entry.
	`-Djava.io.tmpdir=C:\Tomcat 7.0\temp`
	If you do not set **java.io.tmpdir**, the temp folder will be generated by the operating system. The location may resemble `C:\Local\usera\Temp`. In this case, you must ensure that you grant this temp folder read and write permission to your Web tier server.

4. Start tomcat.
5. Go to section Testing that Asset Manager Web Service is deployed successfully.

Installing Asset Manager Web Tier

1. Make sure the archive file (**AssetManager.war**) to be deployed has been updated with your custom configurations.
   Updating the archive files.
2. Copy the **AssetManager.war** and **AssetManagerDOC.war** files from the **<Asset Manager installation folder>\webtier** folder to the **webapps** sub-folder of the Tomcat installation folder.

   Note: If you have deployed the **.war** file previously, you need to delete the existing **.war** file and the sub-folder with the same name before copying the **.war** file to the **webapps** folder.

   The **AssetManagerDOC.war** file, which is the archive file for Online Help on AM Web, is optional at this step.
3. Enter the Java properties for Tomcat:

Property	Value
Java	Add the full path to **tools.jar** from the J2SE SDK (located by default in the **lib** sub-

Property	Value
Classpath	folder of the J2SE SDK installation folder) The paths are on the same line and are separated by a semi-colon **;**.

4. Start Tomcat.
5. Go to section Testing that Asset Manager Web Tier is deployed successfully.

Installing Asset Manager Record Search

1. Make sure the archive file (**quicksearch.war**) to be deployed has been updated with your custom configurations,
   Updating the archive files.
2. Copy **<Asset Manager installation folder>\websvc\quicksearch.war** to the **webapps** sub-folder of the Tomcat installation folder.

   > **Note:** If you have deployed the **.war** file previously, you need to delete the existing **.war** file and the sub-folder with the same name before copying the **.war** file to the **webapps** folder.

3. Start Tomcat.
4. Enable Asset Mamanger SSO. To do this, perform the following steps:
   a. Go to the following URL:
      `http://<Name or IP address of the Asset Manager Web Service server>:<Asset Manager Web Service port>/AssetManagerWebService/ssoConfig.jsp`
      For example: **http://localhost:8080/AssetManagerWebService/ssoConfig.jsp**
   b. Select the check box for **Enable LW-SSO framework**, and then fill in the **Domain name**, **Shared encryption key**, and **Request header key containing the user name** fields. Make sure the strings you entered are the same as the corresponding strings you set in the **quicksearch.properties** file, see "The quicksearch.properties parameters for Asset Manager Record Search".
5. Restart Tomcat.

> **Note:** For performance considerations, we recommend that you deploy Record Search and AM Web Service on different web servers.

> **Note:** To enable Record Search, Asset Manager Web Tier must be deployed with the following parameters configured:

- `FullTextSearch.Enabled=True`
- `FullTextSearch.Server.URL =http://<hostname>.<domain>:<AssetManagerWebServicePort>/quicksearch/search`

See "The package.properties parameters for Asset Manager Web Tier"

Installing Online Help on AM Web

1. Copy **<Asset Manager installation folder>\webtier\AssetManagerDOC.war** to the **webapps** sub-folder of the Tomcat installation folder.

   Note: If you have deployed the **.war** file previously, you need to delete the existing **.war** file and the sub-folder with the same name before copying the **.war** file to the **webapps** folder.

2. Start Tomcat.

If WebSphere Application Server is Your Application Server

Note: The deployment procedure below is based on the interface of WebSphere Application Server 8.0. The procedure for other versions of WebSphere Application Server might differ slightly.

If you use WebSphere Application Server 7.0, you must change the class loader order to **Classes loaded with local class loader first (parent last)**.

Installing Asset Manager Web Service

This section explains how to install Asset Manager Web Service separately from Asset Manager Web Tier.

To install Asset Manager Web Service and Asset Manager Web Tier at the same time: Installing Asset Manager Web Tier and Asset Manager Web Service at the same time.

1. Make sure the archive file (**AssetManager-webservice.ear**) to be deployed has been updated with your custom configurations.
   Updating the archive files.

   Note: The updated archive file is located in the **<Asset Manager installation folder>\weblogic** folder by default.

2. Start the WebSphere Application Server.

3. Open WebSphere Application Server Administrative console.
4. In the navigation bar, click **Environment/ Shared Libraries**.
5. Click the **New** button.
6. Populate the following fields:

Parameter	Value
Name	**am-native-lib**
Description	**Asset Manager native libraries**
Classpath	**.**
Native Library Path	Path to Asset Manager's binary directory, for example: ◦ If Asset Manager Web is deployed on a 32 bit OS: **C:\Program Files\HPE\Asset Manager 9.60 xx\bin**, where **xx** is replaced by the two letter language code of your Asset Manager installation. ◦ If Asset Manager Web is deployed on a 64 bit OS: **C:\Program Files\HPE\Asset Manager 9.60 xx\x64**, where **xx** is replaced by the two letter language code of your Asset Manager installation.

7. Click **OK**.
8. Click the **Save** link in the **Messages** frame.
9. In the navigation bar, select **Applications/ New Application**.
10. On the **New Application** page, click **New Enterprise Application**.
11. Populate the following fields:

Parameter	Value
Local file system/ Full path	Path to the **AssetManager-webservice.ear** file.

12. Click the **Next** button.
13. Select the **Detailed: Show all installation options and parameters** option and click the **Next** button.
    A series of steps that you will go through to install the Web application are displayed.
14. In step 4 (Map shared libraries): From the table, select **AssetManagerWebService** (URI: AssetManagerWebService.war,WEB-INF/web.xml).
15. Click the **Reference shared libraries** button.
16. Select the new library: **am-native-lib**.
17. Complete the remaining steps in the installation wizard.

18. Click the **Finish** button to start the installation.
19. If everything functions properly, in the trace window you should see a message indicating that the AssetManagerWebService installation has been carried out successfully.
20. Click the appropriate link to save your changes.
21. In the navigation bar, select **Servers / Server Types / WebSphere application servers**.
22. Click your application server.
23. On the **Configuration** tab, in the **Server Infrastructure** section, click **Java and Process Management**, and then click **Process definition**.
24. In the **Additional Properties** section, click **Java Virtual Machine**.
25. In the Generic JVM arguments box, enter:

    ```
    -Djava.library.path=$(APP_INSTALL_ROOT)/<name of cell>/AssetManager-
    webservice.ear
    ```

26. In the **Initial heap size** box, we recommend that you enter `1024`.
27. In the **Maximum heap size** box, we recommend that you enter `2048`.
28. Click **OK**.
29. Click the **Save** link in the **Messages** frame.
30. Click **OK** again.
31. Click the **Save** link in the **Messages** frame again.
32. In the navigation bar, select **Servers / Server Types / WebSphere application servers**.
33. Click your application server.
34. On the **Configuration** tab, in the **Server Infrastructure** section, click **Java and Process Management**, and then click **Java SDKs**.
35. Select the **1.7_64** or the **1.7_32** check box.

    > **Note:** If the **1.7_64** or the **1.7_32** check box does not exist, launch IBM Installation Manager, install IBM WebSphere SDK java Technology Edition.

36. Click **Make Default**.
37. In the navigation bar, select **Applications / WebSphere enterprise applications**.
38. Click **AssetManagerWebService**.
39. Click **Manage Modules** in the **Modules** section.
40. Click **AssetManagerWebService** under **Module**.

41. Change **Class loader order** to **Classes loaded with local class loader first (parent last)**.
42. Saving changes:
    a. Click **Apply**.
    This reloads the page.
    b. Click **Save** in the **Messages** frame that appears at the top of the page.
43. Stop the WebSphere Application Server.
44. Start the WebSphere Application Server.
45. Go to section Testing that Asset Manager Web Service is deployed successfully.

Installing Asset Manager Web Tier

This section explains how to install Asset Manager Web Tier separately from Asset Manager Web Service.

To install Asset Manager Web Service and Asset Manager Web Tier at the same time: Installing Asset Manager Web Tier and Asset Manager Web Service at the same time.

1. Make sure the archive file (**AssetManager.ear**) to be deployed has been updated with your custom configurations.
   Updating the archive files.
   > **Note:** The updated archive file is located in the **<Asset Manager installation folder>\weblogic** folder by default.
2. Start the WebSphere Application Server.
3. Open WebSphere Application Server Administrative console.
4. In the navigation bar, select **Applications/ New Application**.
5. On the **New Application** page, click **New Enterprise Application**.
6. Populate the following fields:

Parameter	Value
Local file system/ Full path	Path to the **AssetManager.ear** file.

7. Go through the installation screens. In Step 11: Metadata for modules, select the check box for **metadata-complete attribute**.
8. Click the **Finish** button to start the installation.
9. If everything functions properly, in the trace window you should see a message indicating that the AssetManager installation has been carried out successfully.

10. Click the appropriate link to save your changes.
11. In the navigation bar, select **Applications/ Application Types/ WebSphere enterprise applications**.
12. Select **AssetManager** and then click **Start**.
13. Stop the WebSphere Application Server.
14. Go to `${APP_INSTALL_ROOT}/<name of cell>/AssetManager.ear/AssetManager.war/WEB-INF/lib`.
15. Copy the following jar files from the `WEB-INF\lib` folder of the web tier installation and put them in an external folder (e.g. `C:\IBM\WebSphere\shared-lib`):
    - `jsf-api-2.1.6.jar`
    - `jsf-facelets-1.1.15.jar`
    - `jsf-impl-2.1.6.jar`
    - `commons-codec-1.5.jar`
    - `commons-logging-1.1.jar`
    - `httpclient-4.5.2.jar`
    - `httpcore-4.4.4.jar`
16. In this external folder (e.g. `C:\IBM\WebSphere\shared-lib`), create the following directory structure: `com\sun\faces\application`. In this example, the entire path should be `C:\IBM\WebSphere\shared-lib\com\sun\faces\application`.
17. Copy all the files from the `WEB-INF\classes\com\sun\faces\application` folder of the web tier installation to the folder you created in the previous step (e.g. `C:\IBM\WebSphere\shared-lib\com\sun\faces\application`).
18. Open the `${APP_INSTALL_ROOT}/<name of cell>/AssetManager.ear/AssetManager.war/WEB-INF/classes/Owasp.CsrfGuard.properties` file.
19. In the `Owasp.CsrfGuard.properties` file, change the following code from:

    ```
    org.owasp.csrfguard.PRNG=SHA1PRNG
    org.owasp.csrfguard.PRNG.Provider=SUN
    ```

    to

    ```
    org.owasp.csrfguard.PRNG=IBMSecureRandom
    org.owasp.csrfguard.PRNG.Provider=IBMJCE
    ```

20. Start the WebSphere Application Server.

21. In the navigation bar, click **Environment/ Shared Libraries**.
22. Click the **New** button.
23. Populate the following fields:

Parameter	Value
Name	am-shared-lib
Description	Asset Manager Shared libraries
Classpath	`C:\IBM\WebSphere\shared-lib`
Native Library Path	(leave this field blank)

    Make sure to check the **Use an isolated class loader for this shared library** option.
24. Click **OK**.
25. Click the **Save** link in the **Messages** frame.
26. In the navigation bar, select **Applications/ Application Types/ WebSphere enterprise applications**.
27. Click **Asset Manager**.
28. Click **Shared library references** in the **References** section.
29. Check **AssetManagerWeb** (AssetManager.war,WEB-INF/web.xml) and then click **Reference shared libraries**.
30. Select the new library: **am-shared-lib**.
31. Complete the remaining steps in the installation wizard.
32. Click the **Save** button
33. Click **Apply** and then **OK** to save your changes.
34. Go to section Testing that Asset Manager Web Tier is deployed successfully.

If WebLogic Is Your Application Server

This section explains how to install Asset Manager Web Service separately from Asset Manager Web Tier.

> **Note:** Minimal required JVM parameters for webtier:
>
> `-Xms1024m -Xmx1024m -XX:PermSize=128M  -XX:MaxPermSize=256m`

> Minimal required JVM parameters for web service:
>
> `-Xms1024m -Xmx1024m -XX:PermSize=128M  -XX:MaxPermSize=256m`
>
> In Java 8, replace `PermSize` with `MetaspaceSize` and replace `MaxPermSize` with `MaxMetaspaceSize`.
>
> For more information about JVM configuration in production, refer to the Asset Manager Deployment Sizing Guide.

To install Asset Manager Web Service and Asset Manager Web Tier at the same time: Installing Asset Manager Web Tier and Asset Manager Web Service at the same time.

Installing Asset Manager Web Service

1. Copy the **aamapi96.dll** and **amjnii96.dll** files located in the **C:\Program Files\HPE\Asset Manager 9.60 xx\bin** folder.
2. Paste them in the **\<jdk_weblogic>\jre\bin** folder where **<jdk_weblogic>** corresponds to the path to the JDK folder associated with the WebLogic domain in which you want to install Asset Manager Web Service.
   For example: **C:\Oracle\Middleware\jrockit_160_29_D1.2.0-10\jre\bin**.
3. Go to the **config** folder of the WebLogic domain in which you want to install Asset Manager Web Service (For example: **C:\Oracle\Middleware\user_projects\domains\<domain_name>\config**).
4. Edit the **config.xml** file.
5. Add the following sub-entry:

   ```
   <enforce-valid-basic-auth-credentials>false</enforce-valid-basic-auth-credentials>
   ```
   at the end of the **<security-configuration>** entry.
6. Save the changes made to the **config.xml** file.
7. Make sure the archive file (**AssetManager-webservice.ear**) to be deployed has been updated with your custom configurations.
   Updating the archive files.

   > **Note:** The updated archive file is located in the **<Asset Manager installation folder>\weblogic** folder by default.
8. Start **Admin Server for WebLogic Server Domain** for the WebLogic domain in which you want to install Asset Manager Web Service.
9. Start Internet Explorer.

10. Open the following URL:

    ```
    http://<Name or IP address of the Asset Manager Web Service server>:<WebLogic domain port>/console
    ```

    For example: **http://localhost:7001/console**
    The WebLogic administration console will be displayed.
11. Identify yourself.
12. In the menu on the left:
    a. Click **Lock & Edit** (**Change Center** frame).
    b. Click the **Deployments** link (**Domain Structure** frame).
13. In the main window, **Control** tab, click the **Install** button.
    The application installation wizard will start.
14. Select **AssetManager-webservice.ear**, then click **Next**.
15. Select the **Install this deployment as an application** option, then click **Next**.
16. Populate the other pages of the wizard then validate by clicking **Finish**.
17. In the menu on the left:
    a. Click **Activate changes** (**Change Center** frame).
    b. Click the **Deployments** link (**Domain Structure** frame).
18. In the main window, **Control** tab, select the checkbox corresponding to the Asset Manager Web Service deployment.
    If the installation has completed correctly, the status of the application will be **Prepared**.
19. Select the **Start/ Servicing all requests** menu item.
    The application activation wizard will start.
20. Click **Yes** to confirm activation.
    The status of the application changes to **Active**.
21. Go to section Testing that Asset Manager Web Service is deployed successfully.

Installing Asset Manager Web Tier

1. Make sure the archive file (**AssetManager.ear**) to be deployed has been updated with your custom configurations.
   Updating the archive files.

   > **Note:** The updated archive file is located in the **<Asset Manager installation folder>\weblogic** folder by default.

2. Start **Admin Server for WebLogic Server Domain** for the WebLogic domain in which you want to install Asset Manager Web Tier.
3. Start Internet Explorer.
4. Open the following URL:

   ```
   http://<Name or IP address of the Asset Manager Web Tier server>:<WebLogic domain port>/console
   ```

   For example: **http://localhost:7001/console**
   The WebLogic administration console will be displayed.
5. Identify yourself.
6. In the menu on the left:
   a. Click **Lock & Edit** (**Change Center** frame).
   b. Click the **Deployments** link (**Domain Structure** frame).
7. In the main window, **Control** tab, click the **Install** button.
   The application installation wizard will start.
8. Select **AssetManager.ear**, then click **Next**.
9. Select the **Install this deployment as an application** option, then click **Next**.
10. Populate the other pages of the wizard then validate by clicking **Finish**.
11. In the menu on the left:
    a. Click **Activate changes** (**Change Center** frame).
    b. Click the **Deployments** link (**Domain Structure** frame).
12. In the main window, **Control** tab, select the checkbox corresponding to the Asset Manager Web Tier deployment.
    If the installation has completed correctly, the status of the application will be **Prepared**.
13. Select the **Start/ Servicing all requests** menu item.
    The application activation wizard will start.
14. Click **Yes** to confirm activation.
    The status of the application changes to **Active**.
15. Go to section Testing that Asset Manager Web Tier is deployed successfully.

Installing Asset Manager Web Tier and Asset Manager Web Service at the Same Time

> **Note:** This installation method can only be used in test mode, and not in production mode. In production mode, for performance reasons, Asset Manager Web Service and Asset Manager Web Tier must be installed on two distinct application servers.
>
> This is only possible if WebSphere Application Server or WebLogic is used. It is not possible if you are using Tomcat.
>
> You cannot use this installation method if the WebSphere Application Server version is 7.

The preceding sections explained how to install Asset Manager Web Tier and Asset Manager Web Service separately.

You can also create a single **.ear** to install Asset Manager Web Tier and Asset Manager Web Service at the same time, on the same server.

To do so:

1. Modify the parameters in the Asset Manager Web Tier and Asset Manager Web Service **package.properties** files as indicated in the following sections:
   - The package.properties parameters for Asset Manager Web Service
   - The package.properties parameters for Asset Manager Web Tier
2. Make sure that the **combination.ear** parameter in the Asset Manager Web Tier **package.properties** file is set to **true**
3. Update **AssetManager.ear** using **<Asset Manager installation folder>\webtier\package.properties**.
   Updating the archive file using the deployment script
4. Continue the Asset Manager Web deployment process described in the following chapters.

If WebSphere Application Server is your application server

1. Start the WebSphere Application Server.
2. Open WebSphere Application Server Administrative console.
3. In the navigation bar, click **Environment/ Shared Libraries**.
4. Click the **New** button.

5. Populate the following fields:

Parameter	Value
Name	**am-native-lib**
Description	**Asset Manager native libraries**
Classpath	**.**
Native Library Path	Path to Asset Manager's binary directory, for example: ◦ If Asset Manager Web is deployed on a 32 bit OS: **C:\Program Files\HPE\Asset Manager 9.60 xx\bin**, where **xx** is replaced by the two letter language code of your Asset Manager installation. ◦ If Asset Manager Web is deployed on a 64 bit OS: **C:\Program Files\HPE\Asset Manager 9.60 xx\x64**, where **xx** is replaced by the two letter language code of your Asset Manager installation.

6. Click **OK**.
7. Click the **Save** link in the **Messages** frame.
8. In the navigation bar, select **Applications/ New Application**.
9. On the **New Application** page, click **New Enterprise Application**.
10. Populate the following fields:

Parameter	Value
Local file system/ Full path	Path to the **AssetManager.ear** file.

11. Click the **Next** button.
12. Select the **Detailed: Show all installation options and parameters** option and click the **Next** button.
    A series of steps that you will go through to install the Web application are displayed.
13. In step 4 (Map shared libraries): From the table, select **AssetManagerWebService** (URI: AssetManagerWebService.war, WEB-INF/web.xml).
14. Click the **Reference shared libraries** button.
15. Select the new library: **am-native-lib**.
16. Complete the remaining steps in the installation wizard.
17. Click the **Finish** button to start the installation.
18. If everything functions properly, in the trace window you should see a message indicating that the AssetManager installation has been carried out successfully.

19. Click the appropriate link to save your changes.
20. In the navigation bar, select **Servers/ Server Types/ WebSphere application servers**.
21. Click your server in the pane on the right.
22. Click **Installed applications** in the **Applications** section.
23. From the list of applications, click **AssetManager**.
24. Click **Application binaries** in the **Detail Properties** section.
25. Note the value of the **Location (full path)** field.
    This value uses the following format: **$(APP_INSTALL_ROOT)/<Name of the cell>**.
    You will need this value to populate the **JVM Classpath** field in a later step.
26. In the navigation bar, select **Servers/ Server Types/ WebSphere application servers**.
27. Click your server in the panel on the right.
28. In the center page, click the **Process definition** option that is under **Java and Process Management** in the **Server Infrastructure** section.
29. On the next page, click **Java Virtual Machine** in the **Additional Properties** section.
30. On the next page, populate the **Classpath** field as follows:

Value	`-Djava.library.path=$(APP_INSTALL_ROOT)/<Name of the cell>/AssetManager.ear` **Note: $(APP_INSTALL_ROOT)/<Name of the cell>** is the value of the **Application binaries** field that you noted in a previous step.
Example	-Djava.library.path=$(APP_INSTALL_ROOT)/PC1Node01Cell/AssetManager.ear

31. Populate the **Generic JVM arguments** field as follows:

Value	`-Djava.library.path=<Asset Manager installation folder>\bin` **Note:** In Windows, you should use the short file name for the path (see example below).
Example	**-Djava.library.path=C:/Program Files/HPE/Asset Manager 9.60 en/bin**

32. Saving changes:
    a. Click **Apply**.
       This reloads the page.
    b. Click **Save** in the **Messages** frame that appears at the top of the page.

33. In the navigation bar, select **Applications/ Application Types/ WebSphere enterprise applications**.
34. Click **AssetManager**.
35. Click **Manage Modules** in the **Modules** section.
36. Click **AssetManagerWeb**.
37. Set the value of the **Class loader order** field to **Classes loaded with local class loader first (parent last)**.
38. Click **OK**.
39. Click the appropriate link to save your changes.
40. Stop the WebSphere Application Server.
41. Start the WebSphere Application Server.
42. Go to section Testing that the deployment is successful.

If WebLogic is your application server

1. Copy the **aamapi96.dll** and **amjnii96.dll** files located in the **C:\Program Files\HPE\Asset Manager 9.60 xx\bin** folder.
2. Paste them in the **\<jdk_weblogic>\jre\bin** folder where **<jdk_weblogic>** corresponds to the path to the JDK folder associated with the WebLogic domain in which you want to install Asset Manager Web Service.
   For example: **C:\Oracle\Middleware\jrockit_160_29_D1.2.0-10\jre\bin**.
3. Go to the **config** folder of the WebLogic domain in which you want to install Asset Manager Web Service (For example: **C:\Oracle\Middleware\user_projects\domains\<domain_name>\config**).
4. Edit the **config.xml** file.
5. Add the following sub-entry:

   ```
   <enforce-valid-basic-auth-credentials>false</enforce-valid-basic-auth-credentials>
   ```
   at the end of the **<security-configuration>** entry.
6. Save the changes made to the **config.xml** file.
7. Proceed with the steps in section Installing Asset Manager Web Tier.

Testing that the Deployment is Successful

Testing that Asset Manager Web Service is Deployed Successfully

1. Start your application server.
2. Start Internet explorer.
3. Go to the following URL:

   ```
   http://<Name or IP address of the Asset Manager Web Service
   server>:<Asset Manager Web Service port>/AssetManagerWebService
   ```

   For example: **http://localhost:8080/AssetManagerWebService**

   > **Caution:** Text is case sensitive.

   > **Note:** The default Web service port for different application server is different.

4. Do not reload or refresh the page until Asset Manager Web Service has started. This may take a few minutes.
5. If deployment has been successful, the page located at the URL will display a header similar to the following:

   ```
   Database
   Base: AMDemo96en
   User: Admin
   Version: 9.60 - build xxxx
   Dll path: C:\Program Files\HPE\Asset Manager 9.60 en\bin\aamapi96.dll
   ```

   > **Tip:** If this header is displayed but is followed by an error, or if it is not displayed at all, the application server's memory settings may be incorrect and should be reconfigured.
   >
   > Example for Tomcat: **Initial memory pool** and **Maximum memory pool** settings.

Testing that Asset Manager Web Tier is Deployed Successfully

1. Start your application server.
2. Start Internet Explorer.
3. Go to the following URL:

   ```
   http://<Asset Manager Web Tier server name>:<Asset Manager Web Tier port>/AssetManager
   ```
   For example: **http://localhost:8080/AssetManager**

   > **Caution:** Text is case sensitive.

   > **Note:** The default Web tier port for different application server is different.

4. If deployment has been successful, the URL above will display the connection page.

Configuring Asset Manager Web

See **Tailoring** guide, section **Customizing Web clients**, chapter **Modifying the Web client's default behavior**.

See **Administration** guide, chapter **Controlling access to the database**, section **Managing user authentication for the Asset Manager database**.

Accessing Asset Manager Using Internet Explorer

See **User Interface** guide, chapter **First steps with Asset Manager**, section **Start Asset Manager/ Web client**.

Optimizing Asset Manager Web

> **Caution:** This section cannot replace the guides for the application and Web servers that you will be using.
>
> Only those guides, combined with your knowledge and experience will enable you to optimally install and configure the application and Web servers.
>
> This section provides you with some tips and should not be considered an exhaustive list.

Refer to **Asset Manager Web Implementation** guide, **Performance Tips and Problem Diagnosis** chapter for more information about optimizing Asset Manager Web.

Tomcat Log Files

If you configure Tomcat to produce very verbose log files, thousands of useless lines may be logged.

This can only decrease the performance of Asset Manager Web.

Example showing how to configure Tomcat to avoid this inconvenience:

1. Go to Tomcat's **webapps** folder.
2. Delete the **AssetManager** folder if it exists.
3. Decompress the **AssetManager.war** file in the **webapps\AssetManager.war_build** folder.
4. Create a new configuration file to replace **log4j.properties** (located in the **AssetManager.war_build\WEB_INF\classes** folder).
   For example: **log4jnew.properties**.
5. Modify the **log.properties** entry of **web.xml** (located in **AssetManager.war_build\WEB_INF**) to reference the new **log4jnew.properties** file.
6. Open the new file, **log4jnew.properties**.
7. Enter the setting to have only fatal errors logged.
   For example:

```
log4j.rootLogger=FATAL, A1
log4j.appender.A1=org.apache.log4j.ConsoleAppender
log4j.appender.A1.layout=org.apache.log4j.PatternLayout
```

```
log4j.appender.A1.layout.ConversionPattern=%d{ABSOLUTE} %-5p %c{1} : %m%n
log4j.logger.org.apache=FATAL
```

Apache log4j documentation.

8. Browse to the **webapps\AssetManager.war_build** folder.
9. Select all files and folders.
10. Compress these files and folders in the **webapps\AssetManager.war_build\AssetManager.war** file.
11. Copy the file.
12. Paste it in the **webapps** folder (overwrite the previous file).
13. Delete the **webapps\AssetManager.war_build** folder.

Time Required to Display Pages Generated by Tomcat

You may notice that Internet Explorer takes a long time to display Web client pages when you access the pages for the first time.

This is due to the following:

When a user requests a page that has not yet been described in Tomcat's **work** folder (for example, the list of locations), Asset Manager Web Tier creates a **.jsp** file and a **.class** file which is compiled from the **.jsp** file. These files describe the page to display.

This operation takes some time.

When a user requests a page that has already been described in Tomcat's **work** folder, Asset Manager Web Tier recreates the corresponding **.jsp** and **.class** files only if the description of the page has changed in the structure of the Asset Manager database.

If the page has not changed, it is displayed more rapidly in Internet Explorer.

> **Note:** In order to speed the display of pages, it is recommended to configure Tomcat to maintain the **.jsp** and **.class** files in its **work** folder when it is shut down. Read the Tomcat documentation to learn how to do this.

Network Performance

The Web client has been tested successfully on 256 kbit/s networks with a ping of 400 ms (200 ms of network latency).

Below is a list of various load times:

Action	Load
Display a list	40 KB
Display a detail	Between 50 and 100 KB depending on the complexity (Examples: employee or department = 50 KB, portfolio item = 90 KB)
Selection in lists For example: Modifying the following fields and links of a portfolio item's detail: • **Assignment** (seAssignment) • **User** (User) • **Location** (Location) • **Supervisor** (Supervisor)	1.2 MB
Creating a purchase request	530 KB (6 KB from the client to the server, the remainder from the server to the client)
Duplicating a portfolio item, then selecting location, user and supervisor by browsing lists	1.8 MB (10 KB from the client to the server, and 23 round-trips)

Uninstalling Asset Manager Web

If Apache Tomcat is Your Application Server

For each Tomcat instance on which Asset Manager Web Service or Asset Manager Web Tier has been deployed:

1. Stop Tomcat.

   > **Caution:** If you do not stop Tomcat, you will not be able to delete certain Asset Manager Web Service and Asset Manager Web Tier files.
   >
   > This is a known error in Tomcat.
   >
   > http://tomcat.apache.org/faq/windows.html#lock

2. Remove files in the `temp` folder of Tomcat.
3. In Tomcat's **work** and **webapps** folders, manually delete the **AssetManager** and **AssetManagerWebService** folders.

If WebSphere is Your Application Server

To uninstall Asset Manager Web Service or Asset Manager Web Tier:

1. Start the WebSphere Application Server.
2. Open WebSphere Application Server Administrative console.
3. In the navigation bar, click **Applications/ Application Types/ WebSphere enterprise applications**.
4. Select the box before **AssetManager** or **AssetManagerWebService**.
5. Click **Stop**.
6. Select the box before **AssetManager** or **AssetManagerWebService**.
7. Click **Uninstall**.
8. Click **OK** to confirm.
9. Click the **Save** link in the **Messages** frame that appears at the top of the page.
10. In the navigation bar, click **Environment/ Shared Libraries**.
11. Select the box before **am-native-lib**.
12. Click **Delete**.
13. Click the **Save** link in the **Messages** frame.
14. Remove the Asset Manager Web Service and Asset Manager Web Tier deployment. (Delete the Asset Manager .jar files from the `C:\IBM\WebSphere\shared-lib` folder.
15. Restart the WebSphere Application Server for the change to take effect.

If WebLogic is your application server

After deleting an existing Asset Manager Web Service from a WebLogic domain, you need to restart the WebLogic domain to ensure successful future reinstallation of the Asset Manager Web Service.

Problems

Asset Manager Web

Problem

The Asset Manager Web client won't load after upgrading to a new version of Asset Manager.

Solution

1. Remove your Asset Manager Web deployment.
   Uninstalling Asset Manager Web.
2. Install Asset Manager Web 9.60.
   Installing Asset Manager Web.

Asset Manager Web Tier running on Tomcat

Problem

Tomcat was not stopped properly.

Tomcat is unable to start the Web client.

Solution

1. Stop Tomcat
2. Delete the subfolder **work\Catalina\localhost\AssetManager** located in Tomcat's installation folder
3. Start Tomcat

If this does not work, redeploy Asset Manager Web Tier.

> **Tip:** Check the Tomcat logs for details of any errors, for instance in **C:\Tomcat70\logs**

Chapter 9: **.ini**, **.cfg**, and **.res** files

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Programs belonging to the Asset Manager suite are associated with configuration files (**.ini** and **.cfg** extensions) and resource files (**.res** extension).

Available .ini, .cfg and .res Files

The following is a list of the main available **.ini** and **.cfg** files:

.ini and .cfg files - List of main files

Program (add .exe or .dll in Windows, or possibly .so in Linux)	**.ini or .cfg file**	**Description**
Asset Manager **am**	**aamdsk96.ini**	User display options. You may delete this file if you wish to revert the display options of all windows to the default options.
	am.ini	Asset Manager user options.
Asset Manager Application Designer **amdba** **amdbal**	**amdba.ini** **amdbal.ini**	Asset Manager Application Designer user options. User display options.
Asset Manager Export Tool **amexp**	**amexp.ini** **amexpl.ini**	Asset Manager Export Tool user options. User display options.

.ini and .cfg files - List of main files, continued

Program (add .exe or .dll in Windows, or possibly .so in Linux)	.ini or .cfg file	Description
amexpl		
Asset Manager Import Tool **amimpl**	**amimpl.ini**	Asset Manager Import Tool user options. User display options.
Asset Manager Script Analyzer **amsg**	**amsg.ini**	Asset Manager Script Analyzer user options. User display options.
Asset Manager Automated Process Manager **amsrv** **amsrvl**	**amsrv.ini** **amsrv.cfg** **amsrvl.ini**	Asset Manager Automated Process Manager user options. User display options.
	amsrvcf.ini	Parameters for Asset Manager Automated Process Manager running as a web server
Asset Manager API **aamapi96**	**aamapi96.ini**	Program user options.
All of the following programs	**amdb.ini**	List of database connections.
	mail.ini	Asset Manager messaging system configuration.

.ini and .cfg files - Location of main files

.ini or .cfg file	Location
aamdsk96.ini **am.ini** **amdba.ini** **am.ini** **amdba.ini** **amdbal.ini** **amexp.ini** **amexpl.ini** **amimpl.ini** **amsg.ini**	**In Windows (NT family)**: in the **\Documents and Settings\<Windows User>\Application Data\HPE\AssetManager\conf** folder

.ini and .cfg files - Location of main files, continued

.ini or .cfg file	Location
amsrv.ini **amsrvl.ini** **aamapi96.ini**	
	In Windows Vista or above (including Windows 7, Windows Server 2008): in the **\Users\<Windows User>\AppData\Roaming\HPE\AssetManager\conf** folder **Note:** `aamapi96.ini` needs to be created manually. If the application server is started with "Local System", the file needs to be created in the **<Windows Folder>\System32\config\systemprofile\AppData\Roaming\HPE\AssetManager\conf** folder. If the application server is started with other user accounts, the file needs to be created in the **\Users\<Windows User>\AppData\Roaming\HPE\AssetManager\conf** folder.
	In Linux: **~/HPE/AssetManager/conf** folder
amsrv.cfg **amsrvcf.ini**	Same folder as the **amsrv** executable **Note:** If you have upgraded from an older version of Asset Manager, **amsrv.cfg** might still be located in the parent folder of the **amsrv** executable. This also functions.
amdb.ini	**In Windows (NT family)**: in the **\<Documents and Settings>\All Users\Application Data\HPE\AssetManager\conf** folder
	In Windows Vista or above (including Windows 7, Windows Server 2008): in the **\ProgramData\HPE\AssetManager\conf** folder
	In Linux: • **System** connections: **/var/opt/HPE/AssetManager/conf** folder • **User** connections: **~/HPE/AssetManager/conf** folder
mail.ini	**In Windows (NT family)**: **\<Documents and Settings>\All Users\Application Data\HPE\AssetManager\conf**
	In Windows Vista or above (including Windows 7, Windows Server 2008): **\ProgramData\HPE\AssetManager\conf**
	In Linux: **~** folder

You can also locate the folders where some of these files are located using the Asset Manager Windows client by doing the following:

1. Start the Windows client.
2. Display the **About Asset Manager...** window (**Help/ About Asset Manager...** menu).
3. Click the **More...** button.
4. In the **Software** branch of the displayed window you will see the installation folders of the **.ini** files:

- **Definition file for Asset Manager connections (System)** corresponds to the **amdb.ini** installation folder (**system** connections).
- **Definition file for Asset Manager connections (User)** corresponds to the **amdb.ini** installation folder (**user** connections).
- **INI** corresponds to the installation folder of the **.ini** files used by the applications.

Table 8.3. .res files - List of main files

The .res files contain resource information of the Asset Manager programs such as strings and icons.

> **Note:** The resource files may vary depending on the language of the Asset Manager installation.
>
> The .res files are customizable with resource file editor. However, incorrectly modifying the .res files can cause unexpected problems. if you want to edit a .res file, make sure to back up the file.

Program (add .exe or .dll in Windows, or possibly .so in Linux)	.res file
Asset Manager **am**	**am.res**
Asset Manager Application Designer **amdba** **amdbal**	**amdba.res** **amdbal.res**
Asset Manager Export Tool **amexp** **amexpl**	**amexp.res** **amexpl.res**
Asset Manager Import Tool **amimpl**	**amimpl.res**
Asset Manager API **aamapi<version>**	**aamapi<version>.res**
ADBC **adbc**	**adbc.res**
Asset Manager Automated Process Manager **amsrv**	**amsrv.res**

Modifying the .ini Files

.ini file entries can be modified:

- By manipulating them from the software: They are saved when modifications are confirmed, or when exiting the software. In the latter case, modifications are only saved when exiting using the **File/ Exit** menu entry.
- And/Or by hand.

Whenever possible, we recommend modifying the **.ini** file entries using Asset Manager and its associated programs.

However, certain **.ini** file entries can only be created and modified manually.

> **Note:** Manual modifications of the **.ini** files are not trivial and should only be carried out only by knowledgeable users.

The following tables describe the **.ini** file entries you may wish to modify. Those entries can only be modified manually.

> **Note:** These tables only describe a selection of **.ini** files entries. They are not meant to be exhaustive. The sections and entries not described in this document must not be modified manually.

Boolean entries are described either by "1" or "0". Alternatively, you can also use "True" or "False".

Am.ini File Entries

[OPTION] Section

[OPTION] section

Entry	Description
bSaveOptionOnExit	Sets this entry to "0" if you do not want to save modified entries in the [Option] section when you exit Asset Manager. By default, modifications are saved.

[OPTION] section, continued

Entry	Description
CallDelayMax	Total time covered by the timer in the answer-call screen. Unit: Seconds. Default value: 60 seconds.
CallDelayOrange	Time after which the timer in the answer-call screen changes to orange. Unit: Seconds. Default value: 20 seconds.
CallDelayRed	Time after which the timer in the answer-call screen changes to red. Unit: Seconds. Default value: 40 seconds.
CallerDefaultTicket	Enables you to populate the **Ticket** link at the top of the answer-call screen with the last open ticket of the caller (based on the opening date of the ticket). This entry can be set to one of two values: • 1: Populate the "Ticket" field. • 0: Do not populate the "Ticket" field. Default value: "0".
CmdComboLines	Limits the number of lines displayed in the views and actions lists you can access via the toolbar.
CNtbkTabCfg.bShowFlyby	Displays ToolTips for tabs in detail screens: • 0: No. • 1: Yes.
g_lHelpDeskUpdateTimeout	Refresh time for information in the answer-call screen when you move the cursor from one field to another in a text zone, or when you select information in a help zone. Unit: Milliseconds. Default value: 1 000 milliseconds (=1 second).
KeyIniFileName	Specifies the path of the **aamdsk96.ini** file. Example: `KeyIniFileName=aamdsk96.ini`

[OPTION] section, continued

Entry	Description
	Asset Manager uses a file, **aamdsk96.ini**, that may be located on a network drive. In this case, it is possible to configure this file as read-only and users will not be able to modify their configuration.
NewMailLastCheck	Time when the Asset Manager messages were last read. Unit: Seconds elapsed since January 1, 1970 at 00:00.
opt_ bAskForConcurrentModifications	This entry determines whether or not Asset Manager displays a confirmation dialog box when a user clicks the **Modify** button if another user is modifying the same record at the same time: • 1: Displays a confirmation window. • 0: Does not display a confirmation window and saves the modifications straight away.
opt_bCommitDeletesOneByOne	This option is useful when deleting a set of records. If it is activated, Asset Manager erases one record after another (one transaction per record.) Otherwise Asset Manager erases the records in a single transaction. Default value: 0.
opt_ImportCacheSize	When data is imported using reconciliation keys, this sets the value for the cache memory used to increase import performance. Unit: Number of records found. Default value: 100.
StartSunday	Sets the beginning of a week on Monday (StartSunday=0) or Sunday (StartSunday=1). This option is used for calendars.

[SQL] Section

[SQL] section

Entry	Description
OracleDLL	Sets the name of the Oracle DLL to load in order to dialog with Oracle.

Amsrv.ini File Entries

[OPTION] Section

[OPTION] section

Entry	Description
MaxRentPerTrans	This entry is used for generating rent payments. It sets the maximum number of rent calculations per transaction. Default value: 200.
MaxMsgInList	Sets the number of displayed lines in the main window list of Asset Manager Automated Process Manager. Default value: 5000.
<Module>LastCheck Where <module> may be set to any of the following values: Alarms, CostCenter, HDAlarms, History, LostVal, Rent, Stats, Stock, TimeZone, UpdateToken, WkGroup, WkGroup <xxx>, WorkflowFinder	The lines suffixed with "LastCheck" correspond to the date of the last module execution. They allow the calculation of the next module execution when Asset Manager Automated Process Manager restarts. It may be useful to erase a line "WkGroup <xxx> LastCheck" (or the "WkGroupLastCheck" line) if an execution group <xxx> does no longer exist (or if a workflow scheme does not exist without an execution group) as the program will not do it automatically.

Amsrvcf.ini file entries

amsrvcf.ini file entries are self-described in the file created with the installation.

Amexp.ini File Entries

[OPTION] Section

[OPTION] section

Entry	Description
MaxOldDoc	Maximum number of previous documents displayed in the **File** menu.

Amdb.ini File Entries

You may have to modify the following entries for each section describing an Asset Manager connection:

Amdb.ini file entries

Entry	Description
AmApiDll	Sets the path to the **aamapi96** API DLL for Asset Manager. This entry is used for HPE Connect-It.
FetchingArraySize	Number of lines to fetch when executing SQL statements. Default value: 30.
OdbcLockingTime	In the case of a Microsoft SQL Server database, sets the time after which a record is to be considered as locked by another user. Unit: Seconds. Default value: 60. **Caution:** If the value is too low, the import process may be interrupted when run on an overloaded server.
OldStyleCatalog	With an Oracle database, this entry enables you to force the use of the "Tab" view instead of the default "All_Catalog" view. This entry can be set to one of two values: • 1: Uses "Tab". • 0: Uses "All_Catalog".

Amdb.ini file entries, continued

Entry	Description

OraFirstRowsHint	Used with an Oracle database only.
	
	The **OraFirstRowsHint** entry enables controlling the SQL hint that is used when a list has its "Force Indexes" display parameter checked.
	
	If not specified, the default value is **FIRST_ROWS(100)**. It can be set to another value, typically `OraFirstRowsHint=FIRST_ROWS(10)` or `OraFirstRowsHint= FIRST_ROWS(1)`, the hint is added in the generated SQL as follows :
	
	`SELECT /*+ FIRST_ROWS(1) */L1.lIconId, L1.lLocaId, L1.Name, L1.BarCode FROM amLocation L1 ORDER BY L1.lSocId`
	
	When **Force indexes** is not selected, no **FIRST_ROWS** hint will be added to the following query:
	
	`SELECT L1.lIconId, L1.lLocaId, L1.Name, L1.BarCode FROM amLocation L1 ORDER BY L1.lSocId`
	
	Fore more tuning considerations, refer to the *Tuning Guide* and *Asset Manager Web Monitoring* white paper.
	
	Note: Modifying this parameter may have performance impact on your queries. Verify it in your test environment first.

Controlling the Modification of the .ini Files

The **.ini** files are automatically modified by their respective applications when an option is changed.

When multiple executables or instances of an executable are associated with the same **.ini** file, the last executable to save the modifications wins out.

If you wish to keep control over these modifications, we recommend making the **.ini** read-only.

This is particularly true for the **aamapi96.ini** file.

Chapter 10: Using OpenSSL and OpenLDAP

Asset Manager replaces the following OpenSSL and OpenLDAP library files with updated versions, which ensures the compatibility between the latest version of Asset Manager and Connect-It.

Operating system	Old version	Updated version
32-bit Windows	libeay32.dll	libeay32-10.dll
	ssleay32.dll	ssleay32-10.dll
64-bit Windows	libeay64.dll	libeay64-10.dll
	ssleay64.dll	ssleay64-10.dll
32-bit and 64-bit Linux	libcrypto.so	libcrypto-10.so
	libssl.so	libssl-10.so

If you want to use your own OpenSSL library with Asset Manager, you must append a "-10" to the file name of the .dll or the .so file. For example, you need to rename the `libeay32.dll` file to `libeay32-10.dll`.

Asset Manager 9.40 and later versions only support FIPS capable OpenSSL. To enable or disable FIPS in Asset Manager, use one of the following methods.

Windows client

1. On the **Edit** menu, click **Option**.
2. In the **Options** window, expand **Advanced mode**, click **FIPSmode**, and change the Value to **Yes** or **No** to enable or disable FIPS.

Web client

Edit the `aamapi96.ini` (`libaamapi96.ini` for linux) file in the `conf` folder, add the following line in **Option** section:

```
/Advanced/FIPSMode=<value>
```

> **Note:** The placeholder <value> has two values, change it to 1 to enable FIPS, change it to 0 to disable FIPS.

Chapter 11: Performance Considerations

Overview
Asset Manager's performance depends on several factors:

- DBMS:
  - Hardware.
  - Configuration.
    This task is important but very tricky and requires the skills of a database administrator. It is not uncommon to double the performance of Asset Manager with proper tuning of the DBMS. It is important to pay close attention to the amount of RAM allocated to the database server.
  - The capabilities of the DBMS (taking into account the way in which Asset Manager interacts with the DBMS) and its middleware (support of advanced functionality such as retrieving groups of lines in one single network packet).
- The server's hardware performance: Processor speed, RAM, disk sub-system (disk, controller board, the system's administration of these, number of processors, and so on), use of separate storage devices for tables and indexes.
- The client's hardware performance: Processor speed, RAM, graphics performance.
- Bandwidth and network latency
- The number of records stored in your database.

For information on how to optimize performance of Asset Manager, refer to the **Tuning** guide.

Tuning for low-speed networks, busy high-speed networks or wide-area networks (WAN)
For information on this subject, refer to the **Administration** guide, chapter **Optimizing Asset Manager for use in a WAN environment**.

Locking of records in the Asset Manager database by external applications
Certain external tools lock records, even when consulting them.

This can impact the performance of Asset Manager. We recommend that you avoid record locking.

With Microsoft SQL Server, for example, it is preferable to use **dirty read** access.

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 Installation and Upgrade (Asset Manager 9.60)

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.

We appreciate your feedback!