VConnect CLI

User Guide – Automate DevOps with VConnect CLI

VConnect CLI:

VConnect Command Line Interface comprises of 'vconnect.exe' executable, its dependent files and of course the all-encompassing VConnect platform serving in the backend.

VConnect.exe provides a convenient mechanism for IT Administrations and Developers (Tenant Administrations) to do the following via scripts and command prompt:

- Provision (Create / Delete) Virtual Machines leveraging Operation Templates
- Manage (Power Operations, Commands, Snapshot Operations, etc.)
- Monitor \ Query (List of VMs, Ongoing operations, Status etc.)

VConnect Platform provides a single pane of glass interface for various types of Cloud and Virtualization platforms such as VMware, Windows Azure Pack, Microsoft Azure Stack, Microsoft Azure, Amazon Web Services (AWS), Microsoft System Center etc., - now with VConnect.exe, you can simplify the management and scripting needs across all these platforms with single way of accomplishing things combined with Enterprise class features such as Role Based Access, Quotas, Policies, ITSM and centralized management with on-demand flexibility.

VConnect.exe and VConnect platform will serve as one of the great tool for any organizations DevOps needs and automation scenarios. VConnect.exe is the conduit to access the functionality exposed by VConnect API.

VConnect API and Authentication:

You can interact with VConnect API through couple of ways, both of which are available via VConnect.exe:

1) Via WAP Tenant Endpoint – Scoped per Tenant Subscription
2) Directly to VConnect REST API Endpoint – Full Scope

## How to use VConnect.exe via WAP Tenant Endpoint?

This should be the commonly used mechanism and the only way tenant users should be allowed to interact with VConnect platform, since this is the only way to provide scoped restricted access to specific Tenant Subscription.

How does this work?

To communicate to VConnect API via WAP Tenant endpoint, you need to first setup a Management Certificate in WAP Portal for the subscription, install the same certificate on the machine from where you want to run vconnect.exe, provide the certificate thumbprint to vconnect.exe as command line argument or via 'vconnect.exe.config' file.

Step 1: How to Setup Tenant Subscription with Management Certificate?

This is a straightforward operation, create a self-signed certificate from your command line or IIS Manager and upload to WAP via WAP Tenant Portal.
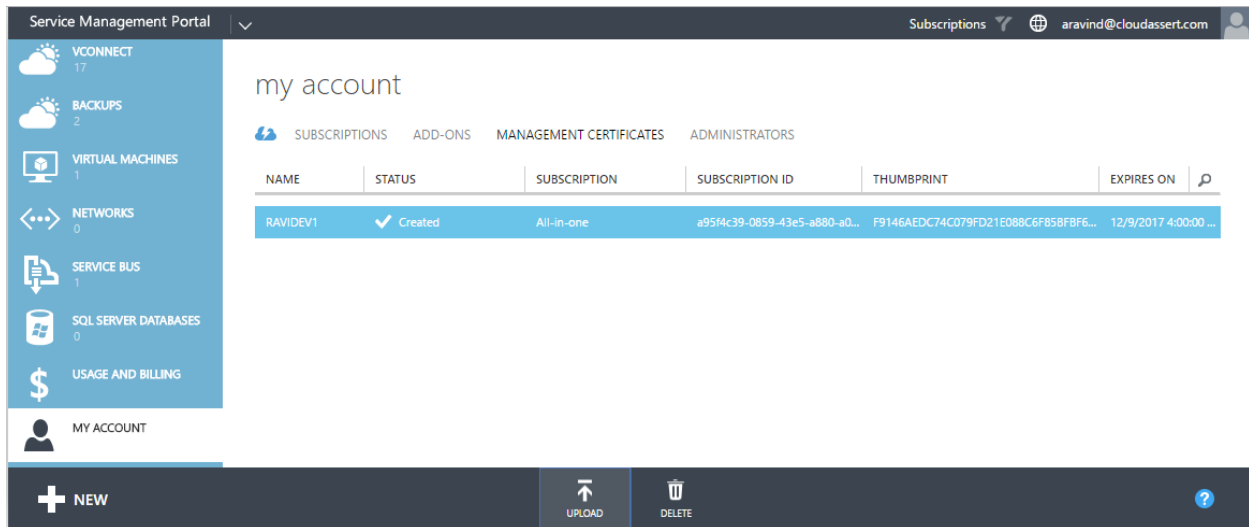
Step 2: Install the Management Certificate on the machine
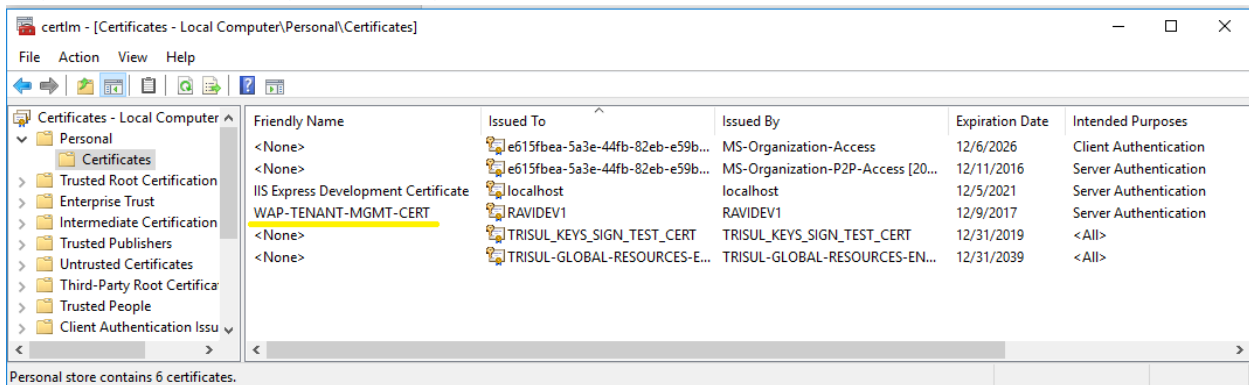
Step 3: Invoke vconnect.exe with the Certificate Thumbprint

By providing certificate and subscription info in command line argument:

```
VConnect.exe TenantListVm /WapEndpoint:"https://wap-csp-
sbx.wapdemo.corp.cloudassert.com:30006"
/MgmtCertThumbprint:F9146AEDC74C079FD21E088C6F85BFBF62F49E3F /SubscriptionId:a95f4c39-
0859-43e5-a880-a075928bf025 /SubscriptionUser:aravind@cloudassert.com
```

Or by providing the information in 'vconnect.exe.config':

```
<appSettings>
    <!-- Fill these here in config or provide via CLI -->
    <add key="SubscriptionId" value="a95f4c39-0859-43e5-a880-a075928bf025" />
    <add key="SubscriptionUser" value="aravind@cloudassert.com" />
    <add key="WapEndpoint" value="https://wap-csp-
sbx.wapdemo.corp.cloudassert.com:30006" />
    <add key="MgmtCertThumbprint" value="F9146AEDC74C079FD21E088C6F85BFBF62F49E3F" />

</appSettings>
```

How to use VConnect.exe directly with VConnect API?

You can use VConnect.exe with the VConnect API Resource Provider Credentials, that allows full access across all Subscriptions and Admin functionality.

When you use this mechanism to talk to VConnect API directly, you do not need to setup Management Certificate per Tenant Subscription.

You can invoke VConnect.exe with the API Resource Provider Credentials given through 'vconnect.exe.config' or as command line arguments (which takes the same names as the config settings).

```xml
<appSettings>
    <!-- Fill these here in config or provide via CLI -->
    <add key="SubscriptionId" value="a95f4c39-0859-43e5-a880-a075928bf025" />
    <add key="SubscriptionUser" value="aravind@cloudassert.com" />
    <add key="VConnectApiEndpoint" value="http://wap-csp-sbx.wapdemo.corp.cloudassert.com:31101/" />
    <add key="VConnectApiUserName" value="cloudassertadminuser" />
    <add key="VConnectApiPassword" value="xxxxxxxxxxxxxx" />
</appSettings>
```

VConnect CLI Commands:

NOTE: Since we update VConnect release very often, please always run VConnect.exe to list latest commands available.

VConnect Admin Commands:

Arguments required in command line or set in vconnect.exe.config:
[/VConnectApiEndpoint:<String>]
[/VConnectApiUserName:<String>]
[/VConnectApiPassword:<String>]

VCONNECT.EXE **ListConnections**

VCONNECT.EXE **ListVmPowerOperations**

VCONNECT.EXE **VmOp** <connectionId:Int32> <vmConfigId:Int32> <operation>

VCONNECT.EXE **ListVm** <connectionId:Int32> [/vmName:<String>] [/vmConfigId:<Int32>] [/details]

VCONNECT.EXE **ListConnectionTemplates** [/connectionId:<Int32>] [/templateId:<Int32>] [/details]

Tenant Subscription Commands:

Arguments required in command line or set in vconnect.exe.config:

[/SubscriptionId:<String>]

[/SubscriptionUser:<String>]

And either of these:

[/WapEndpoint:<String>]
[/MgmtCertThumbprint:<String>]

Or:
[/VConnectApiEndpoint:<String>]
[/VConnectApiUserName:<String>]
[/VConnectApiPassword:<String>]

VCONNECT.EXE **ListSubscriptionConnections**

VCONNECT.EXE **ListResourceGroups**

VCONNECT.EXE **CreateParametersFile** <subscriptionConnectionId:Int32> <vmTemplateId:Int32>
[/fileName:<String>]

VCONNECT.EXE **TenantListVmCreateOptions** <subscriptionConnectionId:Int32>

Tenant Virtual Machines Management:

VCONNECT.EXE **TenantCreateVm** <resourceGroupName> <subscriptionConnectionId:Int32>
<vmTemplateId:Int32>
        <computeInstanceId:Int32> <parametersFile> <vmName>

VCONNECT.EXE **TenantListVm** [/resourceGroup:<String>] [/vmName:<String>] [/vmConfigId:<Int32>]
[/details]

 VCONNECT.EXE **TenantDeleteVm** <vmConfigId:Int32>

VCONNECT.EXE **TenantListVmPowerOperations**

VCONNECT.EXE **TenantVmOp** <vmConfigId:Int32> <operation>

VCONNECT.EXE **TenantListCustomCommands** <vmConfigId:Int32>

VCONNECT.EXE **TenantCustomCommandDetails** <vmConfigId:Int32> <commandId:Int32>
[/parameterFileName:<String>]

VCONNECT.EXE **TenantExecuteCustomCommand** <vmConfigId:Int32> <commandId:Int32>
[/parameterFileName:<String>]

VCONNECT.EXE **TenantListSnapshots** <vmConfigId:Int32> [/VConnectApiEndpoint:<String>]

VCONNECT.EXE **TenantCreateSnapshot** <vmConfigId:Int32> <name> [/description:<String>]

VCONNECT.EXE **TenantRemoveSnapshot** <vmConfigId:Int32> <snapshotId:Int32> <name>

VCONNECT.EXE **TenantRemoveAllSnapshots** <vmConfigId:Int32>

Miscellaneous Commands:

License:

VCONNECT.EXE GetActivationText

VCONNECT.EXE ActivateOnline <licenseKey> <emailId> [/licenseFileTargetDir:<String>]

VCONNECT.EXE ActivateOffline <licenseKey> <emailId> <activationText>
[/licenseFileTargetDir:<String>]

Security:

VCONNECT.EXE GenerateConnectionString <serverName> <databaseName>
[/isUseIntegratedSecurity] [/userName:<String>]
        [/password:<String>]

 VCONNECT.EXE GenerateMachineKey [/length:<Int32>]

 VCONNECT.EXE HashPass <password>

 VCONNECT.EXE SecureConfig

 VCONNECT.EXE UnSecureConfig

Scenario Create a New Virtual Machine:

Step 1: List the available Connections allocated for your Subscription

Run: *VConnect.exe **ListSubscriptionConnections***

Sample output:

```
Command Prompt

VConnect>VConnect.exe ListSubscriptionConnections
VConnect.exe
Copyright CLOUD ASSERT LLC 2014 - 2017.
-----------------------------------------
Connecting via WAP Endpoint: https://wap-csp-sbx.wapdemo.corp.cloudassert.com:30006


-------------------------------------------------
Id      ConnectionName  ConnectionType  ConnectionId
-------------------------------------------------
1       vCenter60       VCenter 1
2       Aravind BizSpark        Azure   2
23      AWS1    Aws     4
37      SpfServer       SpfVmCloud      5
76      vcenter50       VCenter 9
-------------------------------------------------
```

Choose a connection in which you want to create the VM in, for example: 1.

Step 2: Get the VM Creation Options available for your Subscription for the chosen connection

Run: *VConnect.exe **TenantListVmCreateOptions** 1*

Sample Output:

```
Command Prompt                                                         —   □   ×

VConnect>VConnect.exe TenantListVmCreateOptions 1
   VConnect.exe
      Copyright CLOUD ASSERT LLC 2014 - 2017.
      ----------------------------------------
Connecting via WAP Endpoint: https://wap-csp-sbx.wapdemo.corp.cloudassert.com:30006

Available Compute Instance Size Options
-----------------------------------------
Id: 1, Cpu: 1, Memory: 256
Id: 2, Cpu: 1, Memory: 1752
Id: 3, Cpu: 2, Memory: 3500
Id: 4, Cpu: 4, Memory: 7000
Id: 5, Cpu: 8, Memory: 14000
Id: 6, Cpu: 2, Memory: 14000
Id: 7, Cpu: 4, Memory: 28000
Id: 8, Cpu: 8, Memory: 56000
Id: 114, Cpu: 1, Memory: 256
Id: 115, Cpu: 1, Memory: 1752
Id: 116, Cpu: 2, Memory: 3500
-----------------------------------------
Available Templates
-----------------------------------------
Template Id: 1, Template Name: Win2K8-1CPU-Template
Section: Express Setup - Configurable Parameters
      ----------------------------------------------------------------------
      Category: Storage Details.
            Name: 'PolicySetting'. Type: 'Option'. Desc: 'Policy Setting'. Default: ''
      Category: Windows OS Customization Settings 1.
               Name: 'AdminPassword'. Type: 'SecureString'. Desc: 'Specifies a new OS administrator's password.'.
   Default: ''
      Category: Windows OS Customization Settings.
      ----------------------------------------------------------------------
Template Id: 2, Template Name: Win2K8-1CPU-Template
Section: Express Setup - Configurable Parameters
      ----------------------------------------------------------------------
      Category: Windows OS Customization Settings 1.
               Name: 'AdminPassword'. Type: 'SecureString'. Desc: 'Specifies a new OS administrator's password.'.
Default: ''
      ----------------------------------------------------------------------
Template Id: 4, Template Name: RHEL72-Template
Section: Express Setup - Configurable Parameters
      ----------------------------------------------------------------------
      Category: Network 1 Details.
      ----------------------------------------------------------------------
Template Id: 5, Template Name: CentOS7-Template
Section: Express Setup - Configurable Parameters
      ----------------------------------------------------------------------
      Category: Network 1 Details.
      ----------------------------------------------------------------------
Template Id: 6, Template Name: Debian830-Template
Section: Express Setup - Configurable Parameters
      ----------------------------------------------------------------------
      ----------------------------------------------------------------------
Template Id: 7, Template Name: UbuntuTemplate
Section: Express Setup - Configurable Parameters
```

From the above, chose a Compute Instance Size Id, say for example: 2, and a VM Template Id, say for example: 2.

Step 3: Create default Parameters file for the chosen VM Template, so you can use that to fill the values for creating VM.

Run: *VConnect.exe **CreateParametersFile** 1 2 /fileName:VMCreationParameters.json*

In the above values 1 and 2 represent the Subscription Connect Id and VM Template Id chosen from previous commands.

Step 5: Update the parameters in the file for the New Virtual Machine configuration.

For example, the paremeters json file from above command looks like this, (it will be different for you based on the VM Template you have chosen and the parameters required for that template):

```
1   [
2       {
3           "Name": "AdminPassword",
4           "Type": "SecureString",
5           "Value": null
6       }
7   ]
```

You can enter the values for the parameters and save the file. You can optionally remove the "Type" name value if you want to save the file concisely for future use.

```
1   [
2       {
3           "Name": "AdminPassword",
4           "Value": "MyPassWordForTheVM"
5       }
6   ]
```

Step 6: List and choose the Resource Group to create the VM under

Run: VConnect.exe ListResourceGroups

```
VConnect>VConnect.exe ListResourceGroups
VConnect.exe
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---------------------------------------
Connecting via WAP Endpoint: https://wap-csp-sbx.wapdemo.corp.cloudassert.com:30006

----------
Name    Status
----------
System Center   Available
VMware  Available
default Available
----------
```

For example, chose Resource Group name: 'VMware'

Step 7: Create VM

Run: *VConnect.exe TenantCreateVm VMware 1 2 2 VMCreationParameters.json MyVM1*


```
VConnect>VConnect.exe TenantCreateVm VMware 1 2 2 VMCreationParameters.json MyVM1
VConnect.exe
Copyright CLOUD ASSERT LLC 2014 - 2017.
---------------------------------------
Connecting via WAP Endpoint: https://wap-csp-sbx.wapdemo.corp.cloudassert.com:30006

VM Config Id: 86 Config State: Unknown Op Status: CreateRequested

VConnect>
```

Now VConnect.exe has submitted request to deploy a new Virtual Machine in the selected connection with the given parameters.

You can get the status of VMs by:

Run: *VConnect.exe TenantListVm*

Sample Output:

```
VConnect>VConnect.exe TenantListVm
VConnect.exe
Copyright CLOUD ASSERT LLC 2014 - 2017.
----------------------------------------
Connecting via WAP Endpoint: https://wap-csp-sbx.wapdemo.corp.cloudassert.com:30006

Resource Group: VMware
--------------
----------------------------------------------------------------------------------------
ResourceGroupName     VMConfigDataId  Name      ConfigMemoryMB  ConfigNumCpu    ConfigStatusString       RuntimePowerS
tateString
----------------------------------------------------------------------------------------
VMware   69     Aravind1       1752     1       ErrorDeleting    Unknown
VMware   79     Demo-TestVM1   256      1       CreatedSuccessfully    Stopped
VMware   81     JTest1   256   1      CreatedSuccessfully    Running
VMware   82     JTest2   256   1      CreatedSuccessfully    Running
VMware   86     MyVM1   1752   1      CreateInProgress    -
VMware   75     NFSTest1       256      1       CreatedSuccessfully    Stopped
VMware   84     RaviCli1       1752     1       CreatedSuccessfully    Running
VMware   85     RaviCliTest2   1752     1       CreatedSuccessfully    Running
VMware   83     UBSDemo1       256      1       CreatedSuccessfully    Running
----------------------------------------------------------------------------------------
Resource Group: default
--------------
----------------------------------------------------------------------------------------
ResourceGroupName     VMConfigDataId  Name      ConfigMemoryMB  ConfigNumCpu    ConfigStatusString       RuntimePowerS
tateString
----------------------------------------------------------------------------------------
default 78     AravindAws001  1024     1       CreatedSuccessfully    Stopped
default 76     AzDemo2 788    1      CreatedSuccessfully    Running
default 12     AzDemoVM1      3500     2       CreatedSuccessfully    Running
default 14     CentOs7DemoVM1 3500     2       CreatedSuccessfully    Stopped
default 16     Debian830VM1   256      1       CreatedSuccessfully    Stopped
default 35     Demo201 3500   2      CreatedSuccessfully    Stopped
default 13     Rhel72DemoVm1  256      1       CreatedSuccessfully    Stopped
default 17     UbuntuVM1      512      2       CreatedSuccessfully    Stopped
----------------------------------------------------------------------------------------
```

Optionally you can filter by providing the /vmName argument:

```
VConnect>VConnect.exe TenantListVm /vmName:MyVM1
VConnect.exe
Copyright CLOUD ASSERT LLC 2014 - 2017.
----------------------------------------
Connecting via WAP Endpoint: https://wap-csp-sbx.wapdemo.corp.cloudassert.com:30006

Resource Group: VMware
--------------
----------------------------------------------------------------------------------------
ResourceGroupName     VMConfigDataId  Name      ConfigMemoryMB  ConfigNumCpu    ConfigStatusString       RuntimePowerS
tateString
----------------------------------------------------------------------------------------
VMware   86     MyVM1   1752   1      CreateInProgress    -
----------------------------------------------------------------------------------------
```