

Azure Confidential Computing – VM Deployment

Microsoft Confidential, provided under NDA

This document provides basic guidance on ACC Images and ACC VM deployment.

ACC Images

To deploy an ACC VM, you need access to ACC images published in the marketplace.

Publisher ID: *microsoft-azure-compute*

Image	Offer ID	SKU ID
Ubuntu 16.04 Base Image	azureconfidentialcompute	acc-ubuntu-16
Windows Server 2016 with Visual Studio 2015	azureconfidentialcompute	acc-windows-server-2016-vs

The Ubuntu dev image with Open Enclave SDK is not available in marketplace yet.
Please refer to deployment guidance specified [below](#).

To identify list of accessible ACC images, use the standard [CLI scripts](#) as described below:

```
az account set --subscription <Subscription-Name-Or-Id>
az vm image list-skus -l "eastus" -p "microsoft-azure-compute" -f
"azureconfidentialcompute"

[
  {
    "id": "/Subscriptions/2ab0c1f8-57a3-460e-b21f-d1dd91908ddc/Providers/Microsoft.Compute/Locations/eastus/Publishers/microsoft-azure-compute/ArtifactTypes/VMImage/Offers/azureconfidentialcompute/Skus/acc-ubuntu-16",
    "location": "eastus",
    "name": "acc-ubuntu-16",
    "tags": null
  },
  {
    "id": "/Subscriptions/2ab0c1f8-57a3-460e-b21f-d1dd91908ddc/Providers/Microsoft.Compute/Locations/eastus/Publishers/microsoft-azure-compute/ArtifactTypes/VMImage/Offers/azureconfidentialcompute/Skus/acc-windows-server-2016-vs",
    "location": "eastus",
    "name": "acc-windows-server-2016-vs",
    "tags": null
  }
]
```

Deployment Guidance

- Please ensure you are whitelisted to access acc infrastructure and images.
- You can choose to deploy using [CLI](#) or [Powershell](#).
- Coming soon: UI Portal support and sample ARM templates

VM Deployment Samples: Marketplace images

Sample CLI scripts to deploy ACC VMs are available here:

<https://www.yammer.com/azureadvisors/#/files/140480863>

Usage:

```
# Create an ACC Linux VM (Assumes SSH for auth)
.\New-AccCreateVm.ps1 -Subscription <Subscription-Name-Or-Id> -
ResourceGroupName <Existing-Or-New> -AccImage acc-ubuntu-16 -VMName <New-Vm-
Name> -VmUserName <User-Name> -VmGenerateSSHKeys

# Create an ACC Linux VM with specified password
.\New-AccCreateVm.ps1 -Subscription <Subscription-Name-Or-Id> -
ResourceGroupName <Existing-Or-New> -AccImage acc-ubuntu-16 -VMName <New-Vm-
Name> -VmUserName <User-Name> -VmPassword <Password>

# Create an ACC Windows VM with specified password
.\New-AccCreateVm.ps1 -Subscription <Subscription-Name-Or-Id> -
ResourceGroupName <Existing-Or-New> -AccImage acc-ubuntu-16 -VMName <New-Vm-
Name> -VmUserName <User-Name> -VmPassword <Password>
```

Notes:

Subscription:	Should match the subscription that has been whitelisted
ResourceGroupName:	Should be within East US
AccImage:	"acc-ubuntu-16" or "acc-windows-server-2016-vs"
VmName:	Name of VM.
VmUserName:	Name of admin user to be created on the VM.
VmPassword:	Optional, Specify the admin password. If missing, Linux VM: Default to SSH auth, Windows VM: Prompt for password
VmGenerateSSHKeys:	Optional, Forces Linux VM to be created with SSH auth Ignored for Windows VM
VmSize	Optional. Defaults to "Standard_DC2s" (2 core VM) Other acceptable values: "Standard_DC4s" (4 core VM)

Sample:

```
.\New-AccCreateVm.ps1 -Subscription 12345678-1234-1234-1234-123456789012 -  
ResourceGroupName NewResourceGroup -AccImage acc-ubuntu-16 -VMName accubuntuvvm -  
VmUserName username -VmGenerateSSHKeys
```

```
[2018/06/20] INFO Log File: .\New-AccCreateVmImageLog-2018.06.20.log  
[2018/06/20] INFO New ACC VM:  
Subscription: 12345678-1234-1234-1234-123456789012  
ResourceGroupName: NewResourceGroup  
AccImage: acc-ubuntu-16  
VmName: accubuntuvvm  
VmUsername: username  
VmSize: Standard_DC2s  
[2018/06/20] INFO Creating Resource Group: NewResourceGroup in Subscription: 12345678-1234-1234-1234-123456789012.  
[2018/06/20] INFO Created.  
[2018/06/20] INFO Creating linux Vm: accubuntuvvm of VmSize: Standard_DC2s.  
[2018/06/20] INFO VM Created: accubuntuvvm, Public IP: 40.100.200.300  
[2018/06/20] INFO SSH keys can be found in Linux: ~/.ssh, Windows: %userprofile%\ssh.
```

```
.\New-AccCreateVm.ps1 -Subscription 12345678-1234-1234-1234-123456789012 -  
ResourceGroupName ResourceGroup -AccImage acc-ubuntu-16 -VMName accubuntuvvm -VmUserName  
username -VmPassword @g00dpa$$w0rd -VmSize Standard_DC4s
```

```
[2018/06/20] INFO Log File: .\New-AccCreateVmImageLog-2018.06.20.log  
[2018/06/20] INFO New ACC VM:  
Subscription: 12345678-1234-1234-1234-123456789012  
ResourceGroupName: ResourceGroup  
AccImage: acc-ubuntu-16  
VmName: accubuntuvvm  
VmUsername: username  
VmSize: Standard_DC4s  
[2018/06/20] INFO Creating Resource Group: ResourceGroup in Subscription: 12345678-1234-1234-1234-123456789012 .  
[2018/06/20] INFO Created.  
[2018/06/20] INFO Creating linux Vm: accubuntuvvm of VmSize: Standard_DC4s.  
[2018/06/20] INFO VM Created: accubuntuvvm, Public IP: 40.100.200.300
```

```
.\New-AccCreateVm.ps1 -Subscription 12345678-1234-1234-1234-123456789012 -  
ResourceGroupName ResourceGroup -AccImage acc-windows-server-2016-vs -VMName accwindowssvm  
-VmUserName username -VmPassword @g00dpa$$w0rd
```

```
[2018/06/20] INFO Log File: .\New-AccCreateVmImageLog-2018.06.20.log  
[2018/06/20] INFO New ACC VM:  
Subscription: 12345678-1234-1234-1234-123456789012  
ResourceGroupName: ResourceGroup  
AccImage: acc-windows-server-2016-vs  
VmName: accwindowssvm  
VmUsername: username  
VmSize: Standard_DC2s  
[2018/06/20] INFO Creating windows Vm: accwindowssvm of VmSize: Standard_DC2s.  
[2018/06/20] INFO Opening RDP Port 3389 for VM: accwindowssvm.  
[2018/06/20] INFO VM Created: accwindowssvm, Public IP: 40.100.200.300
```

VM Deployment Samples: Dev image

Sample CLI scripts to deploy ACC Dev VMs are available here:

<https://www.yammer.com/azureadvisors/#/files/140480863>

Usage:

```
# Create an ACC Dev VM with an existing storage account
.\New-AccCreateDevVm.ps1 -Subscription <Subscription-Name-Or-Id> -
ResourceGroupName <Existing-Or-New> -StorageAccountName <Existing-Storage-
Account> -VMName <New-Vm-Name> -VmUserName <User-Name> -VmPassword <Password>

# Create an ACC Dev VM while creating a new storage account
.\New-AccCreateDevVm.ps1 -Subscription <Subscription-Name-Or-Id> -
ResourceGroupName <Existing-Or-New> -StorageAccountName <New-Storage-Account> -
VMName <New-Vm-Name> -VmUserName <User-Name> -VmPassword <Password>
```

Notes:

Subscription:	Should match the subscription that has been whitelisted
ResourceGroupName:	Should be within East US
StorageAccountName:	Existing or new storage account name
VmName:	Name of VM.
VmUserName:	Name of admin user to be created on the VM.
VmPassword:	Admin password.
VmSize	Optional. Defaults to "Standard_DC2s" (2 core VM) Other acceptable values: "Standard_DC4s" (4 core VM)

Sample:

```
.\New-AccCreateDevVm.ps1 -Subscription 12345678-1234-1234-1234-123456789012 -
ResourceGroupName ResourceGroup -StorageAccountName newaccstorageaccount -VMName
ubuntudev -VmUserName username -VmPassword @g00dpa$$w0rd -CreateStorageAccount
```

[2018/06/20] INFO Log File: .\New-AccCreateVmImageLog-2018.06.20.log

[2018/06/20] INFO Creating New ACC VM:

Subscription: 12345678-1234-1234-1234-123456789012

ResourceGroupName: ResourceGroup

StorageAccountName: newaccstorageaccount

AccImage: acc-ubuntu-dev

VmName: ubuntudev

VmUsername: username

VmSize: Standard_DC2s

[2018/06/20] INFO Creating storage account: newaccstorageaccount in Subscription: 12345678-1234-1234-1234-123456789012 and Resource Group: ResourceGroup.

[2018/06/20] INFO Created.

[2018/06/20] INFO Creating container: accvhds in Storage account: newaccstorageaccount.

[2018/06/20] INFO Created.

[2018/06/20] INFO Image copy initiated: acc-ubuntu-dev

```

[2018/06/20] INFO Image: acc-ubuntu-dev copied. Completion time: 2018-06-29T22:06:04+00:00.
[2018/06/20] INFO Creating managed disk: Acc-Ubuntu-Dev-OSDisk in Resource Group: ResourceGroup.
[2018/06/20] INFO Created.
[2018/06/20] INFO Creating image: AccDevImg in Resource Group: ResourceGroup.
[2018/06/20] INFO Created.
[2018/06/20] INFO Creating Linux Vm: ubuntu-dev of VmSize: Standard_DC2s.
[2018/06/20] INFO VM Created: ubuntu-dev, Public IP: 104.211.31.208

```

```

.\New-AccCreateDevVm.ps1 -Subscription 12345678-1234-1234-1234-123456789012 -
ResourceGroupName ResourceGroup -StorageAccountName existingaccstorageaccount -VMName
ubuntu-dev -VmUsername username -VmPassword @g00dpa$$w0rd

```

```

[2018/06/20] INFO Log File: .\New-AccCreateVmImageLog-2018.06.20.log
[2018/06/20] INFO Creating New ACC VM:
Subscription: 12345678-1234-1234-1234-123456789012
ResourceGroupName: ResourceGroup
StorageAccountName: existingaccstorageaccount
AccImage: acc-ubuntu-dev
VmName: ubuntu-dev
VmUsername: username
VmSize: Standard_DC2s
[2018/06/20] INFO Creating Linux Vm: ubuntu-dev of VmSize: Standard_DC2s.
[2018/06/20] INFO VM Created: ubuntu-dev2, Public IP: 104.211.53.199

```

Trouble shooting

“Can’t find ACC market place images”

Your subscription needs to be whitelisted to get access to ACC images used by the scripts. To verify, please reach out to your ACC contact through email or [Confidential Computing Preview Yammer group](#).

“Can’t create a ACC Dev VM with Open enclave”

ACC Dev VMs with Open Enclave can be created using alternative “New-AccCreateDevVm” specified at <https://www.yammer.com/azureadvisors/#/files/140480863> . Please use the same for VM creation. In case of issues, please reach out to your ACC contact for further support.