

Oracle® Fusion Middleware

Getting Started with Oracle Data Integrator 12c

Virtual Machine Installation Guide

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Oracle Fusion Middleware Getting Started with Oracle Data Integrator, 12c

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Document Scope

The following document provides instruction to install the *Oracle Data Integrator (ODI) 12c Getting Started Virtual Machine (VM)*. The VM is intended to be used with the ODI 12c Getting Started Guide. For more information about the Getting Started Guide, please visit:

<http://www.oracle.com/technetwork/middleware/data-integrator/overview/index.html>

Introduction

Oracle Data Integrator

Oracle Data Integrator (ODI) Enterprise Edition 12c delivers unique next-generation, Extract Load and Transform (E-LT) technology that improves performance, 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 etc.), ease of use and productivity.

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. The purpose is 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)
- Oracle JDK 1.8.0_60
- Oracle Data Integrator 12c (12.2.1.2.6)
- Oracle GoldenGate 12c (12.1.2.0.0)

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. Further reference to the terms VM (Virtual Machine) and appliance in this document are synonymous.

Following are instructions to continue with the installation and configuration.

Oracle VirtualBox Introduction

<https://www.virtualbox.org/manual/ch01.html>

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. So, 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.

Installation and Configuration

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



VirtualBox
Download VirtualBox

Here, you will find links to VirtualBox binaries and its source code.

VirtualBox binaries

By downloading, you agree to the terms and conditions of the respective license.

- **VirtualBox platform packages.** The binaries are released under the terms of the GPL version 2.
 - **VirtualBox 4.2.18 for Windows hosts** [⇒ x86/amd64](#)
 - **VirtualBox 4.2.18 for OS X hosts** [⇒ x86/amd64](#)
 - **VirtualBox 4.2.18 for Linux hosts**
 - **VirtualBox 4.2.18 for Solaris hosts** [⇒ x86/amd64](#)
- **VirtualBox 4.2.18 Oracle VM VirtualBox Extension Pack** [⇒ All supported platforms](#)
Support for USB 2.0 devices, VirtualBox RDP and PXE boot for Intel cards. See this chapter from the User Manual for an introduction to this Extension Pack. The Extension Pack binaries are released under the VirtualBox Personal Use and Evaluation License (PUEL). Please install the extension pack with the same version as your installed version of VirtualBox!
If you are using **VirtualBox 4.1.28**, please download the extension pack [⇒ here](#).
If you are using **VirtualBox 4.0.20**, please download the extension pack [⇒ here](#).
- **VirtualBox 4.2.18 Software Developer Kit (SDK)** [⇒ All platforms](#)

See the [changelog](#) for what has changed.
You might want to compare the

- [⇒ SHA256](#) checksums or the
- [⇒ MD5](#) checksums

to verify the integrity of downloaded packages.
The SHA256 checksums should be favored as the MD5 algorithm must be treated as insecure!

Note: After upgrading VirtualBox it is recommended to upgrade the guest additions as well.

To install the VirtualBox software, simply click on the link for the appropriate platform (i.e. Windows hosts), and you will be guided to install the software.

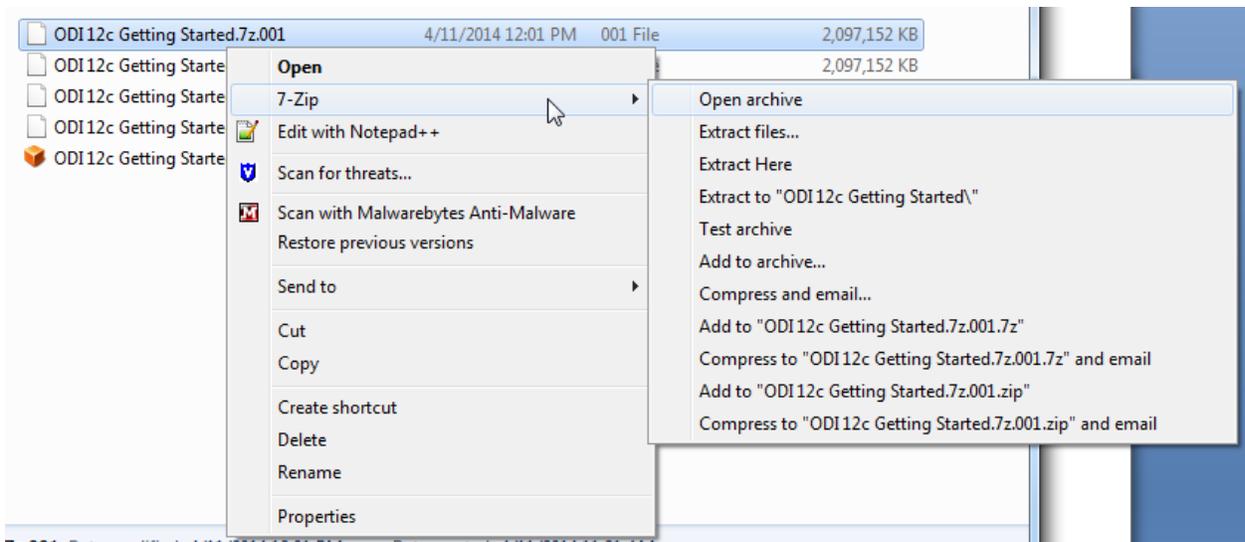
Extract the VirtualBox VM

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.

Following is an example on using 7-Zip to extract the VM (only need to extract the 1st file).

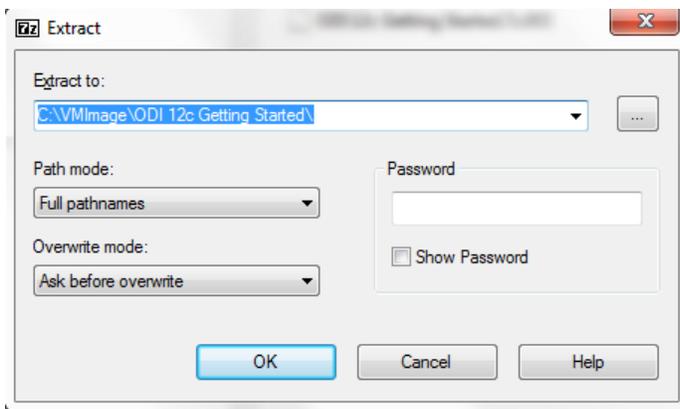
1. From windows explorer, select the first file of the archive and right click to select the extraction tool, such as 7-Zip.

Figure 2 Extracting the VirtualBox Archive



2. Select a target directory for the VirtualBox appliance:

Figure 3 Extraction location



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

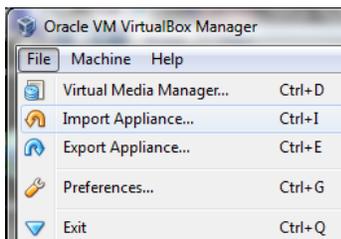
Figure 4 ODI 12c VirtualBox Import name

Name	Date modified	Type	Size
 ODI12c Getting Started.ova	4/11/2014 11:17 AM	Open Virtualizatio...	8,371,789 KB

Import the Appliance into VirtualBox

1. Start Oracle VM VirtualBox Manager
2. Click on **File** and then **Import Appliance**.

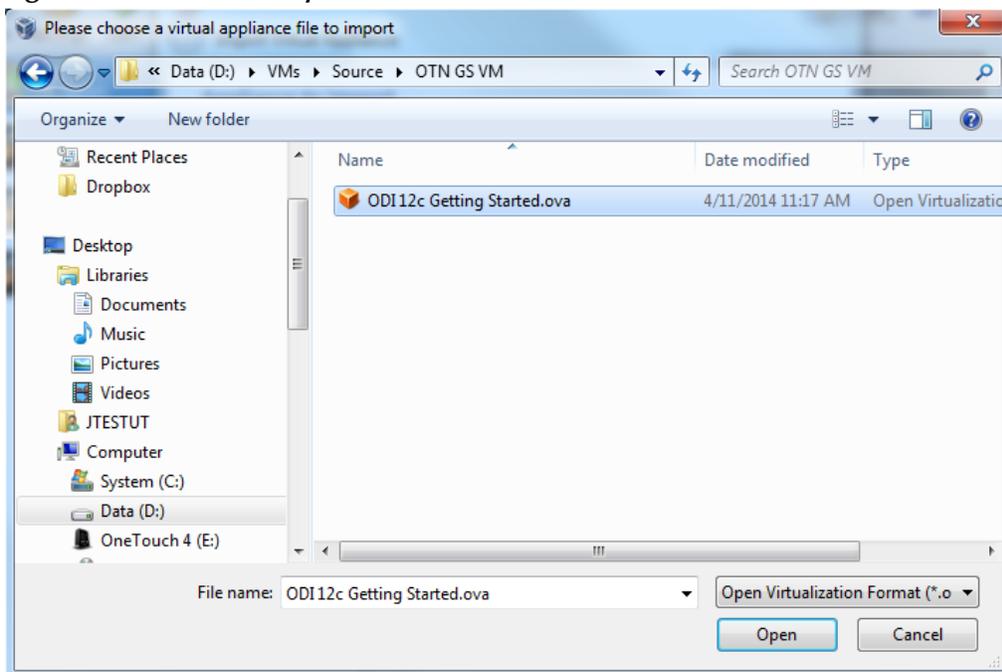
Figure 5 VirtualBox Import



The Appliance Import Wizard window appears.

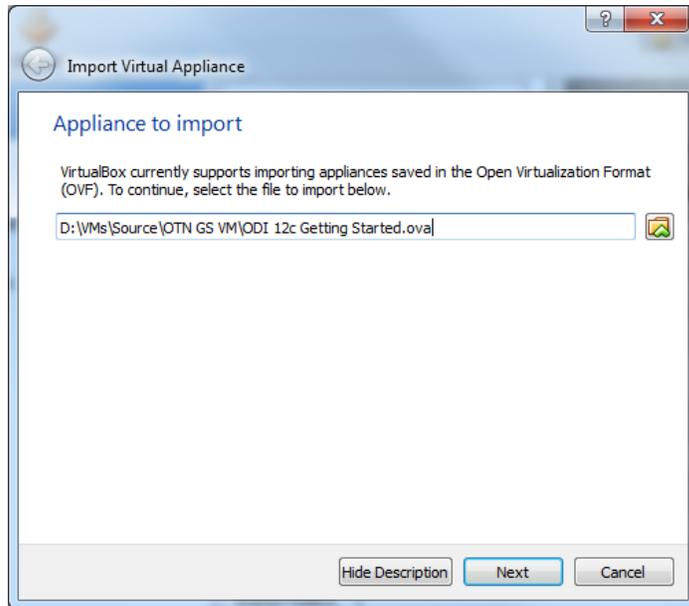
3. Click **Open Appliance**.
4. Specify the OVA file location and click **Open** to choose the VirtualBox file.

Figure 6 VirtualBox Import Selection



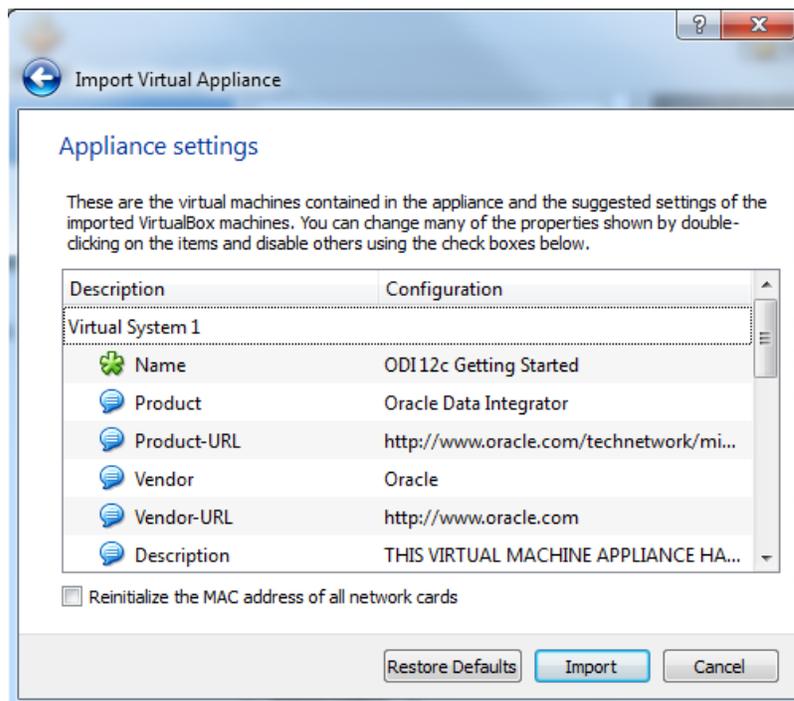
5. Confirm the file selection and click **Next**.

Figure 7 *Appliance (VM) confirmation*



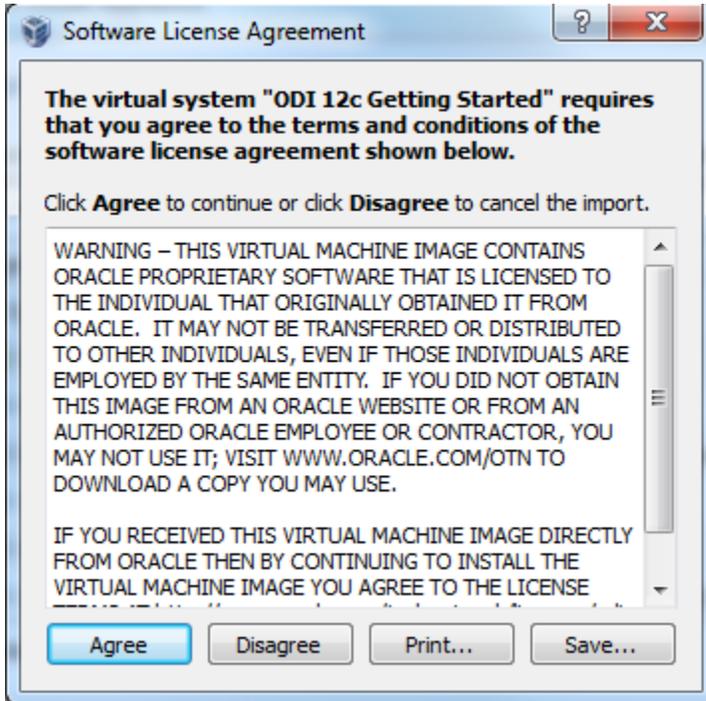
6. Confirm the Appliance (VM) settings and click on **Import**.

Figure 8 *Appliance (VM) settings*



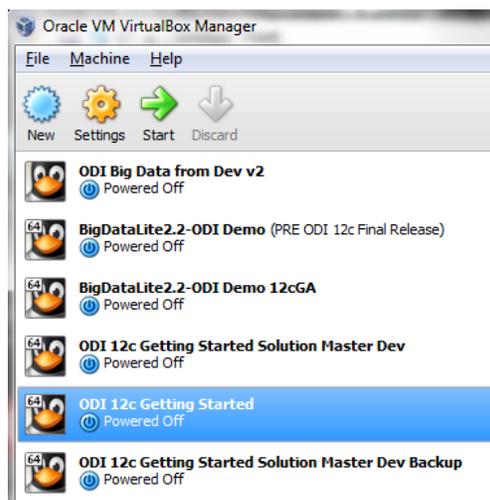
- Click on Agree in the Software License Agreement window to start the import process. The license terms are available at <http://www.oracle.com/technetwork/licenses/odi-vm-license-2035237.html>.

Figure 9 Software License Agreement screen



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.

Figure 10 Available VirtualBox Appliances



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, please review 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 on the **Settings** icon in the menu bar as shown on Figure 10

Memory (optional)

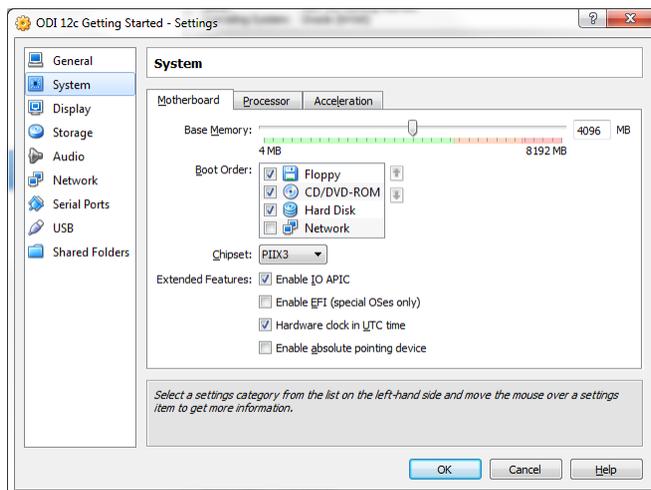
The recommended amount of memory for the VirtualBox is 4GB. Typically, host machines may have 8GB of total memory where 4GB may be ideal.

Note: In situations of 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. The following command will 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 on **System** on the left panel.

Figure 11 VirtualBox Appliance settings



Shared Folders (optional)

Shared Folders may be used to move files between the host operating system and the VirtualBox Appliance. An example may be 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.

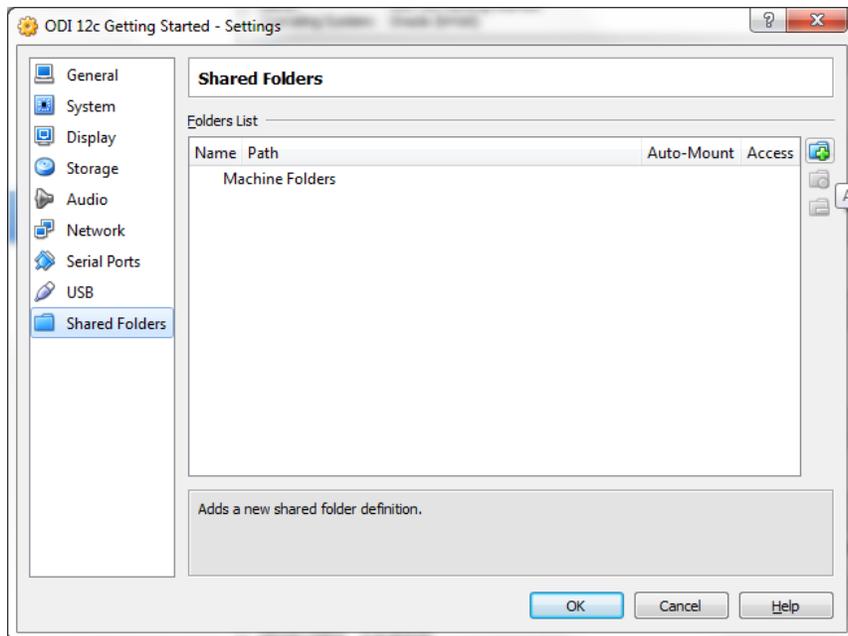
Use of shared folders begins with defining a locally available directory on your computer (host) and one on the VirtualBox appliance, along with a share name.

Note: A best practice is to use the same string for the share name and folder names, for example ODIshared.

To configure a shared folder:

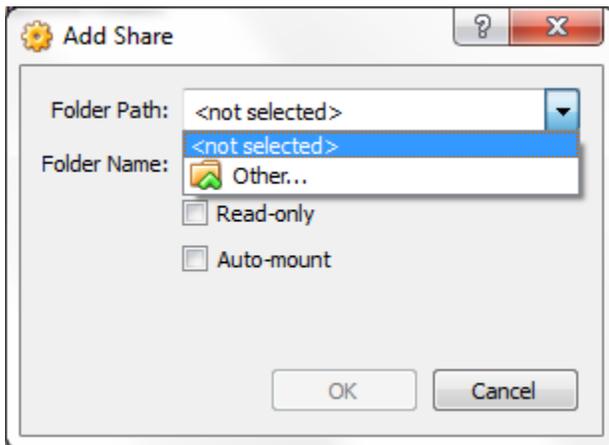
1. Click on **Shared Folders** shortcut on the left panel.
2. Click on the **Add Folder** icon on the right:

Figure 12 Configuring Shared Folders



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

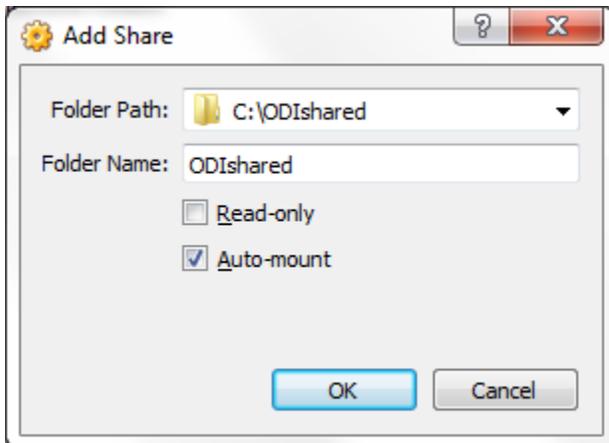
Figure 13 Shared Folder Options



In this example, the following values are used:

- **Folder Path:** C:\ODIshared
- **Folder Name:** ODIshared
- **Auto-mount:** checked

Figure 14 Using ODIshared as the local folder and share name



4. The Virtual Box share has been configured. A directory is required to be created in the ODI Getting Started Appliance (VM).

Note: Logon instructions to the Appliance (VM) are available further in this document.

- 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

```

oracle@ODIGettingStarted:/
File Edit View Search Terminal Help
[oracle@ODIGettingStarted /]$ cd /
[oracle@ODIGettingStarted /]$ 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 appropriate

\$chmod -777 ODIsHared

- 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 virtual box appliance.

Starting the ODI Getting Started Appliance

To start the appliance from within the Oracle VirtualBox client:

- 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 press the “Start” button at the top

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

Beginning the Getting Started Tutorial

The Getting Started appliance desktop holds five key objects to begin:

Table 1 ODI Getting Started 12c Desktop Objects

Object	Purpose
ODI 12c Getting Started Guide.pdf	This document provides the introduction and exercises to drive the tutorial. Open this first. Check the ODI OTN Overview page for updates to the document in the future and additional tutorial information.
ODI 12c Studio	http://www.oracle.com/technetwork/middleware/data-integrator/overview/index.html Double click this launcher to start ODI Studio. Provide some time for the studio to load, multiple clicks may result in more than one Studio load and further time.
Oracle's Home	A shortcut to the default user's 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.



Note: The startup script for ODI may alternatively be found in:
`/u01/Middleware/Oracle_Home_1213/odi/studio/odi.sh`

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

Appliance Credentials

Appliance Linux OS

Linux 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**

Learn More

You can learn more about creating your own integration projects with Oracle Data Integrator in the guides listed in Table 2

Table 2 Oracle Data Integrator Documentation

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



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Hardware and Software, Engineered to Work Together