



# vRealize Production Test

Production Test Guide for  
vRealize Automation  
vRealize Operations  
vRealize Business for Cloud

PRODUCTIONTESTGUIDE

JUNE 2017

VERSION 1.7.1

## Table of Contents

Component Overview .....	3
Configuring and Using vRealize Production Test .....	4
Download the vRealize Production Test JAR File.....	4
Prerequisites .....	4
Create the Configuration File .....	4
Sample vRealize Production Test Configuration Tool Parameters.....	5
vRealize Automation Configuration Parameters.....	5
vRealize Operations Configuration Parameters .....	7
vRealize Business for Cloud Configuration Parameters.....	7
Running vRealize Production Test .....	8
Prerequisite .....	8
Run Using Default Settings .....	8
Run Using Custom Settings .....	8
Sample Output .....	9
Test Class Mapping.....	9
Reporting .....	12
Extensibility.....	14
Troubleshooting .....	14
Contacting VMware Support .....	14

## Component Overview

The vRealize Production Test is an add-on tool to the vRealize Suite that you can use to monitor the production health of your vRealize Suite deployment from the initial deployment to the operational phase. By using vRealize Production Test, you can run a suite of tests from the command line using the API of the vRealize Suite components to assess and report on the health of those components.

This information is for the following vRealize Suite components and versions.

COMPONENT	VERSION
vRealize Automation	6.2.X, 7.X
vRealize Business for Cloud	6.1.X, 6.2.X, 7.X
vRealize Operations	6.2.X, 6.3.X
vRealize Orchestrator	6.X

# Configuring and Using vRealize Production Test

This document assumes that VMware vRealize™ Automation, VMware vRealize™ Operations™ and VMware vRealize™ Business for Cloud are already deployed or that you are in the process of deploying them.

## Download the vRealize Production Test JAR File

vRealize Production Test is a Java 8 JAR file that you should download to and run on a machine that is outside of the vRealize Suite environment.

- Download the JAR file from the product downloads page.

## Prerequisites

The following prerequisites are required:

- The PATH variable must include the location of the Java 8 or later executable.
- On Linux, the GTK library must be available for the GUI configuration tool to load.

## Create the Configuration File

Before you run any of the tests in vRealize Production Test, you must create a configuration file that defines the parameters of your deployment.

1. Open the vRealize Production Test Configuration Tool.

```
java -jar vrealize-productiontest-1.7.1.jar config
```

The vRealize Production Test Configuration Tool appears.

Field	Value
vRA URL:	FQDN
vRA Tenant:	vsphere.local
vRA UI Username:	tenantadmin@vsphere.local
vRA Password:	Password
vRA VA DNS Name:	FQDN
vRA VA Username:	root
vRA VA Password:	Password
vRA SSO Username:	Administrator@vsphere.local
vRA SSO Password:	Password
SSO SSL Port:	7444
Certificate Validity Period:	days
Infrastructure Web Host Name:	vra-laa-web.corp.local
Windows Administrator Username:	administrator@domain
Windows Administrator Password:	Password
vRO URL:	FQDN <input checked="" type="checkbox"/> HA, Load Balanced
vRO Username:	admin
vRO password:	admin-password
vRO VA Username:	root
vRO VA Password:	root-password
value	+Add
vRO Node URL:	vRO URL
vRO Node Username:	vRO Username
vRO Node Password:	vRO Password

2. Enter the appropriate values.

## Sample vRealize Production Test Configuration Tool Parameters

You can use this information as a reference for entering the configuration parameters in the vRealize Production Test Configuration Tool.

### vRealize Automation Configuration Parameters

This table displays the configuration parameters for vRealize Automation.

PARAMETER NAME	PURPOSE	SAMPLEVALUE
vRA URL	URL of the vRealize Automation deployment.	https://vra.foo.com
vRA Tenant	Tenant to connect to.	vsphere.local
vRA UI Username	Name of a tenant administrator, Fabric Administrator, and IaaS Administrator to login as.	tenantadmin@vsphere.local
vRA UI Password	Administrator password.	
vRA VA DNS name	The host name in FQDN of one of the virtual appliances hosting vRealize Automation.	vra-va-1.foo.com
vRA VA Username	User name to log in to the virtual appliance console.	root
vRA VA Password	Password to log in to the virtual appliance console.	
vRA SSO Username	User name of the Identity/SSO Administrator.	Administrator@vsphere.local
vRA SSO Password	Password of the Identity/SSO Administrator.	
SSO SSL Port	Port that vRealize Automation connects to SSO on, the default is 7444 for the identity appliance. Using the PSC requires this to be set to 443.	7444
Certificate Validity Period	Beginning with the current date, the number of days that the SSO certificate is required to be valid.	
Infrastructure Web Host Name	IaaS host name where the DEM is running.	
Windows Administrator Username	IaaS user name with domain	administrator@vpsphere.local
Windows Administrator Password	IaaS password.	
vRO URL	For a standalone deployment, the URL of the vRO node. For a load balanced/HA deployment, the URL of the load balancer node.	

vRO Username	User name of the vRO client.	
vRO Password	Password of the vRO client.	
vRO VAUsername	User name of the vRO VA(in the case of a standalone deployment).	
vRO VAPassword	Password to log in to the vRO VA(in case of standalone deployment).	
vRO Node URL	URL of load-balanced vRO nodes (in case of Load Balanced/HA deployment)	
vRO Node Username	User name for load-balanced vRO nodes (in case of Load Balanced/HA deployment). Click <b>Add</b> to allow multiple entries.	
vRO Node Password	Password for load-balanced vRO nodes (in case of Load Balanced/HA deployment). Click <b>Add</b> to allow multiple entries.	

## vRealize Operations Configuration Parameters

This table displays the configuration parameters for vRealize Operations.

PARAMETER NAME	PURPOSE	SAMPLEVALUE
URL	vRealize Operations instance URL	https://vcops.foo.com
Administrator and Password	Administrator username and password	admin
vROPs VAUsername and Password	Optional. Root user credentials of vROps VA or Linux machine. Used to log into the machine and check if Administrator account is locked. If left empty, this check is skipped.	root
High availability enabled	Determines if this is a clustered deployment, with High Availability enabled.	true/false
vCenter Server address	Optional. IP or FQDN of the vCenter server instance. If left empty, inventory sync tests are skipped.	vcenter.foo.com
vCenter Server username/password	Optional. Username and password pair for the vCenter server instance. If left empty, inventory sync tests are skipped.	
vROps Username and password.	Optional. Local, LDAP or vCenter user credentials. If left empty, authentication test is skipped.	username@foo.com
Authentication Source	Optional. LDAP or vCenter Source as defined in Login screen->Authentication source drop-down. Leave empty for local users.	ldapSource or vcenterfoo.com

## vRealize Business for Cloud Configuration Parameters

This table displays the configuration parameters for vRealize Business for Cloud.

PARAMETER NAME	PURPOSE	SAMPLEVALUE
URL	URL of the deployment	https://ip:port/itfm-cloud/rest
vRA Tenant	Tenant to connect to	vsphere.local
vRB VAUsername/Password	Administrator username and password	root
SSO DNS Name	The hostname in FQDN of the SSO appliance	
vRA VADNS name	The hostname in FQDN of one of the virtual appliances hosting vRealize Automation	vra-va-1.foo.com

vRA Tenant	Tenant to connect to	vsphere.local
vRA Username/Password	Name of a tenant administrator, Fabric Administrator, and IaaS Administrator to log in as	tenantadmin@vsphere.local

## Securing the Configuration Files

The configuration files hold sensitive password information that is encrypted. To maximize the security of these files, you should store them as mode 600 on Linux or make them accessible only to the intended users on Windows or OS-X. This additional security measure is in addition to encrypting the passwords at rest.

## Running vRealize Production Test

You can run vRealize Production by using default settings or by using custom test lists.

### Prerequisite

The following prerequisite is required:

- The PATH variable must include the location of the Java 8 or later executable.

### Run Using Default Settings

```
C:\Users\vrptuser>java -jar vrealize-productiontest-1.7.1.jar run --oobList VRA
```

Where valid `oobList` parameters are VRA, VROPS and VRB.

### Run Using Custom Settings

```
C:\Users\vrptuser>java -jar vrealize-productiontest-1.7.1.jar run --testList testng.xml
```

The content of the test list are in standard TestNG format and follow the normal TestNG reporting mechanism. The following is a sample TestNG suite file:

```
<suite name="vra">
<test name="all">
<classes>
<class
name="com.vmware.vrealize.readiness.vra.test.endpoints.vRAEndpointTests"/>
</classes>
</test>
</suite>
```

For more information about TestNG suites, see <http://testng.org/doc/documentation-main.html#testng-xml>.



## Sample Output

```
[TestNG] Running:
  C:\testng.xml

INFO 2015-04-22 10:20:17.398 (mlApplicationContext.prepareRefresh : 510)
Refreshing
org.springframework.context.support.ClassPathXmlApplicationContext@1e86471:
startup date [Wed Apr 22 10:20:17 EDT 2015]; root of context hierarchy

INFO 2015-04-22 10:20:17.483 (BeanDefinitionReader.BeanDefinitions: 316)
Loading XML bean definitions from class path resource [spring/vrealize-
readiness-infra-context.xml]

INFO 2015-04-22 10:20:19.333 (VRAApiClient .getAPIClient : 131)
Initializing VRA API client..

INFO 2015-04-22 10:20:30.989 (Jaxb2Marshaller .extFromPackages: 509)
Creating JAXBContext by scanning packages
[com.vmware.vcac.**.rest.stubs,com.vmware.vcac.platform.rest.data,com.vmware.vc
ac.platform.content]

INFO 2015-04-22 10:20:50.608 (Util .<init> : 288)
Reading resources from zip file path=[file:/var/lib/jenkins/jobs/Cava-
....

=====

vRA tests for vRealize Readiness
Total tests run: 20, Failures: 0, Skips: 0

=====
```

## Test Class Mapping

Each class contains several tests that are based on areas of impact, which can range from 3-10 tests.

TESTCLASS	AREAIMPACTED
VREALIZE AUTOMATION	
VRACertificateTests	SSL Certificates on all vRealize Automation nodes.
vRAEndpointTests	Endpoint connectivity and initial data collection success.
vRANetworkTests	Connectivity between vRealize Automation nodes.
vRAReservationTests	Sanity tests for reservations, verifying that the compute resources.

TESTCLASS	AREAIMPACTED
vRAReservationPolicyTests	Reservation policy assignments to storages and reservations.
VRAResourceOperationTests	Resource operations for catalog items. vRA UI Username user must have Tenant or BGM user rights.
VRAServiceStatusTests	Verify all vRealize Automation services are registered on the virtual appliance.
vRAVamiTests	Verify configuration of the VAs, including clocks, licenses, passwords.
vRATemplateTests	Verifies that all machine templates in vRA are present in vSphere
<b>vRealize Operations</b>	
LicensingTests	Verify that the product is licensed correctly.
AdapterInstancesTests	Test collection status for vRealize Operations adapter instances.
SolutionsTest	Check for pre-installed solutions by verifying adapter kinds.
ClusterDeploymentInfoTests	Verify cluster/node status from a post-deployment point-of-view.
ClusterHATests	Tests around cluster HA configuration.
ClusterManagementTests	Verify cluster/node and network status and from a sys-admin point-of-view.
SliceMetricsTests	Verify available disk space, CPU and Memory usage of each node.
InventoryTreeFiltersTests	Verify vCenter adapter and custom inventory tree filters are loaded.
VcInventoryObjectTests	Verify inventory sync with vCenter.
ResourceMetricsTests	Verify a variety of badges and metrics being collected.
CertificateChainTests	Tests around SSL certificates between nodes in a cluster.
AdminAccountTests	Verify administrator account credentials.
AuthenticateUsersTests	Verify that local, LDAP and vCenter users can be authenticated.

TESTCLASS	AREAIMPACTED
DataNodeSizingTests	Verify that the system is correctly sized.
<b>vRealize Business for Cloud</b>	
VCServerTests	Verify that the vCenter server details for vRB
SystemStatusTests	Test the vRB environment like network reachable, registration with vRA
LicensingTests	Tests for vRB license
SystemHealthStatusTests	Test for vRB global sync options and vCD data collection

## Reporting

### VRPT Reports

At the conclusion of a test run, vRealize Production Test will generate a full HTML report, located in the report directory from where you ran the command.

Chrome or Firefox are the recommended browsers for viewing reports. Internet Explorer is currently only supported when hosted by a server, and not when opened as a local file.

To view the report, open `VRPTReport.html` in your browser of choice.



The report is divided into two sections: A top section and a bottom section.

The top section has a graph displaying the results for each category of test, along with a summary of all tests. Each graph displays the percentages of tests that succeeded, failed or were skipped in that category. Hovering over a section will display the percentage for that group.

Clicking on a group will bring up more details about the tests in the bottom section. There you will find various information about the tests including the test name, result, category, description, remediation information and failure/skip cause, if any.

The Previous and Next buttons allow for browsing between the pages of tests in a group. In addition, the filter text field can be used to display only those tests that include desired text.

Clicking on a test name will create a popup including additional information about that test.

When available, clicking on cause will provide more in-depth information into the reason for the failure or skip.

When a test fails, clicking the remediation link will redirect your browser to relevant information for correcting the problem.

## Custom Reports

As part of the test run, a JSON object containing the results is generated in a file named `custom-report.json` located in the `test-output` directory from where you ran the command.

If using a custom test list XML, adding the following lines is needed to enable report generation:

```
<listeners>
<listener class-name
="com.vmware.vrealize.readiness.report.client.ReportingListener"/>
</listeners>
```

## Third Party Reports

In addition to its own reports, vRealize Production Test supports two third-party reporting solutions.

## TestNG Reports

Basic TestNG reports are located in the `test-output` directory from where you ran the command.

FILE	DESCRIPTION
<code>test-output/index.html</code>	HTML report page.
<code>test-output/testng-results.xml</code>	Machine readable full output.
<code>test-output/testng-failed.xml</code>	Machine readable failure report.
<code>test-output/juintreports/*</code>	Failure reports in JUnit format.

## Sharing Reports with VMware

You can automatically send vRealize Production Test (vRPT) reports to VMware in connection with the use of the vRPT product. The information in the report is used by VMware and its service providers to provide you with support, advise you on how to use VMware products and services, improve VMware products and services, and fix problems. You are responsible for ensuring your compliance with applicable laws in providing these reports to VMware. If you choose not to automatically send the report to VMware, you can manually send the report to VMware at a later time. You are prompted for each vRPT report whether to automatically send it to VMware. Information collected by VMware may be transferred, stored and processed by VMware in the United States or any other country in which VMware or its affiliates or service providers maintain facilities.

### Customer Experience Improvement Program

This product participates in VMware's Customer Experience Improvement Program ("CEIP"). Details regarding the data collected through CEIP and the purposes for which it is used by VMware are set forth at the Trust & Assurance Center at <http://www.vmware.com/trustvmware/ceip.html>. To join or leave the CEIP for this product, please check or

uncheck the option to upload in the interface after the test run is complete.

## Extensibility

The JAR file is the foundation of extensibility. The framework is divided into functional areas based on product and core functionality. For more information, see the Javadoc that are delivered with this release

Interesting packages are listed in the following table.

PACKAGE	USE
<code>com.vmware.vrealize.readiness.apiclient</code>	Clients for the vRealize APIs.
<code>com.vmware.vrealize.readiness.vrops</code>	vRealize Operations related tests.
<code>com.vmware.vrealize.readiness.vra</code>	vRealize Automation related tests.
<code>com.vmware.vrealize.readiness.vrb</code>	vRealize Business for Cloud related tests.
<code>com.vmware.vrealize.readiness.vc</code>	Service methods for managing vCenter.
<code>com.vmware.vrealize.readiness.vcloud</code>	Service methods for managing vCloud
<code>com.vmware.vrealize.readiness.common</code>	Common libraries that are useful, for example SSH.
<code>com.vmware.vrealize.readiness.reporting</code>	Reporting classes.

## Troubleshooting

All output from the vRealize Production Test is logged to the console.

Test output is logged to the `test-output` directory and is available by viewing the `index.html` file in that directory.

## Contacting VMware Support

If you cannot identify the problem, and you have a support agreement with VMware, open a support case in the support portal at <http://www.vmware.com/support/> or send an email to [Support@VMware.com](mailto:Support@VMware.com).

Be specific in describing the problem and attach relevant log data and error messages in your description.



**VMware, Inc. 3401 Hillview Avenue Palo Alto CA 94304 USA Tel 877-486-9273 Fax 650-427-5001 [www.vmware.com](http://www.vmware.com)**

Copyright © 2017 VMware, Inc. All rights reserved. This product is protected by U.S. and international copyright and intellectual property laws. VMware products are covered by one or more patents listed at <http://www.vmware.com/go/patents>. VMware is a registered trademark or trademark of VMware, Inc. in the United States and/or other jurisdictions. All other marks and names mentioned herein may be trademarks of their respective companies.