Oracle® Data Integrator

Getting Started

12c (12.2.1.2.0)

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This document provides instructions on how to install the Oracle Data Integrator (ODI) 12c Getting Started Virtual Machine (VM). The VM is intended to be used with this guide. For more information about the Getting Started Guide, please visit: http://www.oracle.com/technetwork/middleware/data-integrator/overview/index.html

1 Oracle Data Integrator Getting Started

This document contains information on installing and configuring a Virtual Machine for use with Oracle Data Integrator. It includes the following sections:

- Section 1.1, "Introduction"

- Section 1.2, "Installation and Configuration"

- Section 1.3, "Starting the ODI Getting Started Appliance"

- Section 1.4, "Reference"

- Section 1.5, "Learn More"

1.1 Introduction

Oracle Data Integrator (ODI) Enterprise Edition 12c delivers unique next-generation, Extract Load and Transform (E-LT) technology that improves performance, and reduces data integration costs, even across heterogeneous systems. Unlike conventional ETL tools, Oracle Data Integrator EE offers the productivity of a declarative design approach, as well as the benefits of an active integration platform for seamless batch and real-time integration. In addition, hot-pluggable Knowledge Modules provide modularity, flexibility, and extensibility.

ODI addresses multiple enterprise data integration needs including:

- Data Warehousing and Business Intelligence

- Service-Oriented Architecture

- Master Data Management (MDM)

- Migration and Consolidations

- Modernization Initiatives

The demonstration highlights how ODI can be used to populate a Data Warehouse schema. Several facts and dimensions are loaded to demonstrate key ETL capabilities (complex transformations, slowly changing dimensions, incremental updates, constraints checking, and others), ease-of-use and productivity.

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1.1.1 Oracle Data Integrator "Getting Started" Virtual Machine

The virtual machine (entitled ODI 12c Getting Started) is a stand-alone environment for running Oracle Data Integration products. It is used to provide a complete environment for learning and demonstrating key Oracle Data Integration technologies.

The virtual machine includes the following products:

- Oracle Database 11g Enterprise Edition (11.2.0.4)

- JVM 1.7.0_15

- Oracle Data Integrator (12.2.1.0.0)

- Oracle GoldenGate (12.1.2.0.0)

1.1.2 Technical Deployment

The ODI virtual machine is delivered as an Oracle VirtualBox appliance and requires both the ODI 12c Getting Started archive and an installation of the Oracle VirtualBox product. In this document, the terms VM (Virtual Machine) and appliance are synonymous.

1.1.2.1 Oracle VirtualBox Introduction VirtualBox is a cross-platform virtualization application. What does that mean? For one thing, it installs on your existing Intel or AMD-based computers, whether they are running Windows, Mac, Linux or Solaris operating systems. Secondly, it extends the capabilities of your existing computer so that it can run multiple operating systems (inside multiple virtual machines) at the same time. For example, you can run Windows and Linux on your Mac, run Windows Server 2008 on your Linux server, run Linux on your Windows PC, and so on, all alongside your existing applications. You can install and run as many virtual machines as you like; the only practical limits are disk space and memory.

For more information, see https://www.virtualbox.org/manual/ch01.html

1.2 Installation and Configuration

This section details the steps necessary to install and configure VirtualBox.

1.2.1 Download VirtualBox Software and User Manual

Go to the following URL to download the appropriate VirtualBox binary and documentation:

https://www.virtualbox.org/wiki/Downloads

Figure 1   Oracle VirtualBox Download

Screen shot showing Virtual Box download. It lists the binaries that will be downloaded.

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To install the VirtualBox software, click the link for the appropriate platform (such as Windows hosts), and you will be guided to install the software.
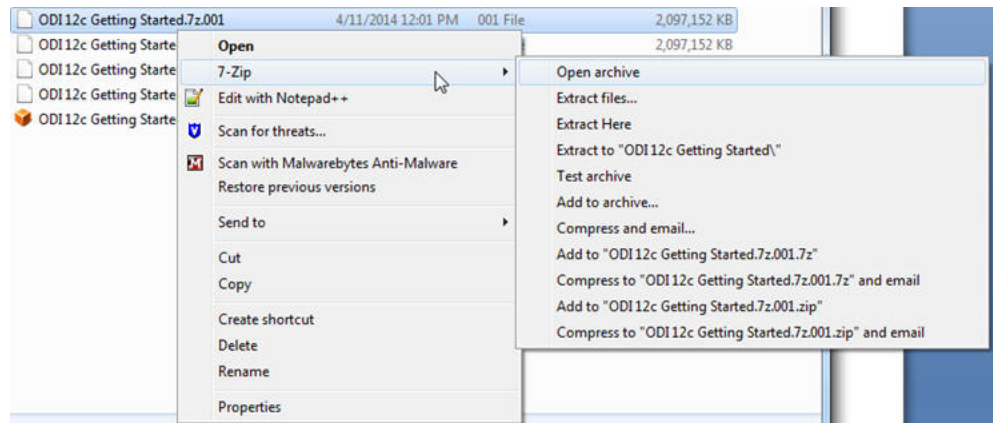
1.2.2 Extract the VirtualBox VM

After downloading the archive files, extract the first archive file (for example, using 7-Zip). The remaining archive files will automatically unzip. The extracted file, `ODI 12c Getting Started.ova` will be used to create the virtual machine through a VirtualBox appliance import.

Here is an example using 7-Zip to extract the VM (only need to extract the first file).

1. From Windows Explorer, select the first file of the archive and right-click to select the extraction tool, such as 7-Zip.
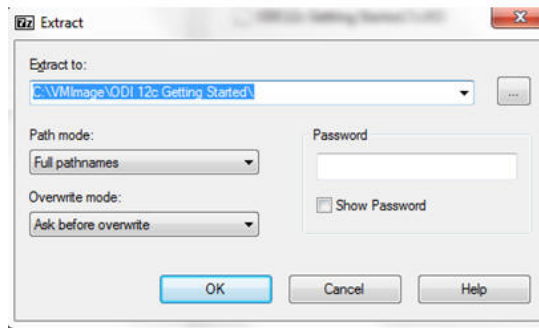
Figure 2   Extracting the VirtualBox Archive

Screen shot of the extraction process. Choose files, then choose your compression utility, then open Archive.

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2.   Select a target directory for the VirtualBox appliance:

Figure 3   Extraction location

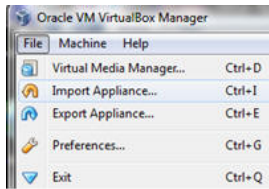Choose the location of the extracted files that you downloaded.

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The extracted VirtualBox appliance import will be created in the designated directory.

1.2.2.1 Import the Appliance into VirtualBox

1.   Start Oracle VM VirtualBox Manager

2.   Click **File** and then **Import Appliance**.

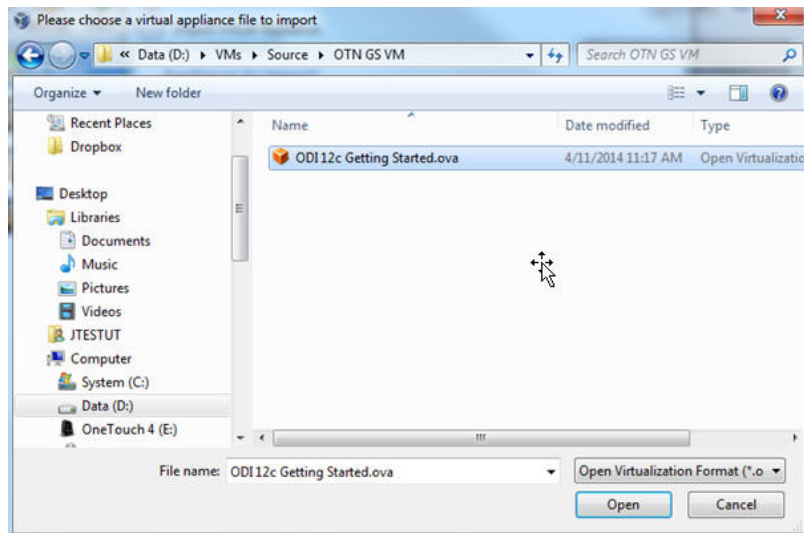The Appliance Import Wizard window appears.

Figure 4   VirtualBox Import

VirtualBox Import dialog showing available imports.

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3. Click **Open Appliance**.

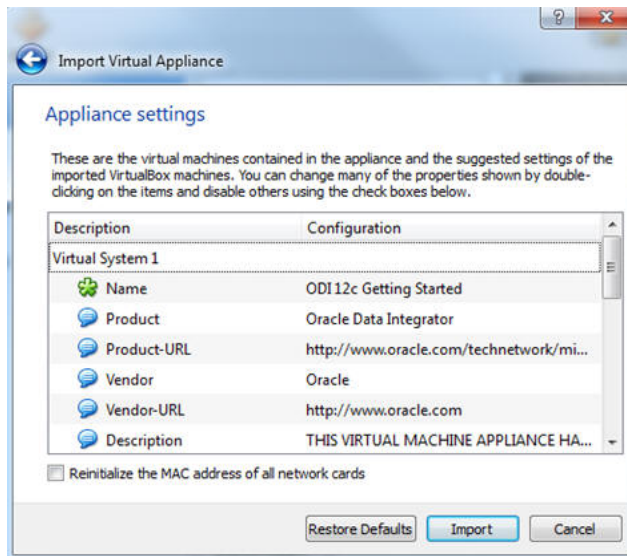4. Specify the OVA file location and click **Open** to choose the VirtualBox file.

Figure 5   VirtualBox Import Selection

VirtualBox Import dialog shwoing OVA file location. Actions described in surrounding text.

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5. Confirm the file selection and click **Next**.

6. Confirm the Appliance (VM) settings and click **Import**.

Figure 6   Appliance (VM) settings

Appliance (VM) settings. Confirm the displayed settings, then click Next to continue.

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7. Click **Agree** in the *Software License Agreement* window to start the import process. The license terms are available at:

http://www.oracle.com/technetwork/licenses/odi-vm-license-2035237.html

The import is complete and the appliance (virtual machine) is now available in the VirtualBox Manager. The appliance may be started by clicking **Start**, or customized further for your environment.

1.2.3 Customize VirtualBox Appliance Settings

Depending on the host operating system limitations, network configuration or file sharing requirements, VirtualBox appliance settings may be modified. For further information about VirtualBox, see the VirtualBox documentation:

https://www.virtualbox.org/wiki/Documentation

To continue to customize settings for the appliance, highlight the **ODI 12c Getting Started appliance** and click the **Settings** icon in the menu bar.

1.2.3.1 Memory (Optional) The recommended amount of memory for the VirtualBox is 4GB.

Note: In situations where less memory is available on the physical host, the memory for the ODI Getting Started appliance may be reduced to 2GB with some additional shared memory settings in the unix appliance itself. Use the following command to create a shared memory space to enable an Oracle database to start in low memory situations:

$ mount -t tmpfs shmfs -o size=2g /dev/shm

To change the appliance memory setting, click **System**.

1.2.3.2 Shared Folders (Optional) Shared Folders may be used to move files between the host operating system and the VirtualBox Appliance (for example, moving future ODI projects into the appliance). The project could potentially be another ODI tutorial, which is delivered as a separately downloadable ODI Smart Import.

Use of shared folders begins with defining a locally-available directory on your computer (host) and one on the VirtualBox appliance, along with a share name.

> **Best Practice:** Use the same string for the share name and folder names, for example *ODIshared*.

To configure a shared folder:

1. Click the **Shared Folders** shortcut on the left panel.

2. Click the **Add Folder** icon on the right:

Figure 7 Configuring Shared Folders
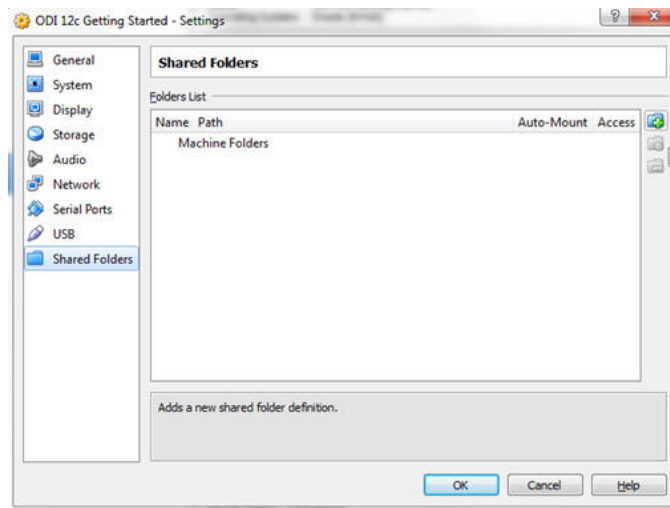
Configuring Shared Folders dialog with Shared Folders highlighted, and the contents displayed.

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3. The *Add Share* dialog appears, select **Other…** for the *Folder Path* and the following options.

Figure 8   Shared Folder Options
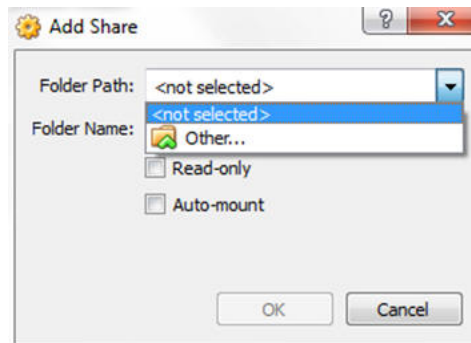
Shared Folder Options dialog showing user selecting from the Folder Path: drop-down menu.

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In this example, the following values are used:

- **Folder Path:** *C:\ODIshared*

- **Folder Name:** *ODIshared*

- **Auto-mount:** checked

Figure 9   Using ODIshared as the local folder and share name
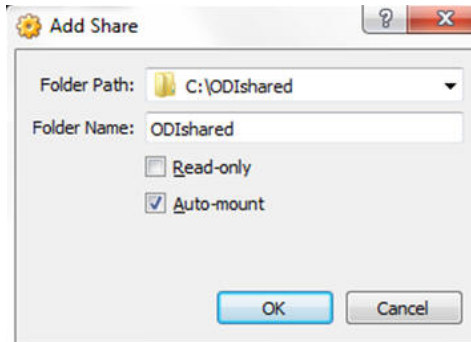
Add Share dialog box showing C:\ODIshared as the selected Folder Path.

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4. The Vitural Box share has been configured. You must create a directory in the ODI Getting Started Appliance (VM).

> **Note:**   Log on instructions to the Appliance (VM) are available in Table 2, " Appliance Credentials".

- Start the ODI Getting Started VM.

- In the VM, open a terminal window.

- su to super user (root) – password *oracle*

- Create the directory, for example: `$ mkdir ODIshared`

> **Note:** Examine the permissions of the directory and modify accordingly. As this is a tutorial, sharing to all users and groups may be approprite
>
> `$chmod -777 ODIshared`

Figure 10   Creating a directory
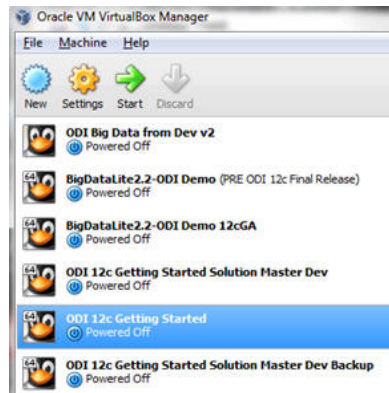
The figure shows a user creating a directory using mkdir.

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5. To access the shared directory from the Getting Started Appliance, a Unix mount must be performed from a terminal shell (as root):

   Mount follows the syntax:

   `$ mount [-t fstype] something somewhere`

   The mount for the ODI Getting Started Appliance and the example in this document would be:

   `$ mount -t vboxsf ODIshared ODIshared`

The shared folder is now available between the host operating system and the ODI Getting Started vitural box appliance.

1.3 Starting the ODI Getting Started Appliance

To start the appliance from within the Oracle VirtualBox client, do ONE of the following:

- Double-click on the ODI 12c Getting Started entry in the list within the Manager window.

  OR

- Select its entry in the list in the Manager window and click **Start**.

Once started, the appliance will boot into Oracle Linux and the desktop will be displayed.

1.3.1 Beginning the Getting Started Tutorial

The Getting Started appliance desktop includes the objects detailed in Table 1, " ODI Getting Started 12c Desktop Objects".

Table 1   ODI Getting Started 12c Desktop Objects

Object	Purpose
ODI 12c Getting Started	This document provides the introduction and exercises to drive the tutorial. Open this first. http://www.oracle.com/technetwork/middleware/data-integrator/overview/index.html
ODI 12c Studio	Double-click this launcher to start ODI Studio. The ODI Studio will load; multiple clicks may result in more than one Studio loading.
ORACLE_HOME	A shortcut to the default user's directory.
Demo	A shortcut to the demo directory located in ODI_HOME. /home/oracle/Oracle/Middleware/Oracle_Home_1221/odi/demo The directory structure and objects are defined in the Getting Started guide. For the purpose of running the tutorial from the Appliance, you should not need to open this directory.
Information about this machine	A text file listing basic attributes of the machine.

1. To begin with the ODI Getting Started Tutorial, open the ODI 12c *Getting Started Guide* on the desktop and follow the self-paced instructions.

2. Start ODI Studio using the desktop launcher.

Figure 11   ODI Studio Desktop Launcher

The figure shows the ODI Studio desktop Launcher icon.

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> **Note:**   The startup script for ODI may alternatively be found in:
>
> /home/oracle/Oracle/Middleware/Oracle_Home_1221/odi/studio/bin/odi.sh

The ODI 12c Getting Started Appliance and tutorial is now ready to be used!

1.4 Reference

Table 2 Appliance Credentials

Appliance	Credentials
Appliance LinuxOS	Default user: **oracle**; Password: **oracle**
	Su user: **root**; Password: **oracle**
Oracle Product Access Information	
Oracle RDBMS	SID: **ORCL**
	Port: **1521**
	System: **user**; Password: **oracle**
	Sys: **user**; Password: **oracle**
	ODI repository user: **prod_odi_repo**; Password: **oracle**
	ODI sample data user: **odi_demo**; Password: **oracle**
Oracle Data Integrator	ODI username: **SUPERVISOR**
	ODI password: **SUPERVISOR**

1.5 Learn More

You can learn more about creating your own integration projects with Oracle Data Integrator in the guides listed in Table 3, " Oracle Data Integrator Documentation"

Table 3 Oracle Data Integrator Documentation

Document	Description
Oracle Fusion Middleware Installation Guide for Oracle Data Integrator	Provides Oracle Data Integrator installation information including pre-installation requirements and troubleshooting.
Oracle Fusion Middleware Upgrade Guide for Oracle Data Integrator	Provides 12c upgrade information for Oracle Data Integrator.
Oracle Fusion Middleware Developer's Guide for Oracle Data Integrator	Provides guidelines for developers interested in using Oracle Data Integrator for integration projects.
Oracle Fusion Middleware Connectivity and Knowledge Modules Guide for Oracle Data Integrator	Describes Oracle Data Integrator Knowledge Modules and technologies and how to use them in integration projects.
Oracle Fusion Middleware *Knowledge Module Developer's Guide for Oracle Data Integrator*	Describes how to develop your own Knowledge Modules for Oracle Data Integrator.

You can find all Oracle Data Integrator documentation on the Oracle Data Integrator documentation page on the Oracle Technology Network, at:
http://www.oracle.com/technetwork/middleware/data-integrator/documentation/index.html

The Oracle Data Integrator home page on the Oracle Technology Network also provides the following resources to learn more about other features of Oracle Data Integrator:

View the Oracle by Example Series for ODI. The Oracle by Example (OBE) series provides step-by-step instructions on how to perform a variety of tasks using Oracle Data Integrator Suite.

To learn more about the new features that have been introduced in Oracle Data Integrator 12c, see *"What's New in Oracle Data Integrator?"* in the *Oracle Fusion Middleware Developer's Guide for Oracle Data Integrator* and the *Release Notes*.

Thank you for choosing Oracle Data Integrator.

2 Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at
`http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc`.

Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit
`http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info` or visit
`http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs` if you are hearing impaired.