Oracle SOA Suite 12.2.1.1.0
VirtualBox Appliance

Introduction and Getting Started

July 2016
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VirtualBox Appliance

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Installed Software

<table>
<thead>
<tr>
<th>Software</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle Linux (64-bit)</td>
<td>OL 6 Update 8 (64-bit)</td>
</tr>
<tr>
<td>Oracle Database, Enterprise Edition</td>
<td>12.1.0.2</td>
</tr>
<tr>
<td>Oracle SOA Suite 12c</td>
<td>12.2.1.1.0</td>
</tr>
<tr>
<td>Oracle Service Bus 12c</td>
<td>12.2.1.1.0</td>
</tr>
<tr>
<td>Oracle Stream Analytics</td>
<td>12.2.1.1.0</td>
</tr>
<tr>
<td>Oracle Real-Time Integration Business Insight</td>
<td>12.2.1.1.0</td>
</tr>
<tr>
<td>Oracle Managed File Transfer</td>
<td>12.2.1.1.0</td>
</tr>
<tr>
<td>Oracle Sun JDK</td>
<td>1.8.0_92 (64-bit)</td>
</tr>
</tbody>
</table>
Settings

- Default memory is set to 10240 MB.
- Default CPU count is set to 2.
- Default network mode is NAT with port-forwarding and all the relevant ports for all configured servers are forwarded on the same port number. For e.g. port 7001 on the host is forwarded to port 7001 in the VM.
- SSH port 22 on the guest is mapped to port 7022 on the host.
- Hostname is integration

User IDs

<table>
<thead>
<tr>
<th>Administrative Login</th>
<th>weblogic/welcome1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oracle Enterprise Database</td>
<td>All passwords are set to welcome1</td>
</tr>
<tr>
<td>OS Login</td>
<td>oracle/oracle, root/oracle</td>
</tr>
</tbody>
</table>

Domain Configurations

This VirtualBox contains four domain configurations:

- Oracle SOA Suite with Oracle Service Bus, B2B, Enterprise Scheduler and BAM
- Oracle Managed File Transfer
- Oracle Stream Analytics
- Oracle Real-Time Integration Business Insight

Configuration details can be found in the NOTES.txt file on the desktop:
Before you begin

Enable hardware virtualization in your PC BIOS

Make sure hardware virtualization is available for your PC. It’s most likely turned off by default, so you will need to turn on the hardware virtualization capability before you can use it. This procedure is different for each computer manufacturer but it will require pressing the correct function key your system is booting up. Sometimes the correct setting is listed under security, not virtualization.

Install Oracle VM VirtualBox
Please download and install the latest Oracle VM VirtualBox from OTN http://www.oracle.com/technetwork/server-storage/virtualbox/overview/index.html or VirtualBox.org http://www.virtualbox.org

**Install VirtualBox Extension Pack**

Make sure you also install the Extension Pack. Download the extension pack file. This file is the same for all operating systems.

**Oracle VM VirtualBox Extension Pack**

Free for Personal Use, available for Windows, Mac OS X, Linux and Solaris x-86 platforms:

<table>
<thead>
<tr>
<th>Platform</th>
<th>File</th>
</tr>
</thead>
<tbody>
<tr>
<td>For use with Version 5.1.0 only All Platforms (Windows, Mac OS X, Solaris and Linux)</td>
<td>5.1.0 ExtPack</td>
</tr>
<tr>
<td>For use with Version 4.3.38 only All Platforms (Windows, Mac OS X, Solaris and Linux)</td>
<td>4.3.38 ExtPack</td>
</tr>
</tbody>
</table>

After you have installed VirtualBox, open the Preferences menu and choose Extensions.
If there is no extension pack or you need to upgrade from a previous version, use the icon with the yellow triangle to install the extension pack using the additional extension pack file you downloaded.
Setting Up the VirtualBox Appliance

Download the appliance

The VirtualBox appliance was split into smaller files and compressed for easier download. It is available as multi-part 7-Zip archive and you will need a utility such as 7-Zip (Windows) or 7zX (Mac) to re-create the single OVA file for import into your VirtualBox instance.

If your download speed allows, you can also directly download the Integration_12.2.1.1.0_OTN.ova file.

- Download the parts or the Integration_12.2.1.1.0_OTN.ova file from the Pre-built Virtual Machine for SOA Suite 12.2.1.1.0 OTN page

The following steps are only needed if you download the 8 parts:

- After you have downloaded all the files, combine the files with the extensions .001 – .008 using the following the steps:
  - Open 7-Zip File Manager
  - Open the folder into which you copied all 8 parts
  - Select Integration_12.2.1.1.0_OTN_VM.7z.001
  - If using Windows, use 7zip (http://www.7-zip.org/), from the menu, select File -> 7-Zip -> Extract files...
    
    o This will restore the full Integration_12.2.1.1.0_OTN_VM.ova file. You only need to perform the extract on the first file .001 file, but all 8 files must be present in the same folder.

    o On Mac, using 7zX, right-click on the .001 file and choose “Open With” 7zX.app
Setting your VirtualBox Preferences

- Start VirtualBox
- Before you start the import, you should set the import folder for the image
- Go to File ➔ Preferences

- Set the Default Machine Folder to the location of your choice. This is where VirtualBox will store the virtual image you are about to import. Make sure to pick a location with sufficient space. You will need about 50 GB for this image.

- Click OK
Importing the Appliance

- Import the appliance (File ➔ Import Appliance ...) and choose the Integration_12.2.1.0.0_OTN_VM.ova file.

You will be presented with the Appliance Settings. You can choose to review the settings now and make any necessary changes or review them after the import is complete, but before you start the virtual machine.

  - Note: You may need to disable the USB controller. On some machines, an error was encountered on import/startup.
• Click **Import**

• Accept the license agreement by clicking **Agree**
The import will take some time, possibly up to ½ hour. It will import multiple disks.

When the import is finished, click on the imported appliance and check the settings.
Adjust memory and CPU settings:

If you want to change the memory settings or the number of CPUs, please follow the steps below.

Change memory settings:

- With the appliance selected, click on **Settings**
- Or click on the section header for the settings that you would like to review

- Now go to **System**
- Set the memory to the desired value (you should allocate at least 8GB to the VM) but you should go further than the green section.
Change the number of CPUs if needed

- Go to the “Processor” option
- The number available will depend on your machine. Enter the desired value as a number within the green section

- Click OK when you are done with your changes
Set up a shared folder

You may want to copy files between the image and a local disk and vice versa. This can easily be done through a shared folder following the steps below:

- Set up a shared folder on your laptop and remember the name, e.g. “oracle” or “share”
- In the image configuration, go to Shared Folders

- Click the button to add a new “shared folder”.
- In the Folder Path: drop-down list, choose Other...
- Select your local shared folder

- You can choose a different name or accept the default
- Select **Auto-mount**
- Click **OK**
• Click OK

• After the VM is running (see: next section), your shared folder will be available under /media/sf_<name>. A link will also appear on the desktop. (It may overlap with another icon and you will need to separate them).

• You are now ready to start the virtual machine.
Start the Appliance

- With the appliance selected, click on **Start**

- If this window pops up, check “Do not show this message again“ and click **OK**

The appliance will automatically log in as the oracle user and will start the desktop.

Open NOTES.txt on the desktop for additional information about the setup.
Install the Guest Additions

Even though the guest additions have been previously installed, it is a good idea to install them again to make sure that they match the version of VirtualBox that you downloaded and installed. You should also re-install them in you upgrade your virtual box installation on your laptop to a newer version.

To do this you need the virtual machine running. It will open in it’s own window. From this window (NOT within the VM, but from the menu in the window, choose “Devices” and “Insert Guest Additions CD Image”.

This should show you that the disk was mounted by putting a disk icon on the desktop.

It may also open a pop-up box.

With Open Autorun Prompt selected, click OK.

Another pop-up box will appear.

Choose Run. It will prompt of the root password for the VM, which is oracle (in lowercase).
Click the Authenticate button.

A window pops up showing you that it is building and installing the correct version of the guest additions to match the version of the VirtualBox software installed on your machine.

Press Return to close the window. You need to re-start the VM or the changes to fully take effect.

Choose Shutdown from the system menu and restart.
Working with the Virtual Appliance

Start the appropriate server(s)

Ensure that all previously started servers in other domains have been stopped before starting servers in a new domain.

The following folders are available to start the domain of your choice:

- **SOA Domain** for an expanded SOA domain with one Admin and one SOA managed server
- **BAM and OSA** for the BAM Managed Server and the separate Oracle Stream Analytics Server (the BAM managed server is part of the SOA Domain)
- **MFT** for the MFT domain
- **Insight** for a compact SOA (with Service Bus) domain with Insight server and agents

These folders on the desktop include start/stop shortcuts as follows:

**Oracle Stream Analytics and BAM**

Use this for any trial, training, or demo of Stream Analytics or BAM.

![Image of BAM and OSA folder]

**Note:**

The icon to **Start Stream Analytics** script will set the terminal to the OSA server directory and run the startwlevs.sh script that starts the OSA server.

To use the Stream Analytics UI, you will need to wait a few moments more after you see the server started message.

When you see a message similar to:

```
INFO: Initiating Jersey application, version 'Jersey: 1.18 11/22/2013 01:21 AM'
```

then the SX UI is ready. You can use the URL: [http://localhost:9002/sx/login.html](http://localhost:9002/sx/login.html) and login in with username `wlevs` and password `welcome1`
- **Start Business Activity Monitoring**: Starts up the BAM managed server in the `soa_domain`. Double-clicking on this shortcut will open a terminal window showing the server output. Do not close this window or the server will be killed! You can minimize the window and go back to it if you need to review the log at any time.
  - The server uses port 7005

- **Stop Business Activity Monitoring**: Shuts down the BAM managed server. Double-clicking on this shortcut will open a terminal window showing the output of the shutdown command. Do not close this window! Once this script has completed, both terminals will close automatically.

**Managed File Transfer (MFT)**

Use this for any trial, training, demo with MFT.

- **Start Managed File Transfer**: Starts up the `mft_domain`. Double-clicking on this shortcut will open a terminal window showing the server output. **Do not close this window or the server will be killed!** You can minimize the window and go back to it if you need to review the log at any time.
  - The server is configured as a “compact domain” and uses port 7901

- **Stop Managed File Transfer**: Shuts down the `mft_domain`. Double-clicking on this shortcut will open a terminal window showing the output of the shutdown command. Do not close this window! Once this script has completed, both terminals will close automatically.

**SOA Suite**

Use this for any trial, training, demo of SOA Suite.

- **Start soa_domain Admin Server**: Starts up the `soa_domain` admin server. Double-clicking on this shortcut will open a terminal window showing the server output. **Do not close this window or the server will be killed!** You can minimize the window and go back to it if you need to review the log at any time.
The server is configured as a “expanded domain” and uses port 7001 for the admin server.

- **Start soa_domain SOA Server**: Starts up the soa_domain SOA managed server. Double-clicking on this shortcut will open a terminal window showing the server output. Do not close this window or the server will be killed! You can minimize the window and go back to it if you need to review the log at any time.

- The server is configured as a “expanded domain” and uses port 8001 for the SOA server.

- **Stop soa_domain Admin Server**: Shuts down the soa_domain admin server. Double-clicking on this shortcut will open a terminal window showing the output of the shutdown command. Do not close this window! Once this script has completed, both terminals will close automatically.

- **Stop soa_domain SOA Server**: Shuts down the soa_domain SOA managed server. Double-clicking on this shortcut will open a terminal window showing the output of the shutdown command. Do not close this window! Once this script has completed, both terminals will close automatically.

### Real-Time Integration Business Insight

Use this for any trial, training, demo of Real-Time Integration Business Insight.

```
<table>
<thead>
<tr>
<th>Name</th>
<th>Size</th>
<th>Type</th>
<th>Date Modified</th>
<th>Owner</th>
<th>Permissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start Insight Server</td>
<td>369 bytes</td>
<td>desktop configuration file</td>
<td>Sun 26 Jun 2016 02:50:13 PM PDT</td>
<td>oracle</td>
<td>-rwxr-xr-x</td>
</tr>
<tr>
<td>Stop Insight Server</td>
<td>371 bytes</td>
<td>desktop configuration file</td>
<td>Sun 26 Jun 2016 02:50:31 PM PDT</td>
<td>oracle</td>
<td>-rwx-xr-x</td>
</tr>
</tbody>
</table>
```

- **Start Insight Server**: Starts up the compact SOA domain with Insight server and agents. Double-clicking on this shortcut will open a terminal window showing the output of the shutdown command. **Do not close this window or the server will be killed!** You can minimize the window and go back to it if you need to review the log at any time.

- **Stop Insight Server**: Shuts down the compact SOA domain with Insight server and agents. Double-clicking on this shortcut will open a terminal window showing the output of the shutdown command. Do not close this window! Once this script has completed, the terminal will close automatically.

Once you have selected the appropriate server to start and its startup is completed, you will see the output “SOA Platform is running and accepting requests”.

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You may now want to minimize the terminal window to avoid accidentally closing it.
Firefox browser

You can open the Firefox browser by clicking the Firefox icon in the menu bar.

You will see bookmarks for easier access of consoles:

You can also use your browser on your host machine (using “localhost”) as the ports are all mapped through NAT on the VM configuration.
**JDeveloper on the Appliance**

One of the key features of SOA Suite 12c is that the SOA QuickStart allows you to get started and running with JDeveloper and SOA Suite. If you have already installed JDeveloper on your host machine and would like to connect to the SOA Suite server on the VM, the ports are mapped on the VM configuration.

You can also use JDeveloper that is installed in the VirtualBox Appliance. You can launch JDeveloper by simply double-clicking on the JDeveloper icon on the desktop.

- Note: The Application Server connections for the SOA domain and Insight domain have already been created for you.
- The IntegratedWebLogicServer domain is not configured, but you can create it by right-clicking and selecting “Create Default Domain”

This will create an integrated domain with port 7101 (or any other port you choose). While this would not conflict with the SOA domain, you should make sure to allocate appropriate resources to the VM if you wish to do this.
Working with the Oracle Database

If for any reason you need to access the database, you can either do so through JDeveloper or through the SQL*Plus prompt on the desktop.

Using the SQL*Plus prompt will open SQL plus logged in as sysdba role.

The database automatically starts/stops with the guest OS machine as a service. If for any reason you need to start or stop the database service (including listener) then open a terminal and perform the following:

- Switch to the root user by entering “su –” without the quotes
- When prompted, enter the password “oracle” without the quotes
- To stop the database, make sure you have already stopped any running servers (SOA Suite, etc) and then enter “service oracledb stop” without the quotes
- To start the database, enter “service oracledb start” without the quotes
[oracle@soa-training domai$ su -
Password:
[root@soa-training ~]# service oracledb stop
Stopping oracledb: /usr/bin/dirname: extra operand `2>&1.pid'
Try `/usr/bin/dirname --help' for more information.  [ OK ]
[root@soa-training ~]# service oracledb start
Starting oracledb: /usr/bin/dirname: extra operand `2>&1.pid'
Try `/usr/bin/dirname --help' for more information.  [ OK ]
[root@soa-training ~]#
Stop/Shutdown the Appliance

You have two options to stop the image:

Save the machine state

This option is much faster than completely shutting down. You can leave everything open and running and the state of the image is saved.

- Click on the X at the top right of your VirtualBox window
- Choose “Save the machine state”
- Click **OK**

![Saving the execution state of the virtual machine](image)

- The Oracle VM VirtualBox Manager shows the image as **“Saved”**

- If you want to start the image again, click on **Start** as you would also do after a shutdown

![Restoring virtual machine](image)

- You will see that the image is in exactly the same state as before you saved it

**Shut down the image**
Before shutting down the image, make sure that you have shut-down any running servers (SOA Suite Server, etc)
- Don’t worry about shutting down the database, it will shutdown automatically with the guest OS.

On the desktop, select **System -> Shut Down**

*Confirm* the shutdown
You can watch the guest OS shutdown all of the services including the database:

```
Shutting down...Stopping atd: [ OK ]
Stopping cups: [ OK ]
Stopping sshd: [ OK ]
Stopping postfix: [ OK ]
Stopping crond: [ OK ]
Stopping VirtualBox Guest Addition service: [ OK ]
Stopping HAL daemon: [ OK ]
Stopping block device availability: Deactivating block devices:
[SKIP]: umount of vg_soatraining-lv_root (dm-8) mounted on /
Stopping NetworkManager daemon: [ OK ]
Stopping system message bus: [ OK ]
Stopping rpcbind: [ OK ]
Stopping auditd: [ OK ]
Shutting down system logger: [ OK ]
Shutting down loopback interface: [ OK ]
Stopping oraclecl: /usr/bin/dirname: extra operand 2>&1.pid
Try /usr/bin/dirname --help for more information.
```

Once it is complete, the window will close and the VirtualBox Manager will show the machine as powered off.