CTX-VMWare User Guide

Contents

Preface

About this Manual

This document is a user guide for the CTX-VMWare module.

Audience

The audience for this document is those wanting to understand how to use CTX-VMWare module.

Related Material

Document
CTX-VMWare – Deployment Plan
CTX-VMWare.studiopkg

Abbreviations used in this Document

None.

Versions

Document Revisions

The following revisions have been made to this document

Date	Revision	Notes
21/06/2019	1.0	First Release

Requirements

This document details all the steps required to utilise the VMWare subtasks.

Requirements:

- Cortex v6.5 or later Installed on the Cortex application server.

Integration

Integration with Third-Party Systems

Cortex will utilise the PowerShell agent to interface with VMWare vCenter to perform intended actions. To do this the details below will be required:

1. vCenter client server name
2. vCenter username
3. vCenter password
4. vCenter port

The port and server information can be found using the vSphere Web Client if you do not know it. Navigate to vCenter -> vCenter Servers, then select your server and navigate to Manage -> Advanced Settings. The server and port details can be found in the VirtualCenter.VimApiUrl parameter in this table.

Integration with Existing Infrastructure

None Required.

1 CVFT-Create-VM-From-Template

1.1 Overview

This subtask is designed to create a VM from an existing template in vSphere. Exceptions will be raised if:

1. There are required variables that are not passed into the subtask
2. There is an exception executing the PowerShell script
3. There is an exception performing the action, e.g. if PowerShell fails to authenticate with vCenter

1.2 Inputs

Variable Name	Type	Required	Initial Value	Description
CVFT_i_VCenter-Username	Text	Yes	N/A	Username that will be used to authenticate with vCenter.
CVFT_i_VCenter-Password	Text	Yes	N/A	Password that is used to authenticate with vCenter.
CVFT_i_VCenter-Server	Text	Yes	N/A	vCenter server name.
CVFT_i_VCenter-Port	Integer	Yes	N/A	vCenter server port.
CVFT_i_VM-Name	Text	Yes	N/A	Name of the new VM that will be created.
CVFT_i_Template-Name	Text	Yes	N/A	Name of the template that the new VM will be created from.
CVFT_i_ESXi-Host	Text	Yes	N/A	Name of the ESXi host that the new VM should be created on.
CVFT_i_Location	Text	Yes	N/A	Name of folder where the VM should be stored. If this is not passed in, the VM will be created on the top level.
CVFT_i_Using-Virtual-Hypervisor	Text	No	No	Set to Yes if the hypervisor being used is itself a

				virtual machine, i.e. if you are creating nested VMs. This will add additional configuration to the created VM, so that it runs correctly on the virtual hypervisor.
CVFT_i_PowerShell-Domain	Text	No	N/A	Domain of the PowerShell user that the PowerShell agent should run the script as.
CVFT_i_PowerShell-Username	Text	No	N/A	Username of the PowerShell user that the PowerShell agent should run the script as.
CVFT_i_PowerShell-Password	Text	No	N/A	Password of the PowerShell user that the PowerShell agent should run the script as.
CVFT_i_PowerShell-Host	Text	No	Localhost	Location of where the PowerShell script should run.
CVFT_i_PowerShell-Port	Text	No	N/A	Port where the PowerShell script should run.

1.3 Outputs

Variable Name	Type	Initial Value	Description
CVFT_o_Exception-Details	Structure	N/A	Details of any exceptions that occur during execution including calling flow name, timestamp, exception message, raw exception and a list of missing variables.

2 CVM-Create-VM

2.1 Overview

This subtask is designed to create a new VM. The VM will be created inside a folder if the location variable is input to the subtask or will be placed on the top level if no variable is specified. Exceptions will be raised if:

1. There are required variables that are not passed into the subtask
2. There is an exception executing the PowerShell script
3. There is an exception performing the action, e.g. if PowerShell fails to authenticate with vCenter

2.2 Inputs

Variable Name	Type	Required	Initial Value	Description
CVM_i_VCenter-Username	Text	Yes	N/A	Username that will be used to authenticate with vCenter.
CVM_i_VCenter-Password	Text	Yes	N/A	Password that is used to authenticate with vCenter.
CVM_i_VCenter-Server	Text	Yes	N/A	vCenter server name.
CVM_i_VCenter-Port	Integer	Yes	N/A	vCenter server port.
CVM_i_VM-Name	Text	Yes	N/A	Name of the new VM that will be created.
CVM_i_Number-of-CPUs	Text	Yes	N/A	Number of CPUs to be allocated to the VM.
CVFT_i_ESXi-Host	Text	Yes	N/A	Name of the ESXi host that the new VM should be created on.
CVM_i_Memory-GB	Text	Yes	N/A	Amount of RAM in GB to be allocated to the VM.
CVM_i_Disk-Space-GB	Text	No	N/A	Amount of disk space to be allocated to the VM in GB.
CVM_i_Location	Text	No	N/A	Name of folder where the VM should be

				stored. If this is not passed in, the VM will be created on the top level.
CVFT_i_Using-Virtual-Hypervisor	Text	No	No	Set to Yes if the hypervisor being used is itself a virtual machine, i.e. if you are creating nested VMs. This will add additional configuration to the created VM, so that it runs correctly on the virtual hypervisor.
CVM_i_Disk-Storage-Format	Text	No	Thin	Can take the values Thin or Thick. Thinly provisioned storage will expand as required, so takes up less room initially in the datastore. However, thin storage means that you could provision more space than you have available.
CVM_i_PowerShell-Username	Text	No	N/A	Username of the PowerShell user that the PowerShell agent should run the script as.
CVM_i_PowerShell-Password	Text	No	N/A	Password of the PowerShell user that the PowerShell agent should run the script as.
CVM_i_PowerShell-Host	Text	No	Localhost	Location of where the PowerShell script should run.
CVM_i_PowerShell-Port	Text	No	N/A	Port where the PowerShell

				script should run.

2.3 Outputs

Variable Name	Type	Initial Value	Description
CVM_o_Exception-Details	Structure	N/A	Details of any exceptions that occur during execution including calling flow name, timestamp, exception message, raw exception and a list of missing variables.

3 CVMF-Create-VM-Folder

3.1 Overview

This subtask is designed to create a new VM folder. Only VMs can be placed inside this folder, i.e. no templates. Exceptions will be raised if:

1. There are required variables that are not passed into the subtask
2. There is an exception executing the PowerShell script
3. There is an exception performing the action, e.g. if PowerShell fails to authenticate with vCenter

3.2 Inputs

Variable Name	Type	Required	Initial Value	Description
CVMF_i_VCenter-Username	Text	Yes	N/A	Username that will be used to authenticate with vCenter.
CVMF_i_VCenter-Password	Text	Yes	N/A	Password that is used to authenticate with vCenter.
CVMF_i_VCenter-Server	Text	Yes	N/A	vCenter server name.
CVMF_i_VCenter-Port	Integer	Yes	N/A	vCenter server port.
CVMF_i_Folder-Name	Text	Yes	N/A	Name of the new VM folder that will be created.
CVMF_i_Datacenter	Text	Yes	N/A	Name of the datacentre under which the new folder should be created.
CVMF_i_PowerShell-Username	Text	No	N/A	Username of the PowerShell user that the PowerShell agent should run the script as.
CVMF_i_PowerShell-Password	Text	No	N/A	Password of the PowerShell user that the PowerShell agent should run the script as.

CVMF_i_PowerShell-Host	Text	No	Localhost	Location of where the PowerShell script should run.
CVMF_i_PowerShell-Port	Text	No	N/A	Port where the PowerShell script should run.

3.3 Outputs

Variable Name	Type	Initial Value	Description
CVMF_o_Exception-Details	Structure	N/A	Details of any exceptions that occur during execution including calling flow name, timestamp, exception message, raw exception and a list of missing variables.

4 CVMT-Create-VM-Template

4.1 Overview

This subtask is designed to create a new VM template from an existing VM. Exceptions will be raised if:

1. There are required variables that are not passed into the subtask
2. There is an exception executing the PowerShell script
3. There is an exception performing the action, e.g. if PowerShell fails to authenticate with vCenter

4.2 Inputs

Variable Name	Type	Required	Initial Value	Description
CVMT_i_VCenter-Username	Text	Yes	N/A	Username that will be used to authenticate with vCenter.
CVMT_i_VCenter-Password	Text	Yes	N/A	Password that is used to authenticate with vCenter.
CVMT_i_VCenter-Server	Text	Yes	N/A	vCenter server name.
CVMT_i_VCenter-Port	Integer	Yes	N/A	vCenter server port.
CVMT_i_Template-Name	Text	Yes	N/A	Name that should be given to the new template.
CVMT_i_Datastore	Text	Yes	N/A	Datastore in which the template should be stored.
CVMT_i_VM-Name	Text	Yes	N/A	Name of the VM from which the template should be created.
CVMT_i_Location	Text	Yes	N/A	Name of datacentre or folder in which the template should be stored.
CVMT_i_PowerShell-Username	Text	No	N/A	Username of the PowerShell user that the PowerShell

				agent should run the script as.
CVMT_i_PowerShell-Password	Text	No	N/A	Password of the PowerShell user that the PowerShell agent should run the script as.
CVMT_i_PowerShell-Host	Text	No	Localhost	Location of where the PowerShell script should run.
CVMT_i_PowerShell-Port	Text	No	N/A	Port where the PowerShell script should run.

4.3 Outputs

Variable Name	Type	Initial Value	Description
CVMF_o_Exception-Details	Structure	N/A	Details of any exceptions that occur during execution including calling flow name, timestamp, exception message, raw exception and a list of missing variables.

5 DELF-Delete-Folder

5.1 Overview

This subtask is designed to delete a VM folder. The VMs within that folder can also be deleted if the delete associated variable is passed in with the value 'Yes'. Exceptions will be raised if:

1. There are required variables that are not passed into the subtask
2. There is an exception executing the PowerShell script
3. There is an exception performing the action, e.g. if PowerShell fails to authenticate with vCenter

5.2 Inputs

Variable Name	Type	Required	Initial Value	Description
DELF_i_VCenter-Username	Text	Yes	N/A	Username that will be used to authenticate with vCenter.
DELF_i_VCenter-Password	Text	Yes	N/A	Password that is used to authenticate with vCenter.
DELF_i_VCenter-Server	Text	Yes	N/A	vCenter server name.
DELF_i_VCenter-Port	Integer	Yes	N/A	vCenter server port.
DELF_i_Folder-Name	Text	Yes	N/A	Name of the folder that should be deleted.
DELF_i_Delete-Associated-VMs	Text	Yes	N/A	Set to 'Yes' if you want the virtual machines within the folder to be deleted permanently from the disk. If not set to yes, the virtual machines will still exist, they will just be removed from the inventory.
DELF_i_PowerShell-Username	Text	No	N/A	Username of the PowerShell user that the PowerShell

				agent should run the script as.
DELF_i_PowerShell-Password	Text	No	N/A	Password of the PowerShell user that the PowerShell agent should run the script as.
DELF_i_PowerShell-Host	Text	No	Localhost	Location of where the PowerShell script should run.
DELF_i_PowerShell-Port	Text	No	N/A	Port where the PowerShell script should run.

5.3 Outputs

Variable Name	Type	Initial Value	Description
DELF_o_Exception-Details	Structure	N/A	Details of any exceptions that occur during execution including calling flow name, timestamp, exception message, raw exception and a list of missing variables.

6 DEVM-Delete-VM

6.1 Overview

This subtask is designed to delete a VM. The VM being deleted must be in a stopped state. Exceptions will be raised if:

1. There are required variables that are not passed into the subtask
2. There is an exception executing the PowerShell script
3. There is an exception performing the action, e.g. if PowerShell fails to authenticate with vCenter

6.2 Inputs

Variable Name	Type	Required	Initial Value	Description
DEVM_i_VCenter-Username	Text	Yes	N/A	Username that will be used to authenticate with vCenter.
DEVM_i_VCenter-Password	Text	Yes	N/A	Password that is used to authenticate with vCenter.
DEVM_i_VCenter-Server	Text	Yes	N/A	vCenter server name.
DEVM_i_VCenter-Port	Integer	Yes	N/A	vCenter server port.
DEVM_i_VM-Name	Text	Yes	N/A	Name of the VM that should be deleted. This name should be unique within the server.
DEVM_i_PowerShell-Username	Text	No	N/A	Username of the PowerShell user that the PowerShell agent should run the script as.
DEVM_i_PowerShell-Password	Text	No	N/A	Password of the PowerShell user that the PowerShell agent should run the script as.
DEVM_i_PowerShell-Host	Text	No	Localhost	Location of where the PowerShell script should run.

DEVM_i_PowerShell-Port	Text	No	N/A	Port where the PowerShell script should run.

6.3 Outputs

Variable Name	Type	Initial Value	Description
DEVM_o_Exception-Details	Structure	N/A	Details of any exceptions that occur during execution including calling flow name, timestamp, exception message, raw exception and a list of missing variables.

7 DVMT-Delete-VM-Template

7.1 Overview

This subtask is designed to delete a VM template. Exceptions will be raised if:

1. There are required variables that are not passed into the subtask
2. There is an exception executing the PowerShell script
3. There is an exception performing the action, e.g. if PowerShell fails to authenticate with vCenter

7.2 Inputs

Variable Name	Type	Required	Initial Value	Description
DVMT_i_VCenter-Username	Text	Yes	N/A	Username that will be used to authenticate with vCenter.
DVMT_i_VCenter-Password	Text	Yes	N/A	Password that is used to authenticate with vCenter.
DVMT_i_VCenter-Server	Text	Yes	N/A	vCenter server name.
DVMT_i_VCenter-Port	Integer	Yes	N/A	vCenter server port.
DVMT_i_VM-Template-Name	Text	Yes	N/A	Name of the VM template that should be deleted.
DVMT_i_PowerShell-Username	Text	No	N/A	Username of the PowerShell user that the PowerShell agent should run the script as.
DVMT_i_PowerShell-Password	Text	No	N/A	Password of the PowerShell user that the PowerShell agent should run the script as.
DVMT_i_PowerShell-Host	Text	No	Localhost	Location of where the PowerShell script should run.
DVMT_i_PowerShell-Port	Text	No	N/A	Port where the PowerShell

				script should run.

7.3 Outputs

Variable Name	Type	Initial Value	Description
DVMT_o_Exception-Details	Structure	N/A	Details of any exceptions that occur during execution including calling flow name, timestamp, exception message, raw exception and a list of missing variables.

8 SRTV-Start-VM

8.1 Overview

This subtask is designed to start a VM. Exceptions will be raised if:

1. There are required variables that are not passed into the subtask
2. There is an exception executing the PowerShell script
3. There is an exception performing the action, e.g. if PowerShell fails to authenticate with vCenter

8.2 Inputs

Variable Name	Type	Required	Initial Value	Description
SRTV_i_VCenter-Username	Text	Yes	N/A	Username that will be used to authenticate with vCenter.
SRTV_i_VCenter-Password	Text	Yes	N/A	Password that is used to authenticate with vCenter.
SRTV_i_VCenter-Server	Text	Yes	N/A	vCenter server name.
SRTV_i_VCenter-Port	Integer	Yes	N/A	vCenter server port.
SRTV_i_VM-Name	Text	Yes	N/A	Name of the VM that should be started.
SRTV_i_PowerShell-Username	Text	No	N/A	Username of the PowerShell user that the PowerShell agent should run the script as.
SRTV_i_PowerShell-Password	Text	No	N/A	Password of the PowerShell user that the PowerShell agent should run the script as.
SRTV_i_PowerShell-Host	Text	No	Localhost	Location of where the PowerShell script should run.
SRTV_i_PowerShell-Port	Text	No	N/A	Port where the PowerShell script should run.

8.3 Outputs

Variable Name	Type	Initial Value	Description
SRTV_o_Exception-Details	Structure	N/A	Details of any exceptions that occur during execution including calling flow name, timestamp, exception message, raw exception and a list of missing variables.

9 STPV-Stop-VM

9.1 Overview

This subtask is designed to stop a VM. Exceptions will be raised if:

1. There are required variables that are not passed into the subtask
2. There is an exception executing the PowerShell script
3. There is an exception performing the action, e.g. if PowerShell fails to authenticate with vCenter

9.2 Inputs

Variable Name	Type	Required	Initial Value	Description
STPV_i_VCenter-Username	Text	Yes	N/A	Username that will be used to authenticate with vCenter.
STPV_i_VCenter-Password	Text	Yes	N/A	Password that is used to authenticate with vCenter.
STPV_i_VCenter-Server	Text	Yes	N/A	vCenter server name.
STPV_i_VCenter-Port	Integer	Yes	N/A	vCenter server port.
STPV_i_VM-Name	Text	Yes	N/A	Name of the VM that should be stopped.
STPV_i_PowerShell-Username	Text	No	N/A	Username of the PowerShell user that the PowerShell agent should run the script as.
STPV_i_PowerShell-Password	Text	No	N/A	Password of the PowerShell user that the PowerShell agent should run the script as.
STPV_i_PowerShell-Host	Text	No	Localhost	Location of where the PowerShell script should run.
STPV_i_PowerShell-Port	Text	No	N/A	Port where the PowerShell script should run.

9.3 Outputs

Variable Name	Type	Initial Value	Description
STPV_o_Exception-Details	Structure	N/A	Details of any exceptions that occur during execution including calling flow name, timestamp, exception message, raw exception and a list of missing variables.

10 GVMD-Get-VM-Details

10.1 Overview

This subtask is designed to get details of a VM. Details include:

1 Name
2 PowerState
3 Notes
4 CoresPerSocket
5 MemoryMB
6 MemoryGB
7 VMHostId
8 VApp
9 FolderId
10 ResourcePoolId
11 HARestartPriority
12 HAIsolationResponse
13 DrsAutomationLevel
14 VMSwapfilePolicy
15 Version
16 HardwareVersion
17 PresistentId
18 GuestId
19 UsedSpaceGB
20 ProvisionedSpaceGB
21 DatastoreIDList
22 CustomFields
23 Id
24 Uid

Exceptions will be raised if:

1 There are required variables that are not passed into the subtask
2 There is an exception executing the PowerShell script
3 There is an exception performing the action, e.g. if PowerShell fails to authenticate with vCenter

10.2 Inputs

Variable Name	Type	Required	Initial Value	Description
GVMD_i_VCenter-Username	Text	Yes	N/A	Username that will be used to

				authenticate with vCenter.
GVMD_i_VCenter-Password	Text	Yes	N/A	Password that is used to authenticate with vCenter.
GVMD_i_VCenter-Server	Text	Yes	N/A	vCenter server name.
GVMD_i_VCenter-Port	Integer	Yes	N/A	vCenter server port.
GVMD_i_VM-Name	Text	Yes	N/A	Name of the VM that should be stopped.
GVMD_i_PowerShell-Username	Text	No	N/A	Username of the PowerShell user that the PowerShell agent should run the script as.
GVMD_i_PowerShell-Password	Text	No	N/A	Password of the PowerShell user that the PowerShell agent should run the script as.
GVMD_i_PowerShell-Host	Text	No	Localhost	Location of where the PowerShell script should run.
GVMD_i_PowerShell-Port	Text	No	N/A	Port where the PowerShell script should run.

10.3 Outputs

Variable Name	Type	Initial Value	Description
GVMD_o_Exception-Details	Structure	N/A	Details of any exceptions that occur during execution including calling flow name, timestamp, exception message, raw exception and a list of missing variables.
GVMD_o_VM-Details	Structure	N/A	Structure containing detail of the VM. Details will include the ones mentioned in Section 10.1.

