

# vRealize Orchestrator Essentials

## Update for vRO 7.3 (updated 26.10.2017)

This document is intended as an update for the following book:

**vRealize Orchestrator Essentials by Daniel Langenhan, Packt Publishing Sep 2015.**

On 23.12.15 VMware released vRealize Orchestrator 7. Due to this, some changes to chapter 1,2 and 3 need to be made. The rest of the Book is not impacted by any changes.

With Version 7.2 and 7.3 things have changed again and this document was updated to reflect these changes.

### General

Please have a look at the vRO 7.3 Release Notes that can be found here:

<https://docs.vmware.com/en/vRealize-Orchestrator/7.3/rn/vrealize-orchestrator-73-release-notes.html>

The main changes are that will impact this book are:

- Control Center now fully works as intended
- Orchestrator Configurator is now retired
- LDAP is removed

- Authentication supports the vSphere Platform Services Controller architecture

A lot of the old configuration workflow are not accessible anymore and the work should now be done using the Orchestrator Control Center

## Chapter 1

The following changes apply for vRO7.3 to chapter 1

### More about Plug-ins

Orchestrator itself comes with quite a lot of plugins pre-installed. The following table shows all the plug-ins that vRealize Orchestrator 7.3 comes with.

Plugin Name	Version and name
Active Directory	AD 3.0.5.5377446
AMQP Plug-in	AMQP 1.0.4.5244874
Configuration plug-in for vRealize Orchestrator	Configurator 7.3.0.5481809
Dynamic Types plug-in for vRealize Orchestrator	DynamicTypes 1.3.0.5416411
Common enumerated types	Enums 7.0.1.4939616
Library plug-in for vRealize Orchestrator	Library 7.0.1.4939616
Mail Plug-in	Mail 7.0.1.4939616
Wrapper to Jakarta Apache Commons Net library	Net 7.0.1.4939616
Power Shell Plug-in	PowerShell 1.0.11.5262161
REST plug-in for vRealize Orchestrator	REST 2.2.2.5376849
Simple Network Management Protocol plug-in for vRealize Orchestrator	SNMP 1.0.3.5277615
SOAP plug-in for vRealize Orchestrator	SOAP 2.0.0.5277614
VMware vRealize Orchestrator SQL Plug-In	SQL 1.1.4.5107267
SSH plug-in for vRealize Orchestrator	SSH 7.0.2.5054732
vAPI plug-in for vRealize Orchestrator	VAPI 7.4.0.5402952
vSphere vCenter Plug-in	VC 6.5.0.5471688
vRealize Orchestrator Multi-Node Plug-In	VCO 7.3.0.5481809

Workflow Documentation Plug-In for vRealize Orchestrator	Workflow documentation 7.0.1.4939616
XML Plug-in	XML 7.0.1.4939616
vRealize Automation Center Infrastructure Administration plug-in for vRealize Orchestrator	vCAC 7.3.0.5482658
vRealize Automation plug-in for vRealize Orchestrator	vCACCAFE 7.3.0.5482710

## Chapter 2

The following changes apply for vRO7 to chapter 2

### Licensing

vRO is automatically licensed with vSphere vCenter and/or vRealize Automation. As soon as you connect vRO to one of these authentication sources vRO is licenced.

Although Orchestrator is not available with the Essentials and Essentials Plus licensing, it can be operated in Player mode only. This limits your usage to executing existing work flows and prevents you from editing or creating them.

### vRO Compatibility

If possible you should use vRO7 instead of vRO6 with vSphere 6, as vRO7 recognizes the new PSC structure.

Orchestrator Version	vCenter Version	vRealize Automation
5.1.x	5.1	vCAC 5.2.3
5.5.x	5.1 – 6.0 (5.5.3)	vCAC 5.2.3
6.0.x	5.1 – 6.5 (6.0.5)	6.2.x
7.0.x – 7.1	5.1 – 6.5	analog with vRO version
7.2-7.3	5.5 – 6.5	

Check also the **VMware Product Interoperability Matrices**

[https://www.vmware.com/resources/compatibility/sim/interop\\_matrix.php](https://www.vmware.com/resources/compatibility/sim/interop_matrix.php)

## Appliance size requirements

The vRO 7 Appliance requires the following virtual resources:

<b>CPU</b>	2 vCPUs
<b>Memory</b>	6GB
<b>Disk Space</b>	17 GB (7 + 10)
<b>Network</b>	1 x Network 1x IP or DHCP

## Open Ports

The major changes are:

change is that port http 8280 now forwards to https 8281.

https 8283 now is used for the Orchestrator Control Centre.

Source	Target	TCP Port	Description
Desktop	vRO	5480	Appliance Configuration
Desktop	vRO	80 (redirect) 443 (redirect) 8280 (redirect) 8281	vRO Webpage and vRO Client Connection
Desktop	vRO	8283	vRO Control Center
vRO	vCenter	443	vCenter Connection

## Database

There is need to do this anymore with Version 7.2 the internal DB is cluster ready and fully functional.

## Deploying the Orchestrator Appliance

1. Open your vSphere Web Client and log in.
2. Select a host or cluster that should host the Orchestrator Appliance.
3. Right-click the **Host or Cluster** and select **Deploy OVF Template**.

4. The deploy wizard will start and ask you the typical OVF questions:
  - Accept the EULA
  - Choose the VM name and the VM folder where it will be stored
  - Select the storage and network it should connect to. Make sure that you select a static IP
5. The **Customize template** step will now ask you about some more Orchestrator-specific details. You will be asked to provide a new password for the root user. The root user is used to connect to the vRO appliance operating system or the web console.
6. The other password that is needed is for the vRO Configurator interface. We will have a quick look at that in *Chapter 3, Integrating Orchestrator with vSphere*.
7. The last piece of information needed is the network information for the new VM. The following screenshot shows an example of the **Customize template** step

Deploy OVF Template

1 Select template  
 2 Select name and location  
 3 Select a resource  
 4 Review details  
 5 Accept license agreements  
 6 Select storage  
 7 Select networks  
 8 **Customize template**  
 9 Ready to complete

### Customize template

Customize the deployment properties of this software solution.

All properties have valid values [Show next...](#) [Collapse all...](#)

Customer Experience Improvement Program	Customer Experience Improvement Program provides us with information that helps us improve our products and services. <input type="checkbox"/>
Enable SSH service in the appliance	This will be used as an initial status of the SSH service in the appliance. You can change it later from the appliance Web console. <input checked="" type="checkbox"/>
Hostname	The host name for this virtual machine. Provide the full host name if you use a static IP. Leave blank to try to reverse look up the IP address if you use DHCP. vrotfest
Initial root password	This will be used as an initial password for the root user account. You can change the password later (by using the passwd command or from the appliance Web console). Enter password: <input type="password"/> Confirm password: <input type="password"/>
Networking Properties	6 settings
Default Gateway	The default gateway address for this VM. Leave blank if DHCP is desired. 192.168.220.2
Domain Name	The domain name of this VM. Leave blank if DHCP is desired. mylab.local
Domain Name Servers	The domain name server IP Addresses for this VM (comma separated). Leave blank if DHCP is desired. 192.168.220.10
Domain Search Path	The domain search path (comma or space separated domain names) for this VM. Leave blank if DHCP is desired. mylab.local
Network 1 IP Address	The IP address for this interface. Leave blank if DHCP is desired. 192.168.220.51
Network 1 Netmask	The netmask or prefix for this interface. Leave blank if DHCP is desired. 255.255.255.0

Back Next Finish Cancel

## After the deployment

If the deployment was successful, the VM's console should show a screen similar to the one below.

```
VMware vRealize Orchestrator Appliance - 7.0.0.16989 Build 3310032
To manage your appliance browse to http://192.168.220.12/
Welcome to VMware vRealize Orchestrator Appliance
Quickstart Guide: Use the following URLs to use the appliance:
 1 - http://192.168.220.12 - Orchestrator Appliance Home Page
 2 - https://192.168.220.12:8283/vco-controlcenter - Orchestrator Control Center
 3 - https://192.168.220.12:8281/vco - Orchestrator Server
 4 - https://192.168.220.12:5480 - Appliance Configuration
*Login
Set Timezone (Current:UTC)
Use Arrow Keys to navigate
and <ENTER> to select your choice.
```

## Accessing the Orchestrator Home page

The main changes are that the Orchestrator Configuration is now gone and replaced by Orchestrator Control Center. The other minor change is the quick link to the Orchestrator documentation.

**VMware vRealize™ Orchestrator™**

**Getting Started with vRealize Orchestrator**

To create and modify workflows, or to perform administrative tasks, start the Orchestrator client by using Java Web Start:

- 1 • [Start Orchestrator Client](#)

To use the Orchestrator client on your local machine, install the Orchestrator client. After you complete the installation, start the Orchestrator client and connect to the Orchestrator server.

- 2 • [Download Orchestrator Client Installable](#)

**Configure the Orchestrator Server**

To make additional configuration changes to the Orchestrator server, use the Orchestrator configuration interface:

- 3 • [Orchestrator Control Center](#)

**Develop with the Orchestrator Server**

Contains the necessary materials for developing an Orchestrator plug-in and information about using the Orchestrator SOAP and REST APIs.

- [Develop with the Orchestrator Server](#)

**More Information**

For more information about Orchestrator, see the vRealize Orchestrator documentation landing page:

- 6 • [vRealize Orchestrator Documentation](#)

**vRealize Orchestrator Resources**

- 4 • [Product Information](#)
- [Orchestrator Blog](#)
- [Community](#)
- [Support](#)
- [Plug-ins](#)

**VMware Quick Links**

- 5 • [VMware Communities](#)
- [VMware Forums](#)
- [VMware Site](#)

VMware vRealize Orchestrator 7.0.0

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POWERED BY | VMware vRealize Orchestrator **vmware**

The Home page contains some very useful links. As shown in the figure above, here is an explanation of each number.

- 1 Click here to start the Orchestrator Java Client. You can also access the Client directly by browsing to:  
[https://\[IP or FQDN\]:8281/vco/client/client.jnlp](https://[IP or FQDN]:8281/vco/client/client.jnlp)
- 2 Click here to download and install the Orchestrator Java Client locally

- 3 Click here to access the Orchestrator Control Center
- 4 A selection of links to find help, information and to download plug-ins
- 5 Additional VMware links
- 6 A quick link to the VMware Orchestrator Documentation

## Base configuration with vRO 7.3

After you have deployed the Appliance you should configure it.

### Setup Wizard

1. Go to the vRO Webpage
2. Click on Orchestrator Control Center
3. You are prompted for a login. Use **root** and then the password you specified in the OVA deployment.
4. The Setup wizard will now step you through the base configuration.
5. Select Standalone for this installation. You can change the hostname if you require.
6. Next, we need to select the Authentication method. Choose **vSphere** and enter the FQDN of your PSC (Platform Service Controller (SSO)).
7. After clicking **Connect** you may need to **Accept** the PSC's certificate.



**IDENTITY SERVICE**

User name

Password

Default tenant

10. Next you need to select the vRO Admin group you created earlier. You can type part of the name and then click on Search to find it.
11. Click on Save Changes.
12. The Wizard has finished and you should test your settings. Click on **Configure Authentication Provider** and then Choose **Test Login**.
13. Provide user credential from a member of the vRO Admin group (user@domain) and click Test. If a Green banner shows up with the words: **The user has Administrative rights in vRealize Orchestrator** then you finished with the base setup.

Configure Authentication Provider

 Configure the authentication parameters and test your login credentials.

Authentication Provider Test Login

After configuring your authentication provider, you can test if a user has administrative rights in the Orchestrator.

 **Info** The user has administrative rights in vRealize Orchestrator.

User name

Password

## Configure Orchestrator with an external database

No need to do this anymore with Version 7.2 the internal DB is cluster ready and fully functional.

## Enter a license

This has been already done while setting up Authentication.

## Last steps

This is only needed when using an external Database and as we are not using it anymore, this step can be ignored.

## Restart Orchestrator

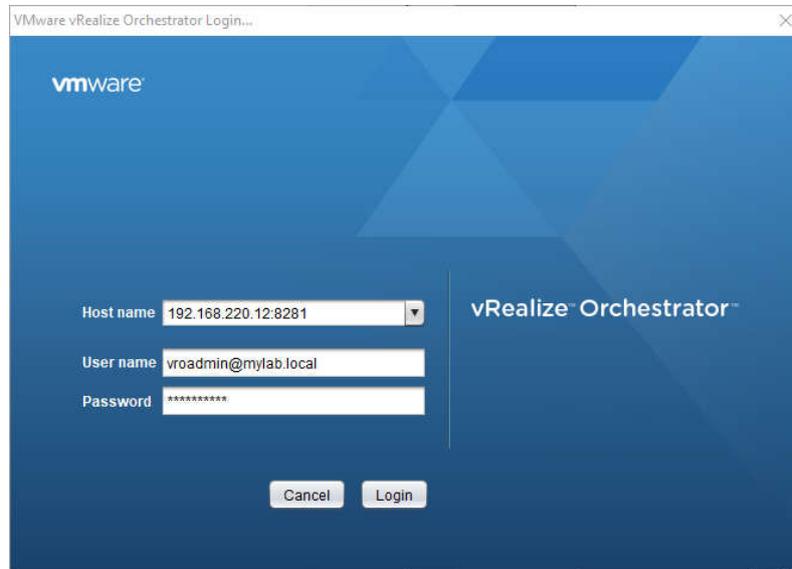
The Orchestrator Service needs to be restarted every time a major change was made.

1. In the Orchestrator Control Center click on **Startup Options**
2. Click on Restart to restart the Orchestrator Service.
3. Wait until the service shows **RUNNING** again. This may take a moment, however it can take up to 2minutes before the vRO Services are fully ready to allow login with the vRO Client.

## Starting the Orchestrator Client with SSO User

Let's open the Orchestrator Client. For the Orchestrator Client to work, you need to run at least Java 7.

1. From the Orchestrator home page, click on Start Orchestrator Client.
2. Your Java environment will start. You may be required to acknowledge that you really want to start this application.
3. You will now be greeted with the login screen to Orchestrator



4. Enter the user you tried the test login with in the format user@domain and then click on [Login](#).

## The Orchestrator Configuration Tools

This doesn't exist anymore and can be fully ignored.

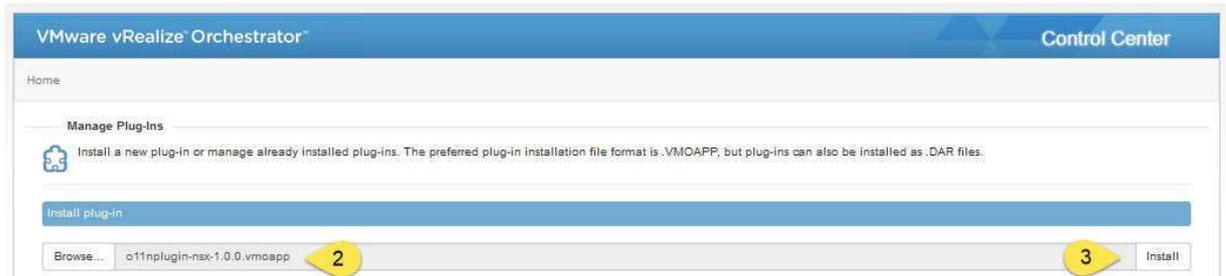
## Chapter 3

The following changes apply for vRO7 to chapter 3

### Installing a plug-in

Instead of the Orchestrator Configuration we now use the Orchestrator Control Center Follow these steps:

1. In the Orchestrator Control Center click on [Manage Plug-Ins](#)
2. Click on Browse to browse to the plugin you downloaded.
3. Click Install to install the plugin



4. You now will be presented with a screen in which you need to accept the EULA of the given plugin.
5. Click on Install
6. You now should restart the Orchestrator Service. See the Restart Orchestrator section.