

VMware Certified Professional 7 – Cloud Management and Automation

Exam Preparation Guide

Exam Code: 2V0-731
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Disclaimer:

This preparation guide is intended to provide information about the objectives covered by this exam, as well as related resources. The material contained within this guide is not intended to guarantee that a passing score will be achieved on the exam. VMware recommends that a candidate thoroughly understands the objectives indicated in this guide and utilizes the resources recommended in this guide where needed to gain that understanding.

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1. The Exam

1.1 Purpose of Exam

The VMware Certified Professional 7 – Cloud Management and Automation Exam (2V0-731) tests candidates on their skills and abilities installing, configuring and administering a VMware vRealize® environment. Successful candidates demonstrate mastery of these skills and abilities.

1.2 Intended Audience

A typical candidate for the VCP7-CMA certification has six months' experience working with vRealize Automation implementations. They are typically infrastructure personnel, who are capable of installing and configuring, managing and troubleshooting a vRealize Automation solution running on vSphere 6.x. The candidate possesses an understanding of basic cloud concepts including public/private/hybrid clouds, multi-tenancy and cloud security. The candidate is capable of using vRealize Automation to automate the deployment of workloads, vRealize Business Standard to establish cost reporting and vRealize Orchestrator to create and manage common workflows.

2. Objectives covered in the VCP7-CMA Exam

2.1 Introduction

It is recommended that candidates have the knowledge and skills necessary to install, configure and administer a vCloud environment before taking the VCP-CMA Exam.

2.2 Objectives

Prior to taking this exam, candidates should understand each of the following objectives. Each objective is listed below; along with related tools the candidate should have experience with, and related documentation that contains information relevant to the objective. All objectives may also be referenced in other product documentation not specifically highlighted below. The candidate should be familiar with all relevant product documentation or have an equivalent skillset.

Section 1 – Create and Modify vRealize Automation Blueprints

Objective 1.1 – Create, Modify and Publish Blueprints Based on a Given Design

Knowledge

- Select the provisioning workflow, virtual machine template, and customization specification
- Configure expiration and archive durations
- Configure machine prefixes
- Configure and manage networking components
- Specify compute, memory, and storage resources
- Configure custom properties and property groups
- Create nested blueprints
- Create and add software components
- Publish blueprints

Tools

- [Foundations and Concepts](#)
- [Installing vRealize Automation 7.0](#)
- [Configuring vRealize Automation](#)
- [Managing vRealize Automation](#)
- [Installing and Configuring vRealize Automation for the Rainpole Scenario](#)

Objective 1.2 – Create and Manage XaaS Blueprints with Custom Resource Mappings

Knowledge

- Create and manage XaaS resources in vRealize Automation based on the design
 - Configure Active Directory plugin
 - Configure REST plugin
 - Configure PowerShell plugin
 - Configure SOAP plugin
 - Configure vCenter Server plugin
- Create and manage custom resources
- Create and manage XaaS Service Blueprints
 - Create a service blueprint form
 - Configure output parameters
 - Publish the blueprint
- Create and manage XaaS resource actions
 - Create a service blueprint form
 - Configure output parameters
 - Publish the blueprint
- Create and manage resource mappings with specific conditions

Tools

- [Foundations and Concepts](#)
- [Configuring vRealize Automation](#)
- [Managing vRealize Automation](#)

Section 2 – Configure and Manage Tenants and Business Groups

Objective 2.1 – Create and Manage Tenants

Knowledge

- Create a new tenant for a given design
- Create, add, and manage local users
- Configure administrative access and describe privilege level differences between roles
- Determine the unique URL used to access the tenant

Tools

- [Foundations and Concepts](#)
- [Installing vRealize Automation 7.0](#)
- [Configuring vRealize Automation](#)
- [Managing vRealize Automation](#)

Objective 2.2 – Create and Manage Directories

Knowledge

- Create and manage LDAP directory for Active Directory in vRealize Automation
- Create and manage Windows Integrated Authentication Directory in vRealize Automation
- Determine and configure appropriate user and directory binding details
- Evaluate directory synchronization health and troubleshoot issues

Tools

- [Installing vRealize Automation 7.0](#)
- [Configuring vRealize Automation](#)
- [Reference Architecture](#)
- [Installing and Configuring vRealize Automation for the Rainpole Scenario](#)

Objective 2.3 – Create and Manage Business Groups

Knowledge

- Configure business groups for a given design
- Add users and groups to appropriate support roles for a given design
- Determine and select the appropriate the machine prefix for the business group

Tools

- [Foundations and Concepts](#)
- [Configuring vRealize Automation](#)
- [Managing vRealize Automation](#)

Objective 2.4 – Manage User and Group Role Assignments

Knowledge

- Explain the roles available to vRealize Automation and vRealize Business
- Assign roles to individual users for a given design
- Assign roles to directory groups for a given design
- Create vRealize Automation custom groups and assign roles

Tools

- [Foundations and Concepts](#)
- [Installing vRealize Automation 7.0](#)
- [Configuring vRealize Automation](#)
- [Managing vRealize Automation](#)
- [Installing and Configuring vRealize Automation for the Rainpole Scenario](#)

Section 3 – Install and Configure vRealize Automation and Related Components

Objective 3.1 – Install a Minimal Deployment

Knowledge

- Identify IaaS minimal deployment prerequisites
- Validate environment readiness for a given design based on install type
- Deploy and configure vRealize Automation Appliance OVF
- Install using the installation wizard
- Install manually, remediating IaaS prerequisites and installing all IaaS components
- Install Management Agent(s) at the appropriate time
- Implement and manage CA signed certificates

Tools

- [Installing vRealize Automation 7.0](#)
- [Installing and Configuring vRealize Automation for the Rainpole Scenario](#)

Objective 3.2 – Install an Enterprise Deployment

Knowledge

- Identify IaaS enterprise deployment prerequisites
- Validate environment readiness for given design based on install type and size
- Confirm DNS configuration for servers and load balancers based on deployment type and size
- Deploy and configure vRealize Automation Appliance OVF
- Install using the installation wizard
 - Determine and select appropriate deployment based on size
 - Determine and select the appropriate servers for component installation
 - Prepare the environment for installation based on deployment size
 - Install IaaS Web components and model manager data
 - Install IaaS manager server and DEM Orchestrator components
 - Install DEM Workers
 - Install Management Agents
- Implement and manage CA signed certificates

Tools

- [Installing vRealize Automation 7.0](#)

Objective 3.3 – Install and Configure vRealize Business Standard for use with vRealize Automation

Knowledge

- Create and configure a vRealize Business tenant
- Create a user based on defined credentials for vRealize Business in vRealize Automation
- Select the credentials for the vRealize Business user
- Configure vRealize Business to connect to vRealize Automation

Tools

- [Reference Architecture](#)
- [Upgrading from vRealize Automation 6.2 to 7.0.1](#)
- [vRealize Business for Cloud Installation and Administration Guide](#)
- [vRealize Business for Cloud User Guide](#)

Objective 3.4 – Troubleshoot Common vRealize Automation Installation and Configuration Errors

Knowledge

- Perform a rollback installation on a minimal or enterprise deployment
 - Revert to pre-installation snapshots if available
- Generate a vRealize Automation support bundle
- Validate DNS configuration settings
- Confirm time synchronization
- Confirm matching certificates
- Validate credentials used to configure endpoints

Tools

- [Installing vRealize Automation 7.0](#)
- [Configuring vRealize Automation](#)
- [Managing vRealize Automation](#)

Section 4 – Configure and Manage the vRealize Automation Catalog

Objective 4.1 – Manage the vRealize Automation Catalog

Knowledge

- Create and configure the catalog service
- Activate the catalog service
- Add catalog items to the service
- Create and configure entitlements
- Specify users and groups for entitlements
- Add and manage entitlement services
- Add and manage catalog items
- Add and manage actions
- Activate entitlements

Tools

- [Foundations and Concepts](#)
- [Installing vRealize Automation 7.0](#)
- [Configuring vRealize Automation](#)
- [Managing vRealize Automation](#)
- [Life Cycle Extensibility](#)

Objective 4.2 – Create and Manage Approval Policies

Knowledge

- Create approval policies
- Specify approval policy information
- Determine when approvals should be executed
- Add pre-approval and post-approval levels
- Configure approval forms with defined approvers
- Manage approval policies
- Modify, deactivate, and delete approval policies

Tools

- [Configuring vRealize Automation](#)
- [Life Cycle Extensibility](#)

Objective 4.3 – Provision Resources from a vRealize Automation Catalog

Knowledge

- Request a catalog resource
- Complete any applicable forms
- Monitor and validate a successful provisioning process
- Request catalog items on behalf of another user

Tools

- [Installing vRealize Automation 7.0](#)
- [Configuring vRealize Automation](#)
- [Managing vRealize Automation](#)

Objective 4.4 – Locate and Reclaim Resources Based on Provided Criteria

Knowledge

- Locate resources for reclamation based on provided criteria
- Initiate a system reclamation
- Eliminate known used systems

Tools

- [Foundations and Concepts](#)
- [Configuring vRealize Automation](#)
- [Managing vRealize Automation](#)

Objective 4.5 – Manage Provisioned Resources

Knowledge

- Identify and locate owned items by assigned role
- Define resource quotas for managed resources based on design requirements
- Add resource portlets to the vRealize Automation home page

Tools

- [Configuring vRealize Automation](#)
- [Managing vRealize Automation](#)

Section 5 – Configure and Administer Fabric Groups and Endpoints

Objective 5.1 – Create and Manage VMware Endpoints

Knowledge

- Integrate vRealize Automation with NSX
- Add a vRealize Orchestrator endpoint to vRealize Automation
- Configure the NSX plugin in vRealize Orchestrator
- Perform data collection in vRealize Automation
- Create and configure a vSphere Endpoint
- Configure NSX Network and Security for the vSphere endpoint
- Create and configure a vCloud Air Endpoint

Tools

- [Configuring vRealize Automation](#)
- [Managing vRealize Automation](#)

Objective 5.2 – Create and Manage Fabric Groups, Reservations and Network Profiles

Knowledge

- Create and configure a fabric group
- Select compute resources to include in the fabric group
- Configure compute resource Data Collection
- Create a vSphere reservation
- Assign a business group to the vSphere reservation
- Create a vCloud Air Reservation
- Assign a business group to the vSphere reservation
- Create and configure network profile types
 - For static IP address assignment

- External network profiles
- NAT network profiles
- Routed network profile
- Create and configure machine prefixes

Tools

- [Foundations and Concepts](#)
- [Configuring vRealize Automation](#)
- [Managing vRealize Automation](#)

Section 6 – Extend a vRealize Automation Implementation

Objective 6.1 – Configure vRealize Orchestrator for use with vRealize Automation

Knowledge

- Configure vRealize Automation to use an external vRealize Orchestrator server
- Configure default vRealize Orchestrator settings in vRealize Automation
- Set tenant specific vRealize Orchestrator settings in vRealize Automation

Tools

- [Configuring vRealize Automation](#)
- [Life Cycle Extensibility](#)
- [Using the vRealize Orchestrator Plug-In for vRealize Automation 7.0](#)

Objective 6.2 – Create and Manage Event Broker Subscriptions

Knowledge

- Determine appropriate subscription option based on design (blockable, replyable, schema)
- Configure subscription conditions based on the design (data, core event message values)
- Configure subscription workflow including input and output parameters based on the design
- Configure subscription details based on the design (priority, timeout, blocking)

Tools

- [Configuring vRealize Automation](#)
- [Life Cycle Extensibility](#)

Objective 6.3 – Configure Virtual Machine Lifecycle Automation

Knowledge

- Configure automatic post-provisioning actions based on design criteria
- Configure automatic deactivation of a virtual machine based on condition criteria
- Configure automated event brokering for different status or event criteria based on design requirements

Tools

- [Foundations and Concepts](#)
- [Configuring vRealize Automation](#)
- [Life Cycle Extensibility](#)

Objective 6.4 – Install and Configure Plugins in vRealize Orchestrator

Knowledge

- Install and configure plug-in in vRealize Orchestrator
 - Install and configure vRealize Automation plugin
 - Install and configure VMware NSX plugin
- Run configuration workflows in vRealize Orchestrator client
 - Run configuration workflows for vRealize Automation plugin
 - Run configuration workflows for NSX plugin
 - Run configuration workflows for vSphere plugin
- Determine if a plugin is enabled

Tools

- [Configuring vRealize Automation](#)
- [Life Cycle Extensibility](#)
- [Using the vRealize Orchestrator Plug-In for vRealize Automation 7.0](#)

Objective 6.5 – Modify and Run Basic vRealize Orchestrator Workflows

Knowledge

- Execute vRealize Orchestrator workflows with defined parameters
- Troubleshoot vRealize Orchestrator workflow errors
- Modify vRealize Orchestrator workflows

Tools

- [Configuring vRealize Automation](#)
- [Life Cycle Extensibility](#)

3. Additional Resources

3.1 Mock Exam

VMware provides free practice questions for the VCP7-CMA Exam. The mock exam contains sample questions, along with explanation for incorrect responses. The mock exam presents 25 questions, written by the same authors of the actual exam. The mock exam pass score is set to 100% and a candidate can retake the mock exam as many times as desired until the 100% score is achieved. Please be advised that the pass score for the mock exam is unrelated to the pass score for the actual exam.

The mock exam is located at: TBD

3.2 VCP Community

VMware provides an online community for VCP candidates. This community contains valuable information from other candidates and senior VCPs, and is moderated by VMware certification staff. The community is located here: [VMware Certified Professional Community](#)

3.3 Test Driving a VMware vRealize environment

VMware provides Hands-on Labs for Cloud Management and Automation. These labs provide an environment where you can work with the products covered in this exam. The labs can be accessed by going here: [Try VMware Hands-On Labs](#)

Version	Date	Change Notes
1.0	2016-05-20	Initial VCP7-CMA exam prep guide creation
1.1	2016-05-23	Updated content