Oracle Enterprise Data Quality

Virtual Machine Installation Guide

Release 12.2.1

Oracle ® Enterprise Data Quality, version 12.2.1

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1. Install and Configure the EDQ Virtual Machine

Please note that the Oracle Enterprise Data Quality virtual machine is **for testing purposes only**. As such it is unsupported and should not be used in production environments.

1.1. Prerequisites

The Oracle Enterprise Data Quality virtual machine is known as **EDQ-12.2.1-Trn** and this name will be used throughout the remainder of this document. The virtual machine runs in Oracle VirtualBox software, which you will need to install on your computer. Oracle VirtualBox can be installed on a number of different operating systems. You can download VirtualBox from https://www.virtualbox.org/wiki/Downloads. A VirtualBox user manual is available at https://www.virtualbox.org/manual/UserManual.html. This includes a chapter about installing VirtualBox (here is a direct link to the installation chapter: https://www.virtualbox.org/manual/ch02.html).

In addition to the Oracle VirtualBox software, it is also a good idea to download and install the Oracle VM VirtualBox Extension Pack, as this will provide extra functionality, such as support for USB 2.0 and USB 3.0 devices. You can download the Oracle VM VirtualBox Extension Pack from https://www.virtualbox.org/wiki/Downloads.

The EDQ-12.2.1-Trn virtual machine requires a host machine with a minimum of 8GB memory (16GB is recommended). At least 4GB memory must be allocated to the virtual machine, and it will perform better if you allocate more memory to it (9GB is recommended). Your host computer must have an up to date Java Runtime Environment (JRE) installed. If your computer does not already have a JRE, you can download one from http://www.java.com.

1.2. Terminology

Virtual Machine technology enables you to run a virtual computer - which is known as **the guest** - inside a physical computer - which is known as **the host**. The guest and the host can have different operating systems, and the guest machine can be supplied to you pre-configured, with various software packages already installed and working.

1.3. About the EDQ-12.2.1-Trn Virtual Machine

The EDQ-12.2.1-Trn Virtual Machine includes a pre-installed, pre-configured instance of Oracle Enterprise Data Quality, release 12.2.1. The virtual machine also includes data and other files that you will need to complete the **Getting Started With Oracle Enterprise Data Quality** hands-on lab that is included within the virtual machine. The EDQ-12.2.1-Trn virtual machine runs a 64 bit Linux operating system. If you don't know much about Linux though, don't worry. The main purpose of the virtual machine is to run the Oracle Enterprise Data Quality server. Nearly all of the training labs get you to work with the Oracle Enterprise Data Quality user interfaces – the *clients*. The user interfaces talk to the server – which means that the virtual machine must be running. However, you will run the user interfaces themselves on your host machine – that is to say your desktop or laptop – which can be running a different operating system.

1.4. Download the EDQ-12.2.1-Trn Virtual Machine

The EDQ-12.2.1-Trn virtual machine is supplied as a multi-part zip file.

The files are called:

- **EDQ-12.2.1-Trn.zip.001**

- **EDQ-12.2.1-Trn.zip.002**
- **EDQ-12.2.1-Trn.zip.003**
- **EDQ-12.2.1-Trn.zip.004**
- **EDQ-12.2.1-Trn.zip.005**
- **EDQ-12.2.1-Trn.zip.006**

You need to download all of these files.

1.5. Extract the .ova File from the Multi-Part Zip File

Method 1: Using Compression Software Such as 7-Zip

The multi-part zip files contain the EDQ-12.2.1-Trn virtual machine, within a file called **EDQ-12.2.1-Trn.ova**. You need to extract this file from the multi-part zip. How you do this will vary a little depending upon which compression software you are using. For example, if you have 7-Zip installed, you should:

1. Right click the **EDQ-12.2.1-Trn.zip.001** file.
2. Select **7-Zip > Extract Files** from the menu.
3. Select the folder you want to extract the **EDQ-12.2.1-Trn.ova** file to.
4. Click **OK**.

The **EDQ-12.2.1-Trn.ova** file will be assembled in the folder you selected.

Method 2: Using the Windows Command Line

If method 1 does not work, and you are using a Windows computer, try this alternative method:

1. Open the Windows Command prompt and navigate to the folder where you downloaded the multi-part zips.
2. Issue this command:

```
copy /B EDQ-12.2.1-Trn.zip.001 + EDQ-12.2.1-Trn.zip.002 + EDQ-
12.2.1-Trn.zip.003 + EDQ-12.2.1-Trn.zip.004 + EDQ-12.2.1-Trn.zip.005
+ EDQ-12.2.1-Trn.zip.006 EDQ-12.2.1-Trn.zip
```

   This should combine the files together into a single zip file called **EDQ-12.2.1-Trn.zip**
3. Unzip **EDQ-12.2.1-Trn.zip** by right-clicking it and selecting **Extract All**.
   The **EDQ-12.2.1-Trn.ova** file will be created.

1.6. Import the EDQ-12.2.1-Trn Virtual Machine

The virtual machine has been preconfigured with Oracle Enterprise Data Quality. You will run the client applications from your host machine while the EDQ server will run within the virtual machine.

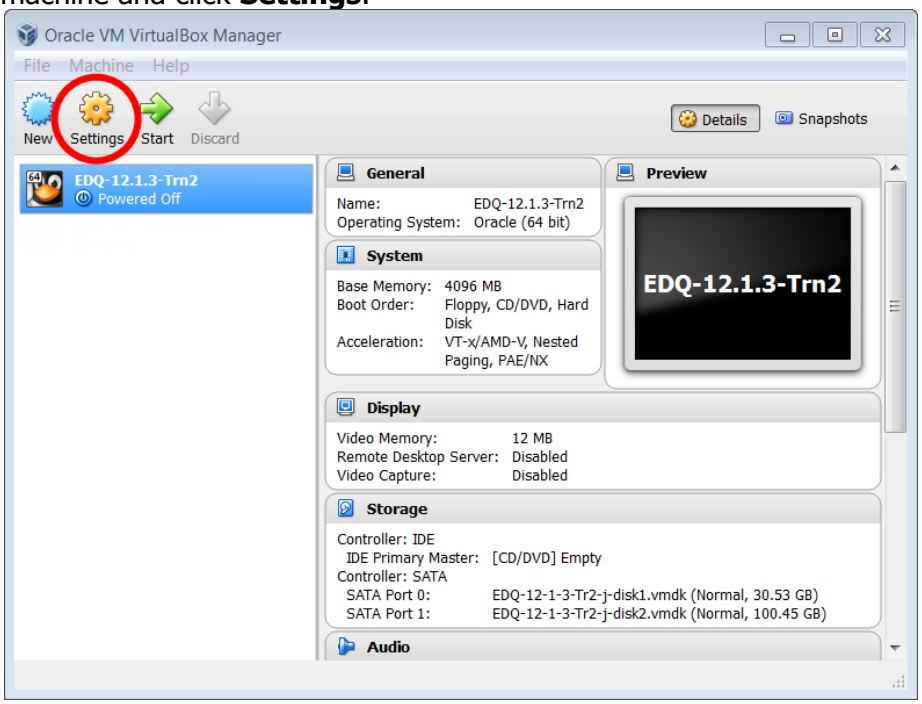
1. Launch **Oracle VM VirtualBox Manager**.
2. From the File menu, select **Import Appliance...** The Import Virtual Appliance dialog will open.
3. Click **Open appliance...** The Select an appliance to import dialog will open.

4. Navigate to and select **EDQ-12.2.1-Trn.ova**, and then click **Open**. The Import Virtual Appliance dialog is displayed.
5. Click the **Next**. The Appliance settings will be displayed.
6. Click **Import**. A software License Agreement dialog box will open. You need to read the license and click **Agree** to continue or **Disagree** to cancel the import.
7. If you click **Agree**, a dialog box will report progress. Wait until the import has been completed.

1.7. If Possible, Allocate More Processors to the Virtual Machine

The EDQ-12.2.1-Trn virtual machine has 2 processors allocated to it by default. This should be the right number for quad core machines – so if you have a quad core machine do not change the number of processors allocated to the virtual machine. However, if your host machine has more than four CPUs, then allocating extra processors to the VM will boost its performance. (And if your host machine has less than four CPUs, you may need to reduce the number of processors allocated to the virtual machine to 1).

1. Navigate to Oracle VM Virtual Box Manager. Select the **EDQ-12.2.1-Trn** virtual machine and click **Settings**.

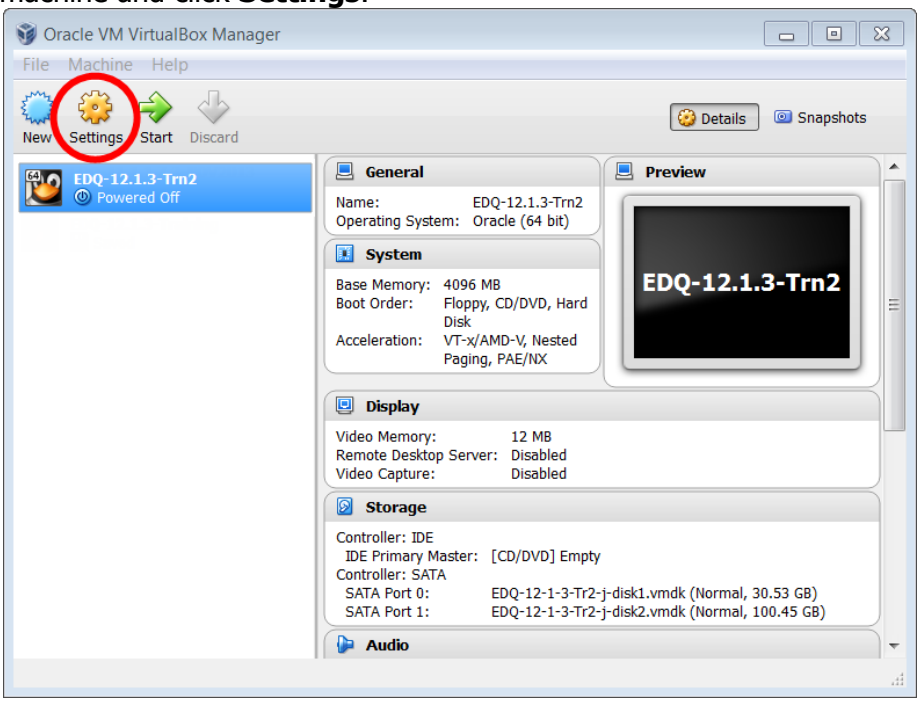


2. In the EDQ-12.2.1-Trn – Settings screen, click **System**, and then navigate to the **Processor** tab.
3. Use the Processor(s) slider to change the number of CPUs allocated to the virtual machine. You should stay within the green area of the slider, as moving into the pink area may have an adverse impact on the performance of your host machine.

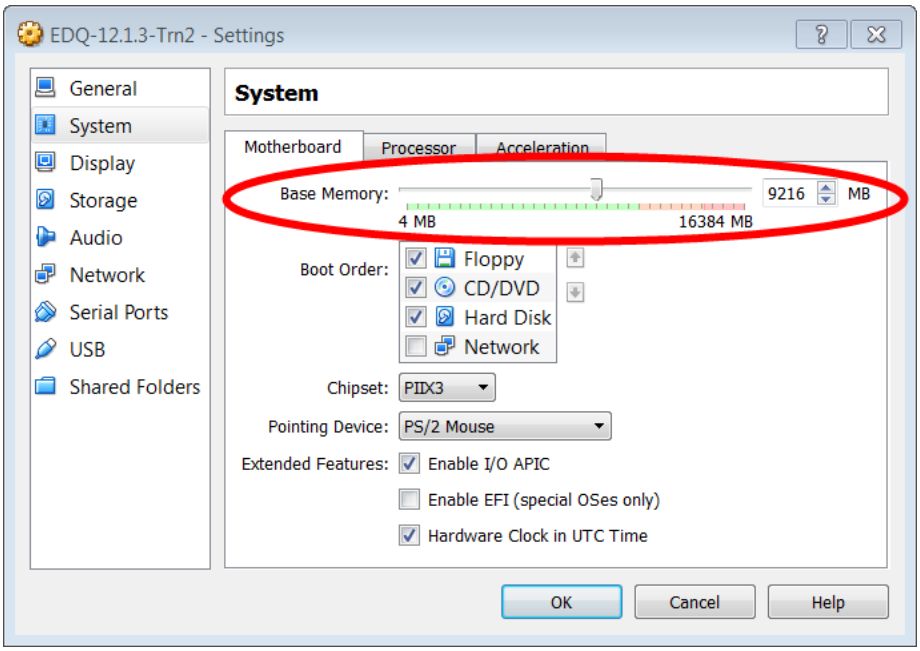
1.8. If Possible, Allocate More Base Memory to the Virtual Machine

The EDQ-12.2.1-Trn virtual machine has 4GB Base Memory allocated to it by default. This is the recommended amount if your host has 8GB memory installed. If your host has more than 8GB memory, however, you are advised to increase the amount of Base Memory allocated to the virtual machine. This will enable you to increase the amount of memory allocated both to EDQ's Java Heap and to the VM's Oracle Database, which will boost EDQ's performance. (How to increase the Java Heap and the Oracle Database's memory is described later in this guide, as you can only change these two settings once the VM has been started.)

4. Navigate to Oracle VM Virtual Box Manager. Select the **EDQ-12.2.1-Trn** virtual machine and click **Settings**.



5. In the EDQ-12.2.1-Trn – Settings screen, click **System**, and, if possible, increase the Base Memory allocated to the Virtual Machine. Then click **OK** to close the EDQ-12.2.1-Trn – Settings screen.



It is difficult to give a hard and fast recommendation for what you should set the Base Memory to. You need to leave enough memory at the disposal of the host system so that its performance is not affected. How much you leave at the disposal of the host system depends on the specification of your particular machine and what other demands are being placed on it. The Base Memory allocated to the VM must not be decreased below its default value of 4GB, as this is required by the software installed on the VM for adequate performance. In general terms, the more Base Memory you can allocate to the VM, the more you will be able to tune EDQ for better performance. But if you allocate too much memory to the VM, the performance of your host system may suffer. If your host system has 16GB memory, allocating around 8GB (that is 8192 MB) to the VM's Base Memory is likely to enable both the VM and the host system to perform well.

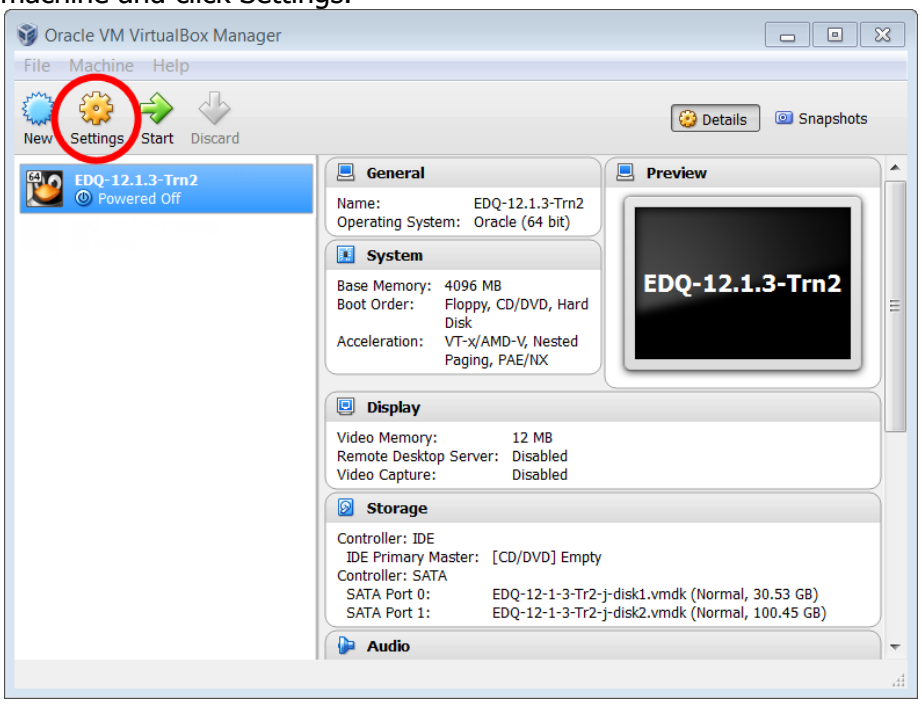
1.9. Set Up a Shared Folder

It is useful to set up a Shared Folder so that you can move files between the host and the guest. The instructions below tell you how to do this. They assume that your host has a Windows operating system. If this is not the case, it should be fairly simple to adapt the instructions to suit other operating systems, such as Linux or Mac OS X. Likewise, if you want to set up a shared folder in a different location to that specified below, it should be quite simple to adapt the instructions accordingly.

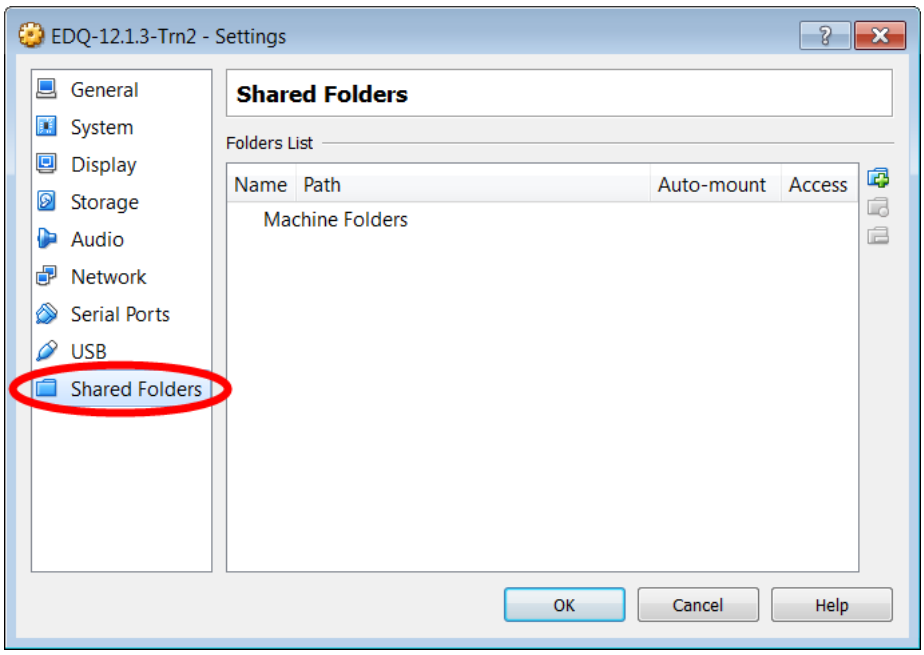
1. Create a folder called **share** in the root of your host machine's C: drive.
2. Create a text file containing a few lines of text. Call it **test.txt** and place it in the **C:\share** folder on your host machine.

   You will use this text file later to confirm that your shared folder is working.

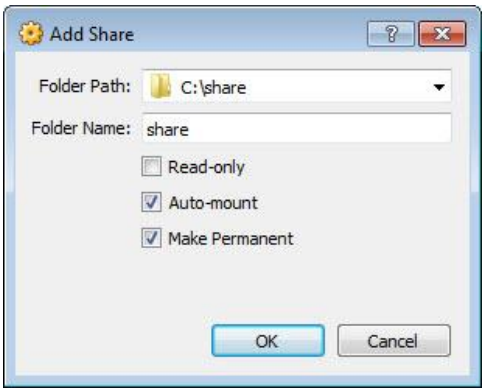
3. Navigate to Oracle VM Virtual Box Manager. Select the **EDQ-12.2.1-Trn** virtual machine and click Settings.



4. In the EDQ-12.2.1-Trn – Settings screen, click **Shared Folders** and then click  .



5. The Add Share dialog appears. Select a **Folder Path** of **C:\share** and enter a **Folder Name** of **share**. Select the **Auto-mount** check box and, if it is available, also select the **Make Permanent** check box (do not select 'Read-only'):



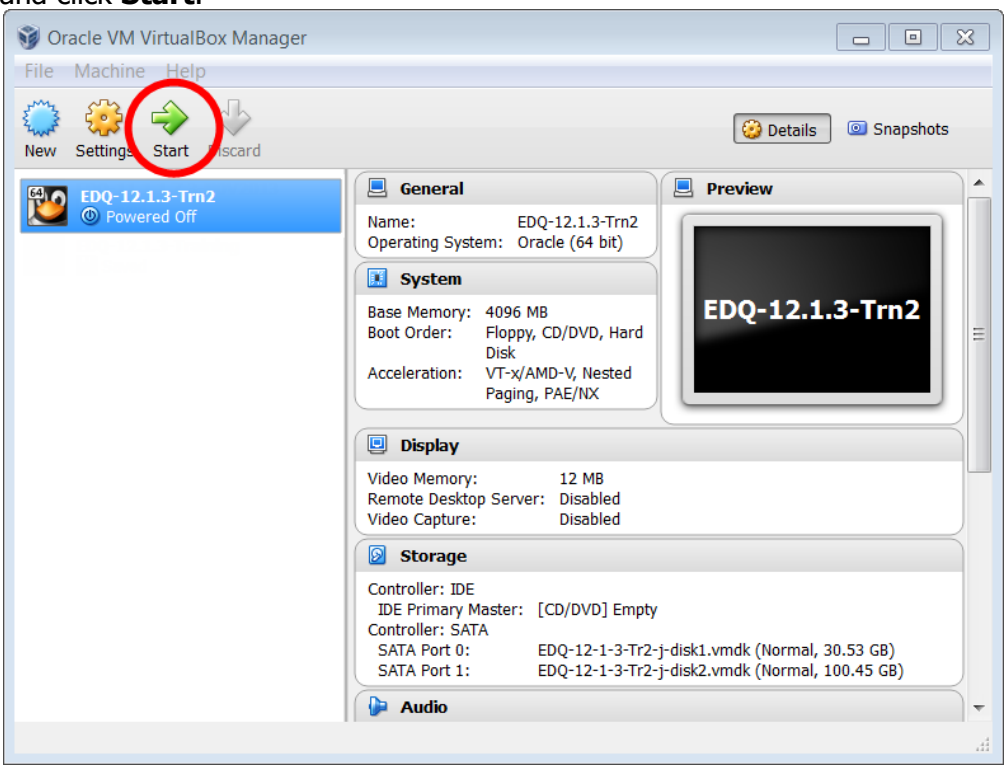
6. Click **OK** to close the Add Share dialog, and then click **OK** again to close the EDQ-12.2.1-Trn – Settings screen.

1.10. Shut Down any instance of the Oracle Database Running on the Host

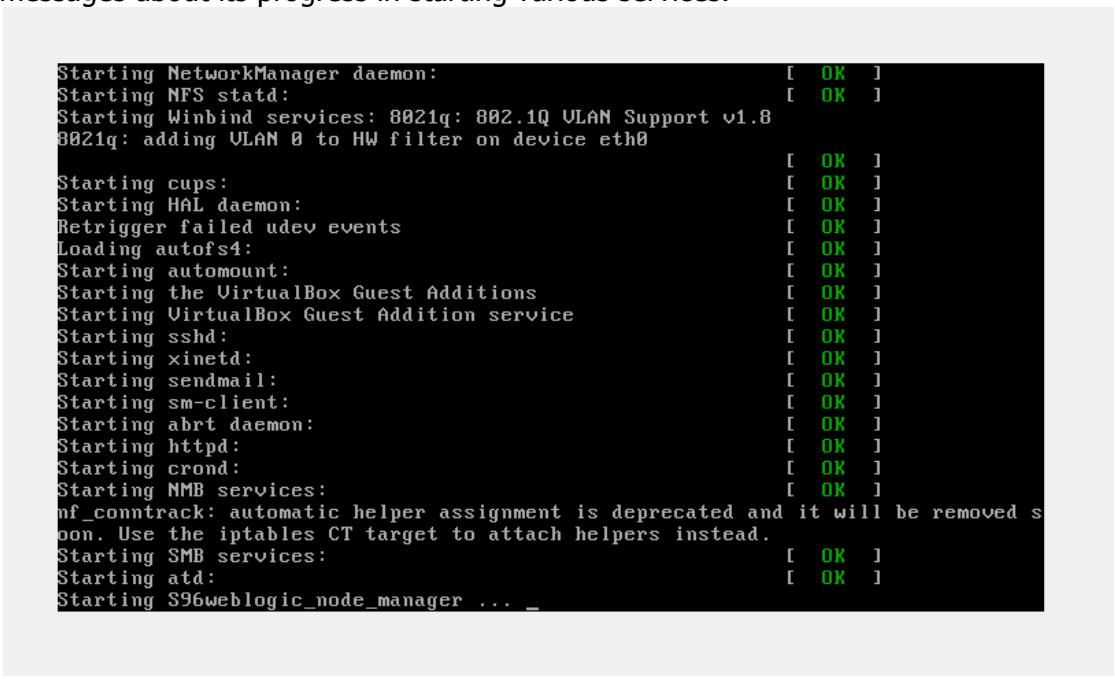
The virtual machine includes an instance of the Oracle database that holds the data used in the hands-on labs. This will be accessed from the host via port 1521, which is the default port used by instances of the Oracle database. In order to avoid contention, if you have an instance of the Oracle database already running on the host, and it uses the default port of 1521, you will need to shut it down before starting the virtual machine.

1.11. Start the EDQ-12.2.1-Trn Virtual Machine

1. Return to Oracle VM VirtualBox Manager, select the **EDQ-12.2.1-Trn** Virtual Machine and click **Start**.



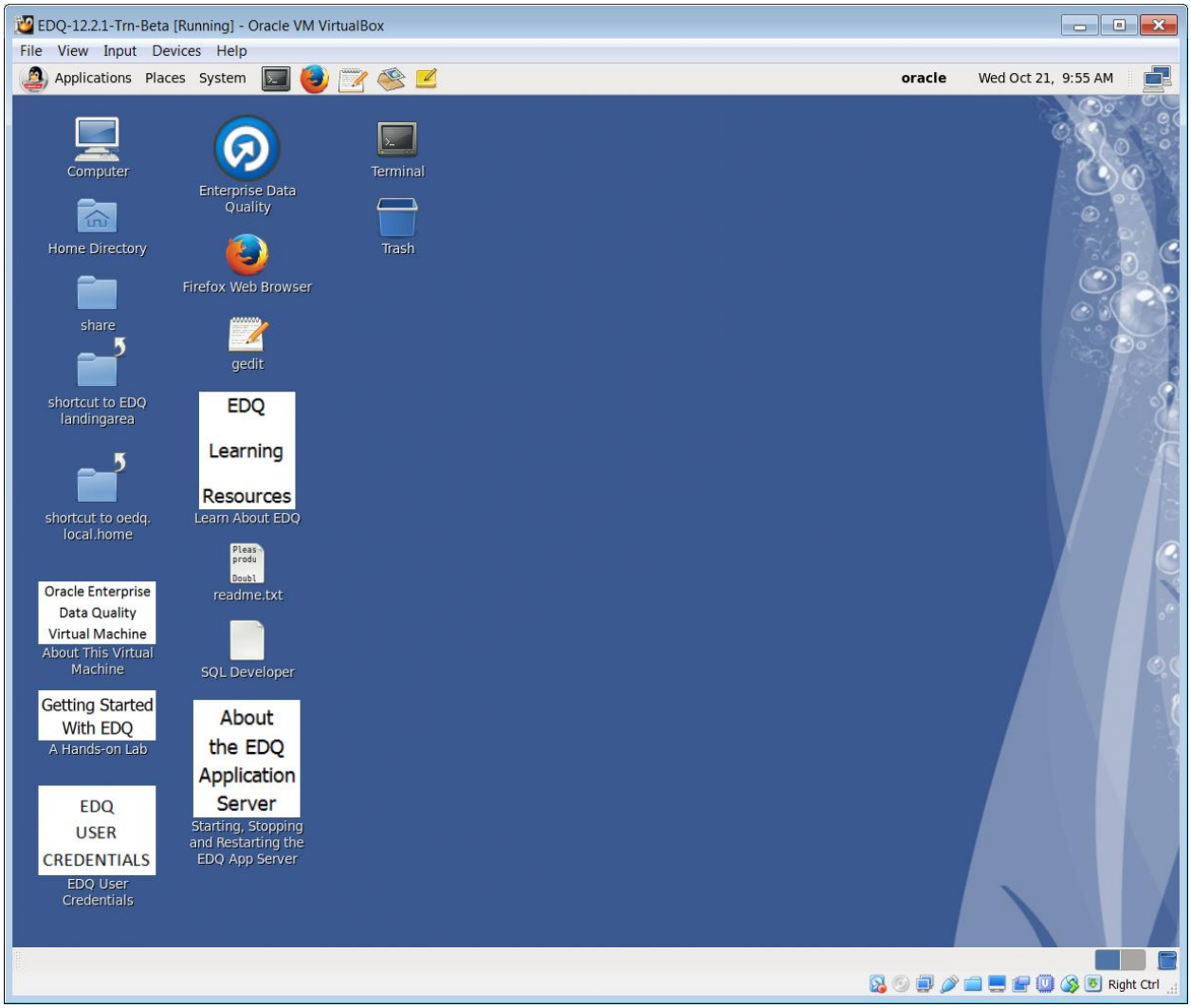
The virtual machine will take a few minutes to start, during which time you will see messages about its progress in starting various services.



It is possible that one or two services may seem to fail to start – this will not usually present a problem (in fact, a timeout causes the server to move on to start the next service, but the previous service will in fact continue to start up, despite the apparent failure). The final two notifications you will see relate to the WebLogic Admin Server and the EDQ Application Server. Both of these services will take some time to start.

> In some cases the virtual machine may fail to start with the following error: **Failed to open a session for the virtual machine EDQ-12.2.1-Trn. VT-x features locked or unavailable in MSR. (VERR_VMX_MSR_LOCKED_OR_DISABLED)**. This indicates that your host machine is not configured to support 64 bit virtualization (note that this can happen even if your host is a 64 bit machine). In order to fix this, you may have to change your host machine's bios settings. For example, you may need to enable the Virtualization Technology option in the Bios's Security menu.

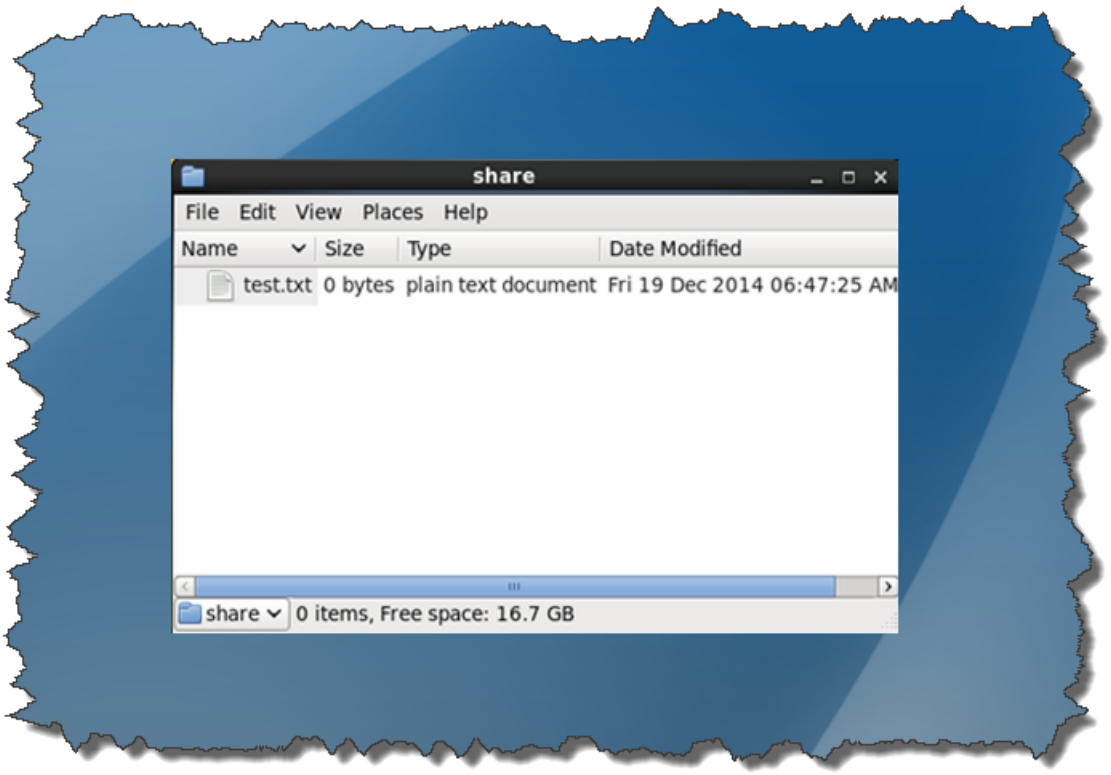
2. Wait until the virtual machine's desktop appears. You will be automatically logged in as the **oracle** user (for reference, the oracle user's password is also **oracle**).



You will not need to work within the virtual machine to access Oracle Enterprise Data Quality. All access to EDQ will be via its user interfaces, which you will run on your host machine. However, you may want to move files between the host and the guest (the EDQ-12.2.1-Trn virtual machine). In a previous step you configured a shared folder to facilitate this. Let's check that the shared folder is working.

3. If the virtual machine's desktop appears untidy (for example, if icons appear to be overlayed), right-click anywhere on the desktop and select **Clean Up by Name**.
4. On the virtual Machine's desktop, you will see a folder called **share.** This will enable you to access your shared folder.

5. Double click the **share** folder. The share window will open:



If the shared folder is properly configured, you should see the **test.txt** file that you created earlier and placed in the **C:\share** folder on your host machine. Try dragging this file on to the virtual machine's desktop – this should create a copy of the file within the virtual machine.

Any file that you place in the **C:\share** folder in the host machine should be accessible from the share folder in the guest machine, and vice versa. You can use the shared folder to move files between the host and the guest.

1.12. If Possible, Increase Memory Allocated to the EDQ Application Server's Java Heap and Increase the Oracle Database's Memory Target Setting

EDQ's platform is comprised of an application server (Oracle WebLogic in this case) and a database repository (provided in the case by the Oracle Database). In general terms, you can boost the performance of EDQ by increasing the amount of memory allocated to the application server's Java Heap and by increasing the amount of memory allocated to the Oracle Database. However, you should only do this if you were able to increase the amount of Base Memory allocated to the virtual machine earlier in the installation process. If you were not able to increase the amount of Base Memory allocated to the Virtual Machine from its default of 4GB, **do not** change the amount of memory allocated to the application server's Java Heap or the Oracle Database.

Note that you must restart the virtual machine at the end of this procedure.

1.12.1. If Possible, Increase Memory Allocated to EDQ Application Server's Java Heap

1. To increase the EDQ Application Server's Java Heap you need to edit a file called **startManagedWebLogic.sh**. This file is in the following location on the virtual machine:

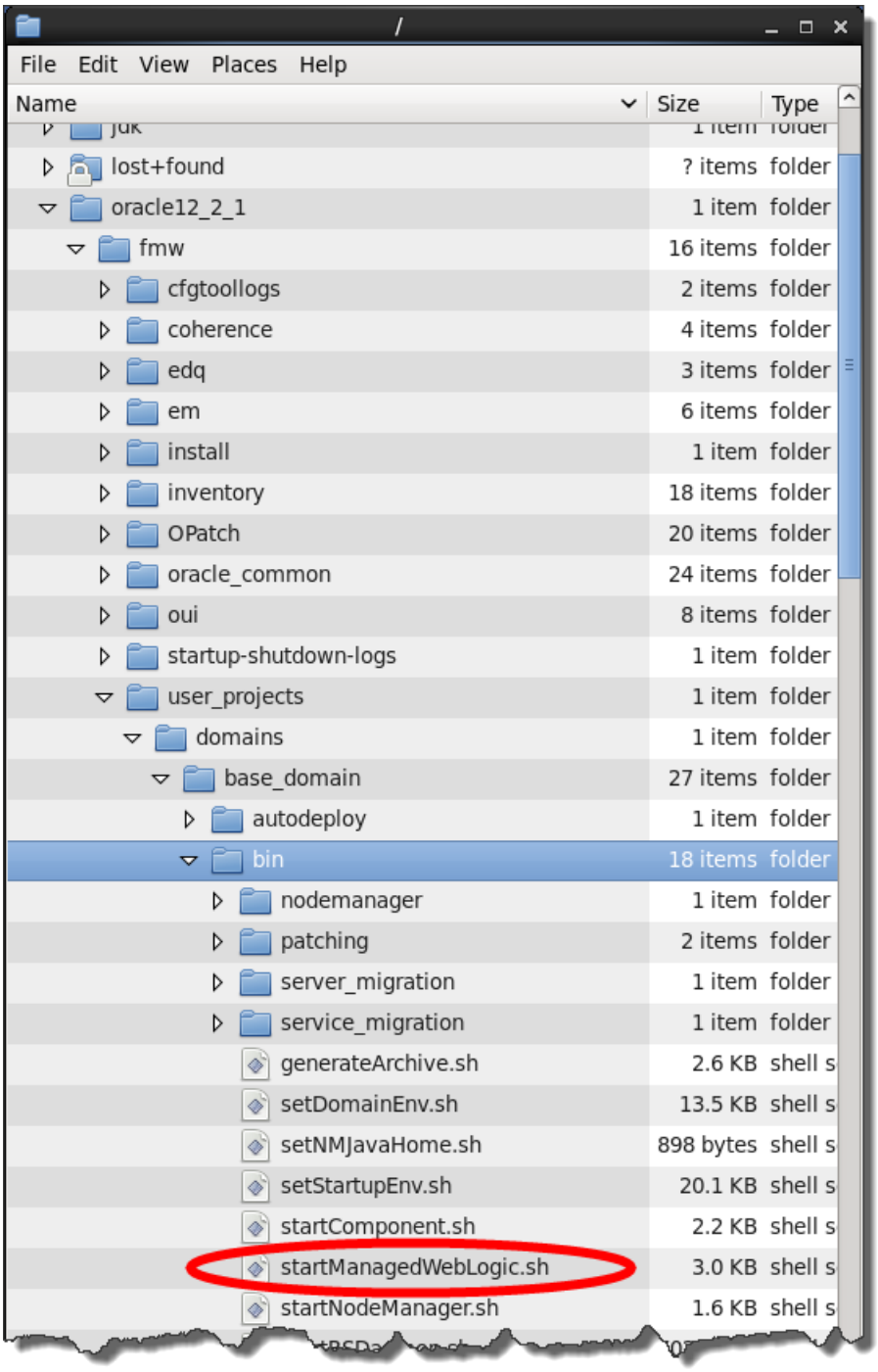
   `/apps/oracle12_2_1/fmw/user_projects/domains/base_domain/bin`

   Navigate to this location by clicking the **Computer** icon on the virtual machine's desktop

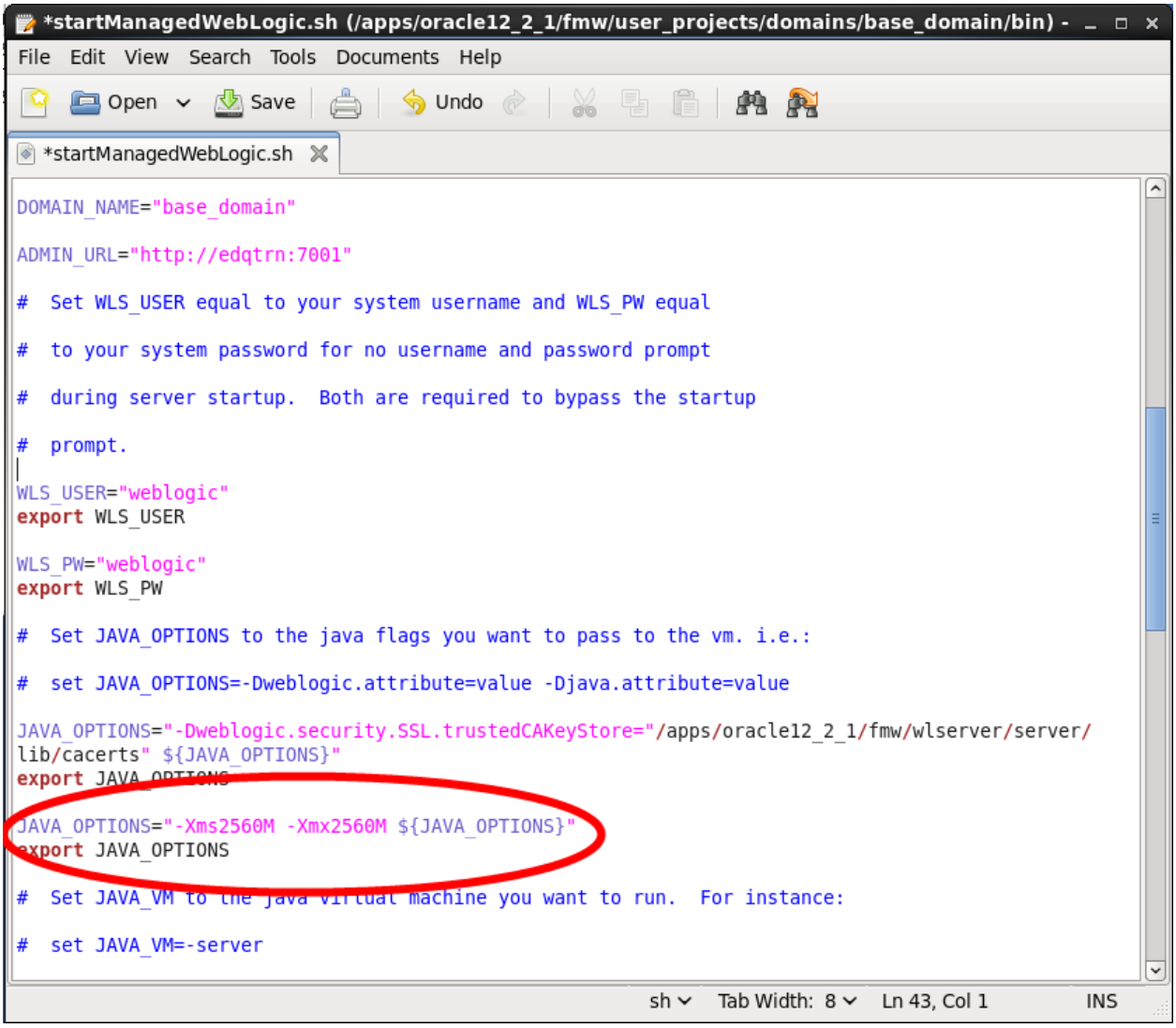
   Next, click **Filesystem**, and then navigate through the file system until you reach the right location.

2. Double-click **startManagedWebLogic.sh** and then click **Display** to open the file.



3. To increase the size of the Java Heap allocated to the application server, increase the value of the following two JAVA_OPTIONS:
   a. -Xms
   b. -Xmx

These two JAVA_OPTIONS control the minimum and maximum size of the Java Heap respectively. You can often achieve optimal performance by setting them to the same value. If you were able to allocate 8GB of Base Memory to the VM, then the recommended setting for these two JAVA_OPTIONS is **2560M**.

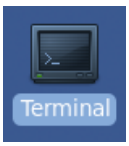


4. Click **Save** and then close the file.

   As noted above, only change the amount of memory allocated to EDQ application server's Java Heap if you were able to increase the amount of Base Memory allocated to the Virtual Machine from its default of 4GB.

1.12.2. If Possible, Increase Memory Allocated to the Oracle Database

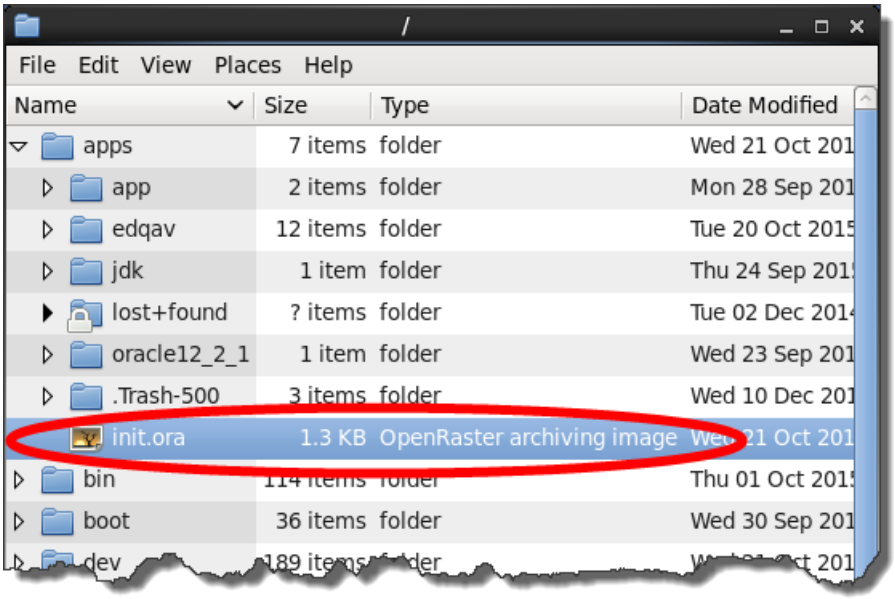
To increase the amount of memory allocated to the Oracle Database you need to edit its spfile and then restart the database. The procedure for doing this is set out below:

1. On the virtual machine's desktop, double-click 

to open a terminal window.
2. In the terminal window, log into sqlplus by issuing the command:
```
sqlplus sys/sys as sysdba
```
3. Within the sqlplus session, place an editable copy of the spfile in the /apps folder by issuing the following command:
```
create pfile ='/apps/init.ora' from spfile;
```
4. Within the sqlplus session, shutdown the Oracle Database by issuing the following command:
```
shutdown immediate
```
5. Edit the **init.ora** file. This file is in the following location on the virtual machine:
   a. `/apps/init.ora`

   Navigate to this location by clicking the **Computer** icon on the virtual machine's desktop

   Next, double-click **Filesystem**, and then navigate to the **/apps** folder.

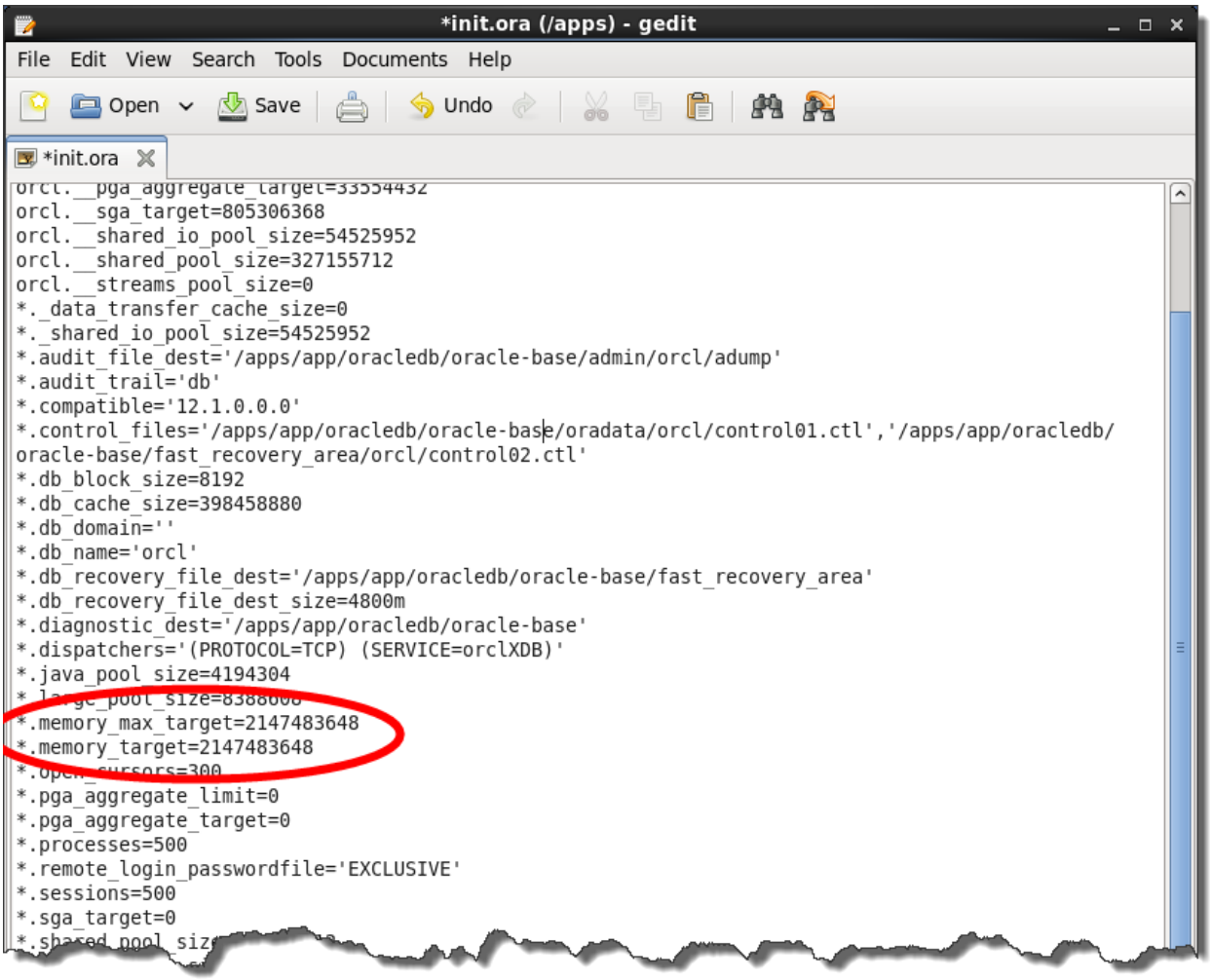


6. Next, double-click **init.ora** to open the file in the text editor.
7. To increase the memory allocated to the Oracle Database, increase the value of the following parameters:
```
*.memory_target
```

```
*.memory_max_target
```

If you were able to allocate 8GB of Base Memory to the VM, then the recommended setting for both of these parameters is **2147483648**.

(This sets both parameters to 2GB.)



8. Click **Save** and then close the file.
9. Returning to your sqlplus session, create a new spfile from your edited init.ora file (This will include the updated values for the parameters that you edited):

   ```
   create spfile from pfile='/apps/init.ora';
   ```

10. Within your sqlplus session, start the Oracle Database by issuing the following command:

    ```
    startup
    ```

    As noted above, only change the amount of memory allocated to the Oracle Database if you were able to increase the amount of Base Memory allocated to the Virtual Machine from its default of 4GB.

1.13. Restart the Virtual Machine

1. Navigate to the EDQ-12.2.1-Trn virtual machine's desktop.
2. From the **Machine** menu, select **ACPI Shutdown**.
3. A dialog box will ask you whether you want to shut down the system now. Click **Restart**.

4. Wait for the virtual machine to finish its reboot.

2. (Optional): Map Virtual Machine Folders to Windows Drives

2.1. About Mapping Drives

You can map Windows drives from the host to the guest because the guest VM has an instance of Samba installed and configured. Note that the Windows drives you map may not function if your host machine is connected to a Virtual Private Network.

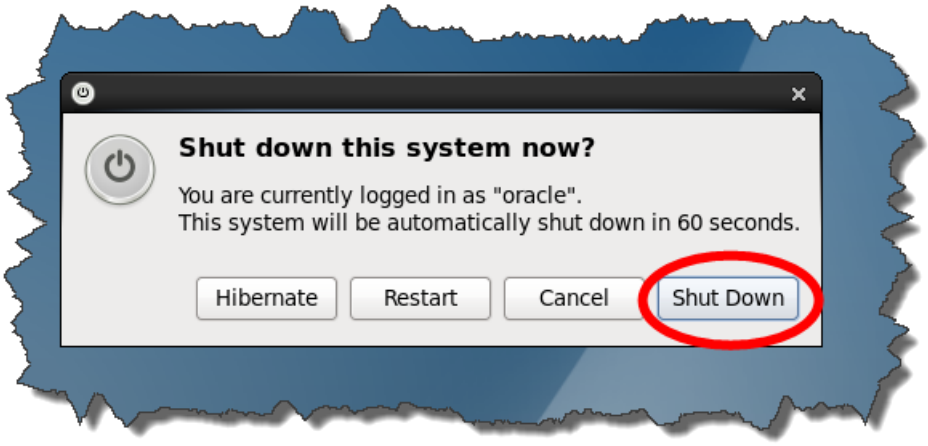
Another method of moving files between the guest and host – and one that you may find convenient - is to map Windows drives on the host machine to the guest (obviously, this assumes that your host is a Windows computer). You should also be able to open files stored on the guest in applications running on the host (so, for example, you could open a spreadsheet stored on the guest in an application running on the host). This step involves a little extra configuration, and so is optional. You can do all of the EDQ training without completing this lab, but you may find moving files easier and quicker if you do complete this lab.

The instructions below relate to mapping drives from hosts running the Windows 7 Operating System. You may have to adapt them slightly for other versions of Windows. Note that it is also possible to map drives from hosts running on other operating systems.

2.2. Shut Down the Virtual Machine

1. Navigate to the Virtual Machine's desktop, and from the **System** menu, select **Shut Down...**

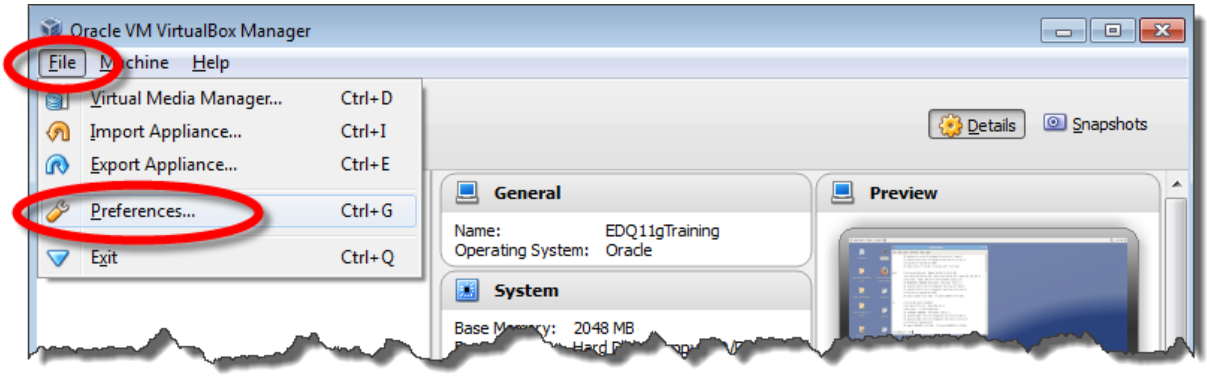
2. A dialog box will ask you if you want to shut down the system now. Click **Shut Down**.



3. If any further dialog boxes appear, click **OK**.
4. Wait until the system has fully shut down.

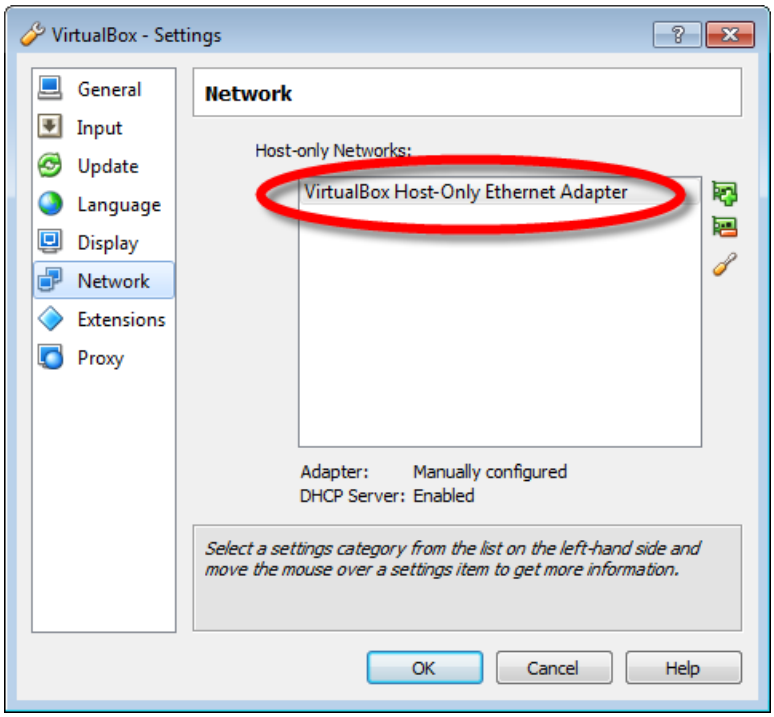
2.3. Check Virtual Box's Host-only Network Settings

1. Navigate to the **Oracle VM VirtualBox Manager**. From the **File** menu, select **Preferences...**



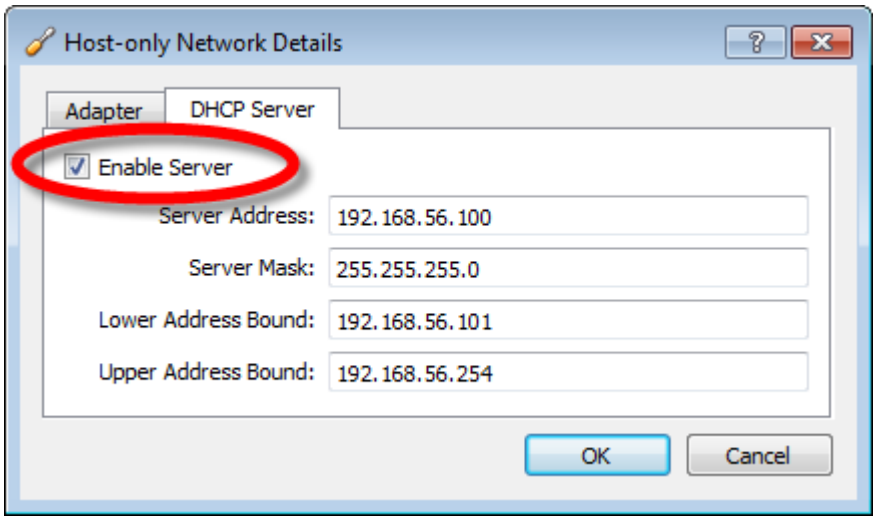
If your host is running on Mac OSX, you will find the **Preferences** option under the **VirtualBox** menu.

2. The VirtualBox – Settings dialog is displayed. Click **Network** and ensure that a **Host-only Network** called **VirtualBox Host-Only Ethernet Adapter** is present.



If no Host-only Network is present, click  to create one. If your Host-Only Network has a different name, then make a note of it, as you will need it in a later step.

3. Double click **VirtualBox Host-Only Ethernet Adapter**. The Host-only Network Details dialog is displayed. Navigate to the DHCP Server tab, and ensure that the **Enable Server** check box is selected.

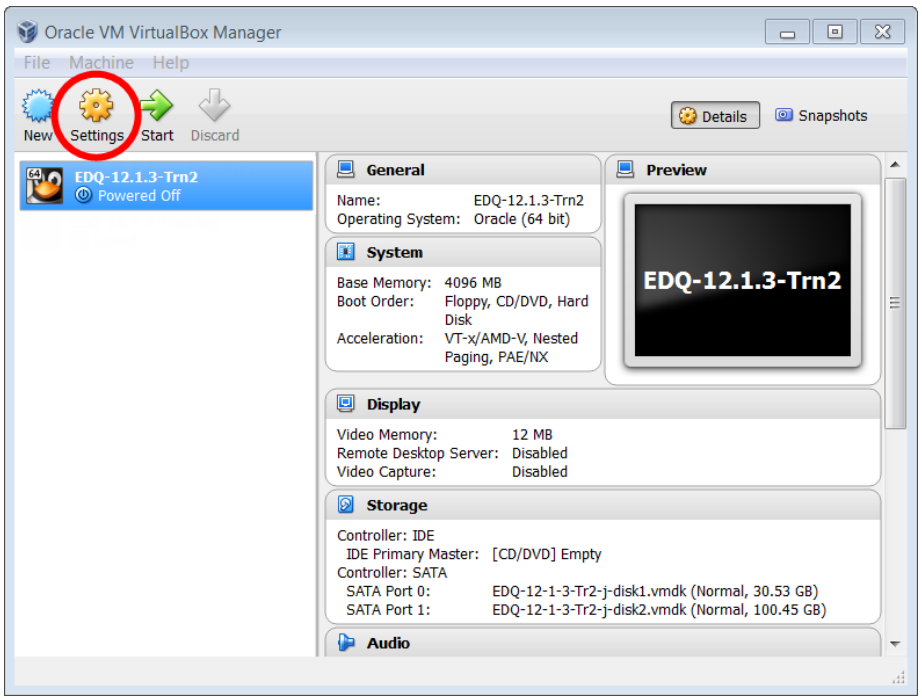


If the **Enable Server** checkbox is not selected, then select it.

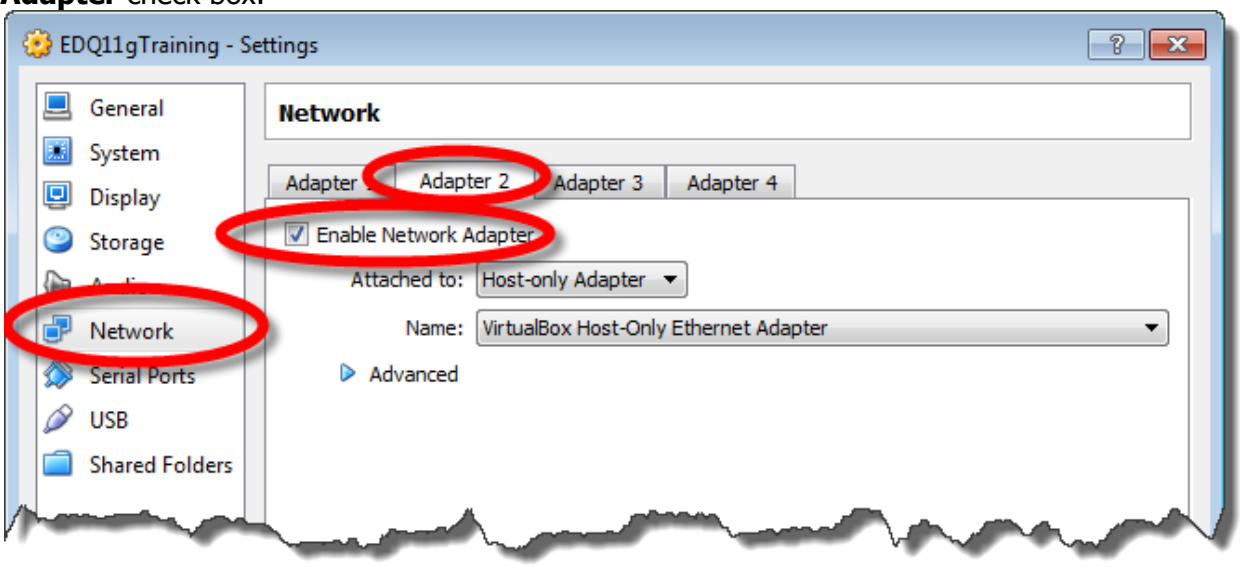
4. Click **OK** to close the Host-only Network Details dialog.
5. Click **OK** to close the VirtualBox – Settings dialog.

2.4. Enable the EDQ-12.2.1-Trn Virtual Machine's Host-only Adapter

1. Navigate to the **Oracle VM VirtualBox Manager**. Select **EDQ-12.2.1-Trn**, and click **Settings**.

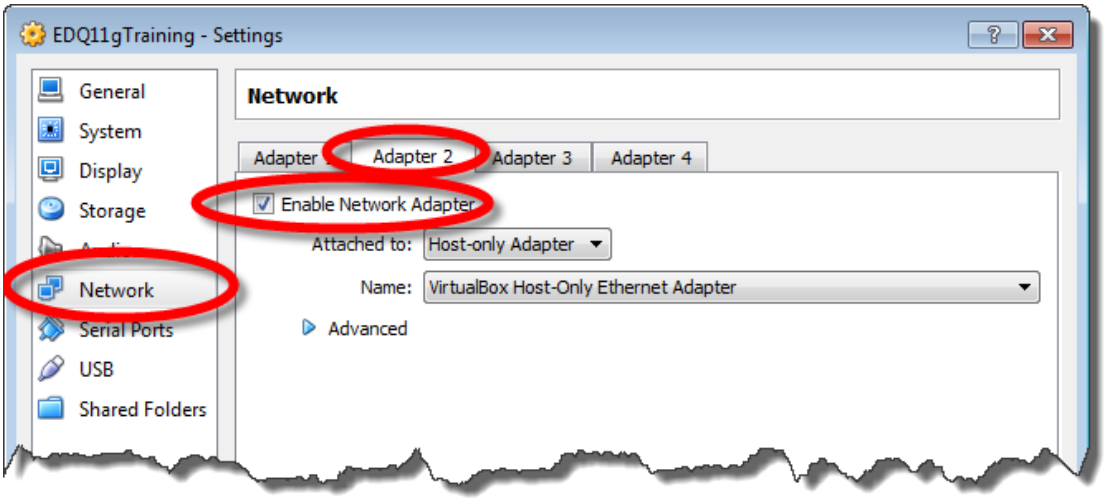


2. The **EDQ-12.2.1-Trn – Settings** window is displayed.
3. Click **Network**. Navigate to the **Adapter 2** tab and select the **Enable Network Adapter** check box.



4. Ensure that the following settings are selected:
   a. **Attached to** **Host-only Adapter**.

b. **Name**: **VirtualBox Host-Only Ethernet Adapter**.

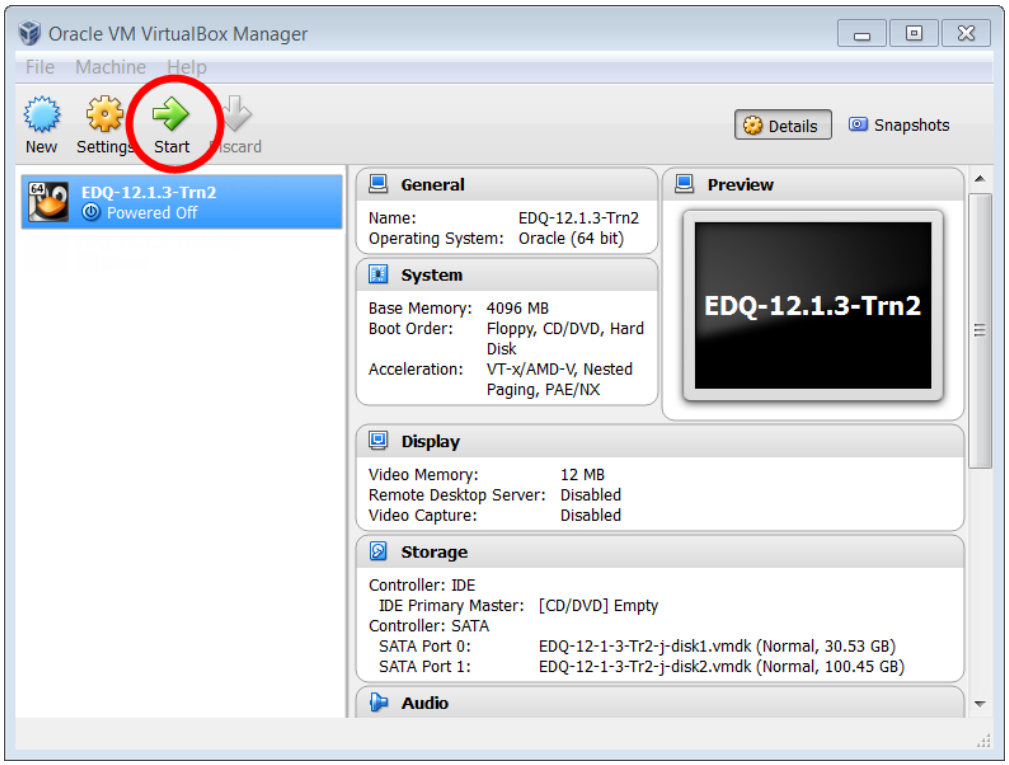


If your Host-only Network is **not** called **VirtualBox Host-Only Ethernet Adapter**, then select your Host-Only Network's name in the **Name** dropdown. If your Host-only Network **is** called **VirtualBox Host-Only Ethernet Adapter**, then you can leave the settings unchanged.

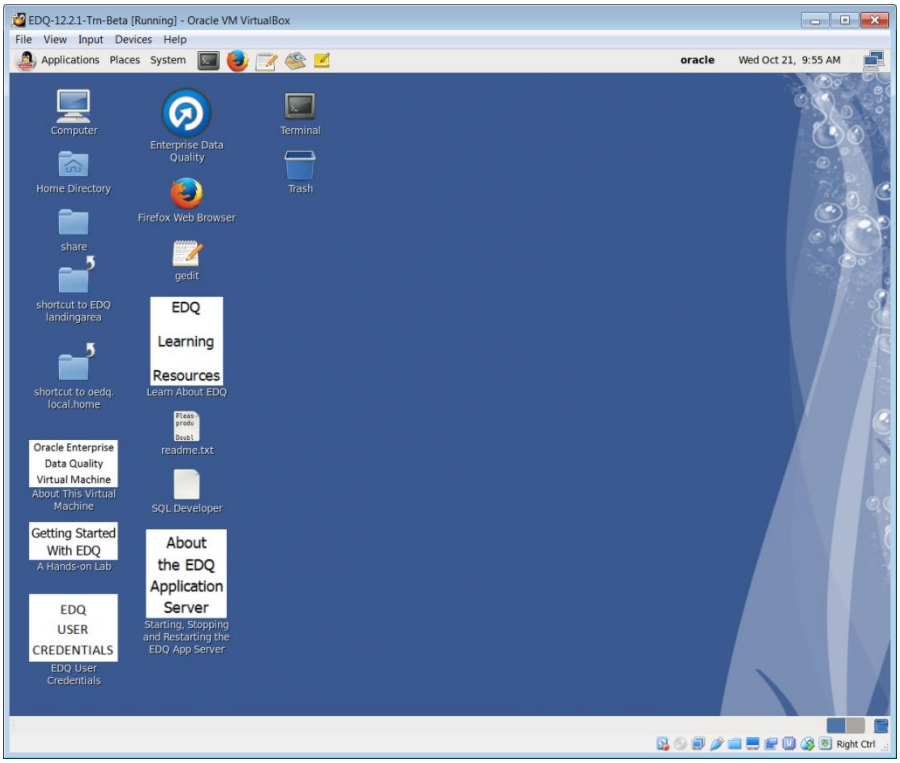
5. Click **OK** to close the **EDQ-12.2.1-Trn – Settings** window.

2.5. Start the Virtual Machine

1. Ensure that the **EDQ-12.2.1-Trn** virtual machine is selected, and click **Start**.



2. The virtual machine will take a few minutes to start. Wait until the desktop appears. You will be automatically logged in as the **oracle** user.



2.6. Map Virtual Machine Folders to Windows Drives

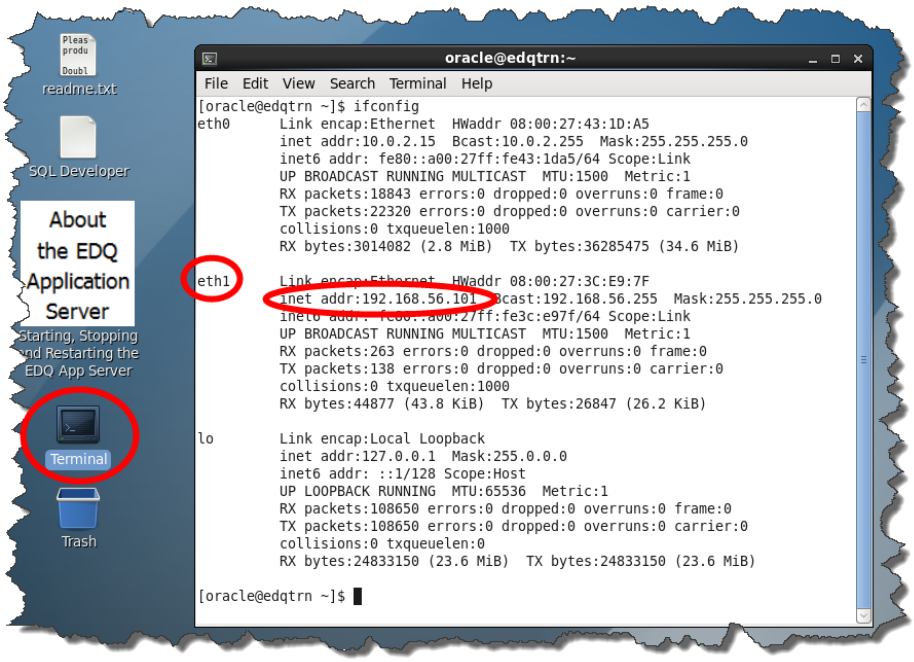
1. On the host machine, open Windows Explorer.
2. From the **Tools** menu, select **Map network drive...** The Map Network Drive dialog is displayed.
3. Select a **Drive** of **L:**

   If your **L:** Drive is already used, you can select a different drive letter.
4. In the **Folder** field, enter **\\edqtrn\VMlandingarea**.
5. Ensure that the **Reconnect at logon** checkbox is selected.
6. Ensure that the **Connect using different credentials** checkbox **is not** selected.
7. Click **Finish**.

   It is also possible to use Samba to access folders and files inside the guest VM from a host running on another operating systems. For example, in Mac OS X open the Finder, and from the **Go** menu, select **Connect to Server...**, and enter a **Server Address** of **smb://edqtrn/[folder name]**.
8. Repeat steps **2 – 7** to map the following:
   a. Drive: **O**: Folder: **\\edqtrn\VMoedq_local_home**
   b. Drive: **V**: Folder: **\\edqtrn\VM**

   edqtrn, which you can see in the **Folder** fields above, is the virtual machine's 'hostname'. If you cannot successfully map the drives above,

it may be because the VM's 'hostname' is not recognized. To overcome this problem, substitute the VM's ip address for the hostname. To find the VM's ip address, navigate to the VM's desktop and double click **Terminal** to open a terminal window. In the terminal window, enter **ifconfig**. Use the **inet addr** of **eth1** as the ip address.



Note that eth1's Inet addr may not be the same as displayed above.

3.(Optional): Enable Address Verification

3.1. About Enabling Address Verification

Oracle Enterprise Data Quality Address Verification is not required for the Getting Started with Oracle Enterprise Data Quality lab. These instructions are provided in case you want to evaluate Address Verification.

The EDQ-12.2.1-Trn virtual machine includes an installation of the Oracle Enterprise Data Quality Address Verification Server. However, the Address Verification Server requires the AV Global Knowledge Repository (GKR). The GKR is not installed in the virtual machine. The GKR is not included in the virtual machine for two reasons:

1. Including the GKR would have significantly increased the size of the VM.
2. Providing the GKR would not be within the terms of the agreement with the third-party who provide the GKR.

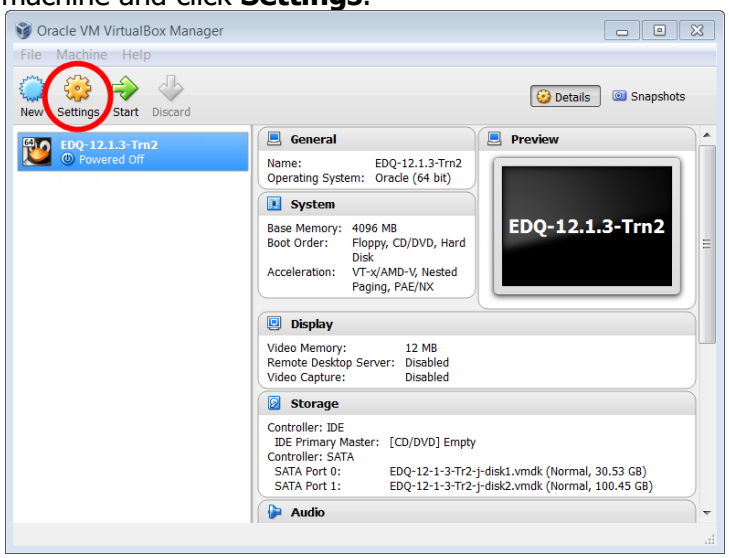
'Out of the box', therefore, EDQAV will not work. However, it is fairly straightforward to configure the EDQ-12.2.1-Trn virtual machine so that its Address Verification server will work with a GKR that is installed on your host machine.

3.2. Enable Address Verification

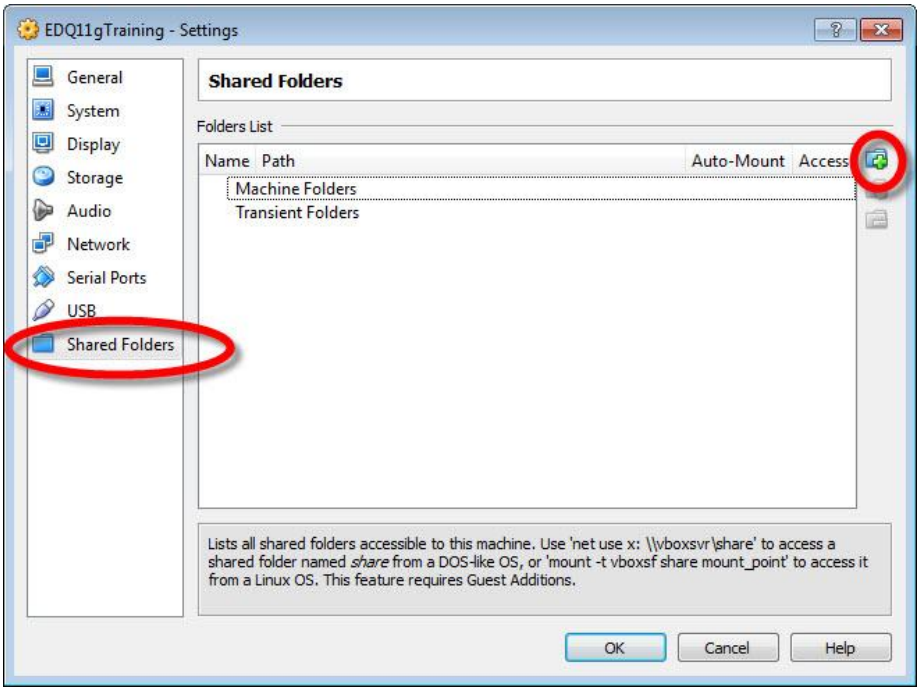
1. Install the Global Knowledge Repository (GKR) on your host machine.

   Note that the EDQ-12.2.1-Trn virtual machine requires version 15.3 of the GKR or above. If it is already installed, there is no need to install it again. For instructions to install the Global Knowledge Repository data files for Address Verification using the Install Manager, use the documentation provided at the Loqate web site at http://www.loqate.com/support/releases/.

2. Navigate to Oracle VM Virtual Box Manager. Select the **EDQ-12.2.1-Trn** virtual machine and click **Settings**.



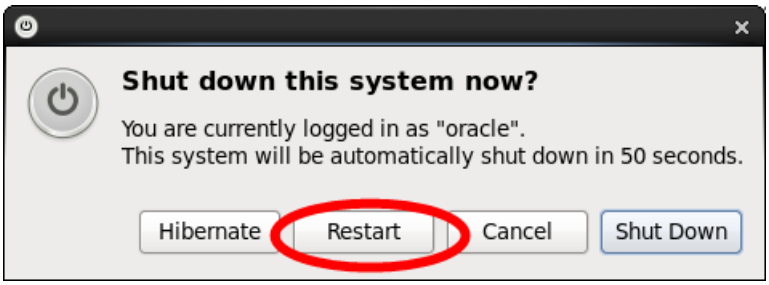
3. In the EDQ-12.2.1-Trn – Settings screen, click **Shared Folders** and then click  .



4. The Add Share dialog appears. Select the location of your GKR as the **Folder Path**, and enter a **Folder Name** of **av_share**. Select the **Auto-mount** check box and, if it is available, also select the **Make Permanent** check box (do not select 'Read-only').

   By default the GKR is installed on Windows machines at **C:\Program Files\EDQAV\data**.

5. Click **OK** to close the Add Share dialog, and then click **OK** again to close the EDQ-12.2.1-Trn – Settings screen.
6. Navigate to the EDQ-12.2.1-Trn virtual machine's desktop.
7. From the **Machine** menu, select **ACPI Shutdown**.
8. A dialog box will ask you whether you want to shut down the system now. Click **Restart**.



9. Wait for the virtual machine to finish its reboot.

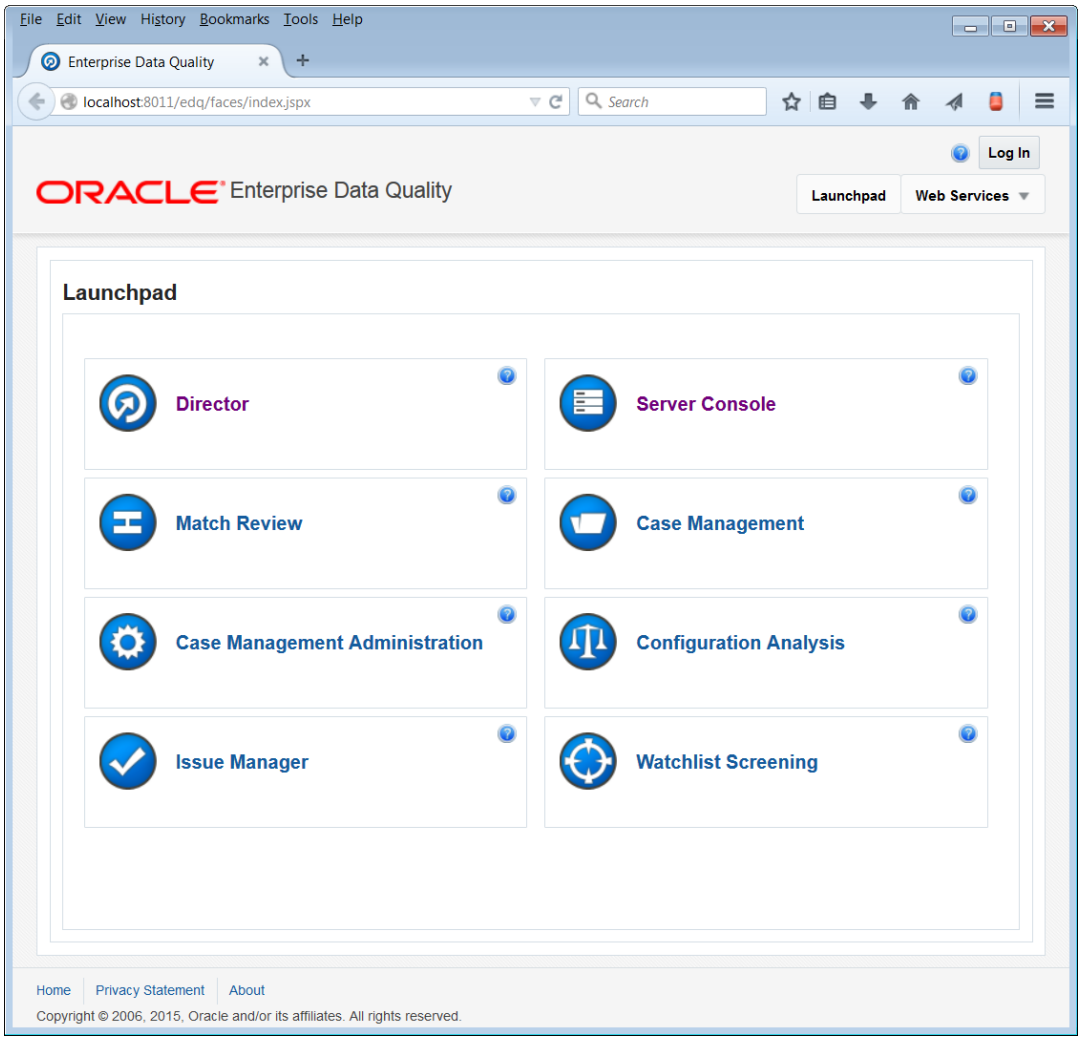
4. Open the Oracle Enterprise Data Quality Launchpad and Launch Director

4.1. About the Launchpad

The Oracle Enterprise Data Quality Launchpad is a web page that enables you to launch Oracle Enterprise Data Quality user interfaces. The URL of the Launchpad has been preconfigured within the Virtual Machine.

4.2. Navigate to the Launchpad

1. Ensure that the EDQ-12.2.1-Trn virtual machine is running.
2. Open a web browser on your host and navigate to the following URL: http://localhost:8011/edq.



Note that the Launchpad may take some time to display when you have just started the virtual machine (this is because the EDQ managed WebLogic server is starting). Be patient, and it should appear.

3. In your web browser, make the Launchpad web page a favorite or bookmark it so you can easily return to it in future.

4.3. Launch Director

Note that to launch the Director user interface, you will need an up to date Java Runtime Environment (JRE) installed on your host computer. You can download a Java Runtime Environment from http://www.java.com.

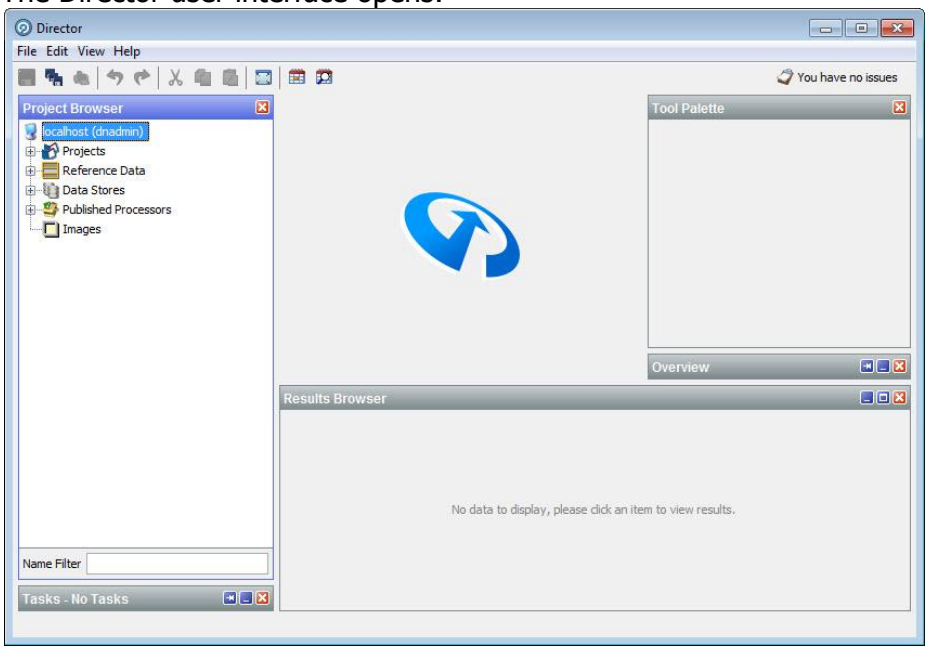
1. On the Launchpad, click the Director link to launch the application. Allow any Java webstart confirmation boxes that may appear so that the client software can be downloaded. If you are asked whether you want to run the application, click **Run**. If a dialog box warns you that the Windows Firewall has blocked some aspects of the program, click **Unblock**. If a dialog box warns you that dxi files already have an association, just click **OK**.

   Director is one of Oracle Enterprise Data Quality's rich, Java Web Start user interfaces. Clicking the Director link from the Launchpad within your host machine causes the user interface to download via Java Web Start from the EDQ server, which is running within the EDQ-12.2.1-Trn virtual Machine. Once it has been downloaded, the user interface will invite you to login. And once you have done this, you will be able to interact with the EDQ server, which is running in the guest virtual machine, via the Director user interface, which is running on the host.

2. The Login to localhost dialog will open. Login with the following credentials:
   a. Username: **dnadmin**
   b. Password: **dnadmin**

dnadmin is a superuser. It has all the security privileges available in EDQ. In a live environment, in which many users may interface with the same EDQ server, most users will have a more restricted set of privileges. However, in the training environment, which is figuratively a sandpit, it will be useful for you to enjoy unrestricted access to all EDQ functionality.

The Director user interface opens:



5. Complete the Getting Started With Oracle Enterprise Data Quality Hands-on Lab

1. On the EDQ-12.2.1-Trn virtual machine's desktop you will see a shortcut to the Getting Started with EDQ hands-on lab.

2. Double click this shortcut, and the lab will open in a web browser.
3. Complete the hands-on lab to start learning about EDQ.

6. Appliance Credentials and Other Useful Information

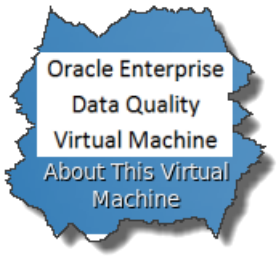
EDQ username: **dnadmin**

EDQ password: **dnadmin**

EDQ Launchpad URL (from your host machine): http://localhost:8011/edq

Credentials, and other details, for the other software applications included within the VM can be found within the virtual machine itself.

1. On the EDQ-12.2.1-Trn virtual machine's desktop you will see a shortcut called **About This Virtual Machine**.

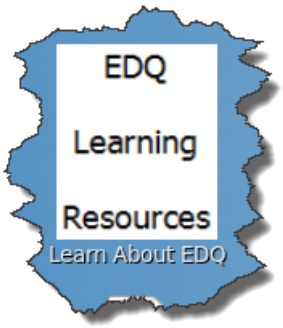


2. Double click this shortcut, and the About This Virtual Machine document will open in a web browser.

7.Learning More About EDQ

Information about how to learn more about EDQ, including useful links to education resources, is contained within the virtual machine itself.

1. On the EDQ-12.2.1-Trn virtual machine's desktop you will see a shortcut called **Learn About EDQ**.



2. Double click this shortcut, and the EDQ Learning Resources document will open in a web browser.