

Oracle® Virtual Assembly Builder

Installation Guide

11g Release 1 (11.1.1)

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The following sections describe how to do a complete installation of Oracle Virtual Assembly Builder.

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1 Security Precautions

Ensure that you read this section before proceeding. It contains important security information and precautions. Failure to read and understand these items may cause security vulnerabilities.

- The user who installs should be a trusted user, and a member of a trusted OS group.
- The template creation process does a security check to see that the Operating System (OS) user attempting to create the template is the same OS user who owns the Oracle Virtual Assembly Builder `bin` directory. Having the OS user who installs the product be the same OS user who creates templates ensures that the security check will succeed.
- This release of Oracle Virtual Assembly Builder is a Developer-centric release (versus an Enterprise release); from a security perspective this means that the release is more reliant than a production release on environmental security (operating system file permissions, trusted users, and so on).
- In this release, users can not replace the self-signed root certificate created by default by Oracle Virtual Assembly Builder with their own production-quality certificates.
- The communication between Oracle Virtual Assembly Builder and the Oracle VM Server when Oracle VM Server retrieves templates is not secure. If sensitive data has been introspected, then it might be visible to an attacker who has access to the network (between the Oracle Virtual Assembly Builder machine and the machine running Oracle VM Server). The attacker might be able to access that sensitive data in the template.

2 Before you Begin

Before using Oracle Virtual Assembly Builder, ensure that your environment meets the following prerequisites.

2.1 Oracle WebLogic Server Domain Requirements

You must ensure that any Oracle WebLogic Server domain being introspected is configured to be editable. This allows edits to be performed successfully during deployment. For more information on configuring your Oracle WebLogic Server, see your product documentation.

2.2 Virtual to Virtual Introspection and Deployment Requirements

The following are requirements for virtual to virtual introspection and deployment.

2.2.1 Introspection

Introspection on a deployed virtual machine (VM) can fail to complete when the temporary directory used for introspection is a mounted NFS share with NFS file locking. To avoid this problem, remount the NFS file system with locking turned off:

```
mount -o nolock example:/scratch /net/example/scratch
```

2.2.2 Base Image Template Sizing

You must ensure that the reference system on the virtual machine has enough space for an image of itself. If this is an issue, you can resolve it by using one of the following options:

- Copy `System.img` to Oracle Virtual Assembly Builder host and run `modifyjeos` to increase the disk size to handle the snapshot of the product installation. Then redeploy the image and restart it. This will provide enough space in the `/tmp` directory.
- If the previous option is not feasible, mount an NFS disk of suitable size, and place the catalog on it. For remote packaging, use the NFS disk location, rather than `/tmp`.

2.3 LDAP Provider Requirements

Oracle recommends the use of Oracle Internet Directory as the LDAP provider on the reference system, not file-based LDAP. File-based LDAP cannot work properly in a deployed system due to synchronization issues.

3 Installation Overview

In order to deploy your applications into virtualized environments, you must also have appropriate *Reference Systems* set up (for *Introspection*), and an Oracle VM environment ready to deploy your applications.

3.1 Installation Road Map

This document details the steps you must complete in order to install and configure Oracle Virtual Assembly Builder. The entire process is comprised of the following steps:

- Install and configure your Reference Systems. Supported reference systems include:
 - Oracle RDBMS (single instance)
(<http://www.oracle.com/technology/products/database/oracle11g/index.html>)
 - Oracle WebCache
(http://www.oracle.com/technology/products/ias/web_cache/index.html)
 - Oracle HTTP Server
(<http://www.oracle.com/technology/products/ias/ohs/index.html>)
 - Oracle WebLogic Server
(<http://www.oracle.com/technology/products/weblogic/index.html>)
- Install and configure Oracle Virtual Assembly Builder (this Guide)
- Install and configure your deployment environment. See also Oracle VM (<http://www.oracle.com/technology/products/vm/index.html>) for more information.

4 Certification and System Requirements

Ensure your environment meets all requirements before starting the installation.

4.1 Certification

This certification document details supported installation types, platforms, operating systems, databases, and JDKs. See *Assembly Builder Certification* (at http://www.oracle.com/technology/software/products/ias/files/fusion_certification.html).

4.2 System Requirements

Please ensure you meet the following requirements.

4.2.1 Operating System

The following operating systems are supported:

- Oracle Enterprise Linux 5 (UL3+)
- Red Hat Enterprise Linux 5 (UL3+)

You can verify your operating system version using the commands listed here.

- Oracle Enterprise Linux:


```
# cat /etc/enterprise-release
```
- Red Hat Enterprise Linux:


```
# cat /etc/redhat-release
```

4.2.2 Java Development Kit

Download and install Sun JDK 1.6.0_14 (or later) or Oracle JRockit 6 Update 14 R27.6.5 (or later) to the machine on which Oracle Virtual Assembly Builder will be installed. You can download them from the locations listed here.

- Sun JDK: <http://java.sun.com/javase/downloads/widget/jdk6.jsp>
- Oracle JRockit:
<http://www.oracle.com/technology/products/jrockit/index.html>

4.2.3 Oracle Enterprise Linux JeOS

Download and install Oracle Enterprise Linux JeOS from:

<http://edelivery.oracle.com/oraclevm>. If this is your first time using eDelivery, you will be required to register. Register, then continue.

1. On the *Welcome* screen, click **Continue**. The Media Pack Search screen appears.
2. Select a **Product Pack** (*Enterprise Linux*), and **Platform** (*x86 32 bit*). Click **Go**. The Results are displayed.
3. Select **Oracle Enterprise Linux JeOS for Building Oracle VM templates for x86 (32 bit)**. Click **Continue**. Available downloads appear.
4. Download **JeOS Base x86 and x86_64**, by clicking **Download**. The file `V17420-01.zip` is downloaded.
5. Unzip `V17420-01.zip`.
6. (As root) install the packages using this command:

```
rpm -ivh ovm-modify-jeos-1.1.0-2.el5.noarch.rpm  
ovm-template-config-1.1.0-1.el5.noarch.rpm
```

4.2.4 System Base Images

Depending on the type of operating system you choose for your appliance at template creation time, you may need the Oracle Enterprise Linux Base Image or Oracle WebLogic Server on Oracle JRockit Virtual Edition Base Image (or both).

Note: You have a choice of downloading an Oracle provided *sample* Oracle Enterprise Linux Base Image, or creating your own. The sample image is available on Oracle Technology Network:
<http://www.oracle.com/technology/products/ovab>

To create the appropriate Base Image(s):

- Oracle Enterprise Linux Base Image, see <http://www.oracle.com/technology/products/vm/templates/index.html>. The information on this page (and on referenced pages, especially on: <http://www.oracle.com/technology/products/vm/pdf/ovmtemplatedevguide-whitepaper.pdf>) will provide the information you need to create your own System Base Image.

When specifying a base image, the image must meet the following requirements:

- Oracle Enterprise Linux 5 base
- You must have installed the following packages (RPMs):
 - nc

- libaio
 - zip
 - unzip
 - nfs-utils
 - xen-tool
 - xen-devel
- You must turn on `oraclevm-templates` while creating the image.
 - You are recommended to turn off `iptables` while creating the image.
 - The base image must have the user *oracle*. One example of meeting this requirement is to boot the base image, log on to it as root, and call `/usr/sbin/useradd oracle`.

Note: Refer to `modifyjeos` documentation to create the base image.

- Oracle WebLogic Server on Oracle JRockit Virtual Edition Base Image is included in the Oracle WebLogic Server on Oracle JRockit Virtual Edition bundle. Unzip the product's zip file, and find the `System.img` and `vm.cfg` files (in the `wlsve` sub-directory of the structure into which you unzipped the files).

Note: The base image (`system.img`) must not have an executable bit. Otherwise, export/import may not work properly. You must set the permission of base images properly, for example, to `644`:

```
$ chmod 644 System.img
$ ls -l System.img
-rw-r--r-- 1 jdoe g900 748500480 Apr 22 12:52 System.img
```

5 Install Oracle Virtual Assembly Builder

Follow these steps to install and configure Oracle Virtual Assembly Builder.

Note: These installation instructions are limited to installing Oracle Virtual Assembly Builder on Oracle Enterprise Linux 5.4. You can adapt them for your local environment.

5.1 Extract Compressed Files

Follow these steps to copy program files.

1. Download Oracle Virtual Assembly Builder.

Oracle Virtual Assembly Builder is available as part of Oracle Fusion Middleware 11g Media Pack. You can also download it from Oracle eDelivery or Oracle Technology Network:

- Oracle eDelivery Web site (<http://edelivery.oracle.com/>)

- Oracle Technology Network Web site
(<http://www.oracle.com/technology/products/ovab>)
- 2. Create a directory (for example: ab_home).

```
mkdir ~/ab_home
```
- 3. Copy the Oracle Virtual Assembly Builder zip file that you downloaded into the ~/ab_home directory and unzip it. For example (zip file name will vary):

```
cp <zip file name> ~/ab_home/  
cd ~/ab_home  
unzip <zip file name>
```

5.2 Execute the root.sh Script

After installation of Oracle Virtual Assembly Builder, execute `root.sh` (as user root) located in the `$AB_HOME/bin` directory.

This step is necessary to successfully create templates, otherwise Oracle Virtual Assembly Builder will give an error during template creation process.

5.3 Copy the System Base Image(s)

Oracle Virtual Assembly Builder requires system base images to create deployable templates for appliances. The default locations of system base images are listed below.

- Oracle Enterprise Linux Base Image: `$AB_HOME/templates/baseImage/OVM/OEL`
- Oracle WebLogic Server on Oracle JRockit Virtual Edition: `$AB_HOME/templates/baseImage/OVM/JRVE`

Copy the `system.img` and `vm.cfg` files of your system base image(s) created in [Section 4.2.4, "System Base Images"](#) into the corresponding above-mentioned directories.

Note: This step (copying the system base images) is optional and is only necessary if you choose to keep your system base images in the default locations. If you choose to keep your system base images in alternate locations, make sure to specify the system base image locations at template creation time, otherwise the template creation operation will result in an error.

5.4 Configure

There are mandatory and optional variables to set in order to configure this installation:

- (Mandatory) `JAVA_HOME` and `AB_HOME`:
 1. Set `JAVA_HOME` to the location where you installed Sun JDK or Oracle JRockit.
 2. Set `AB_HOME` to the location where you unzipped Oracle Assembly Builder zip file.
- (Optional) `AB_CONFIG_HOME` and `AB_CATALOG_HOME`:

1. Set `AB_CONFIG_HOME` to the location where your Oracle Virtual Assembly Builder configuration is stored. By default `AB_CONFIG_HOME = $AB_HOME`.
2. Set `AB_CATALOG_HOME` to the location where your Oracle Virtual Assembly Builder catalog will be stored. By default:

```
AB_CATALOG_HOME =  
AB_CONFIG_HOME/catalog (if set) or  
AB_HOME/catalog
```

The algorithm Oracle Virtual Assembly Builder uses to determine catalog location is (in this order):

- `catalog` option, if it is set in the command (applicable for operations performed using `abctl` command line only)
- `AB_CATALOG_HOME` environment variable, if it is set
- `AB_CONFIG_HOME/catalog`, if `AB_CONFIG_HOME` environment variable is set
- `AB_HOME/catalog`

5.5 Verify Your Installation

Verify your installation to ensure you have done everything correctly. You can verify installation of the command-line tool and the graphical Oracle Virtual Assembly Builder Studio.

- To test the command-line interface (CLI):

```
cd $AB_HOME/bin  
./abctl version
```

- To test the graphical Oracle Virtual Assembly Builder Studio:

```
cd $AB_HOME/bin/abstudio/bin  
./abstudio
```

6 Deinstallation

To deinstall Oracle Virtual Assembly Builder, execute this command:

```
rm -rf $AB_HOME
```

This deinstalls Oracle Virtual Assembly Builder if it was installed in default locations.

If you remove `$AB_HOME`, you must also remove your `catalog` and `config` homes as well. Do not reuse your catalog after removing the `$AB_HOME`.

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