

Building and Deploying a Custom Virtual Machine Image



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Course Overview



Introduction and Azure Fundamentals

Provisioning Virtual Machines with the Microsoft Azure Portal, Azure CLI and PowerShell

Building and Deploying a Custom Virtual Machine Image

Managing Virtual Machine Disks

Designing and Implementing Azure DevTest Labs

Overview

Using Custom Images

Creating Custom Images

Deploying VMs from a Custom Image

Managing Custom Images

Virtual Machine Custom Images



Azure Marketplace Images

Collection of pre-packaged applications and or services

Custom Images

Install and service your own applications

Use that image as a source for additional VM deployments

Creating Custom Images



Start with a Marketplace Image



Upload a VHD from a local VM

Custom Image Deployment Process

**Start with a
base VM**

**Make your
modifications**

**Generalize or
Deprovision
the image**

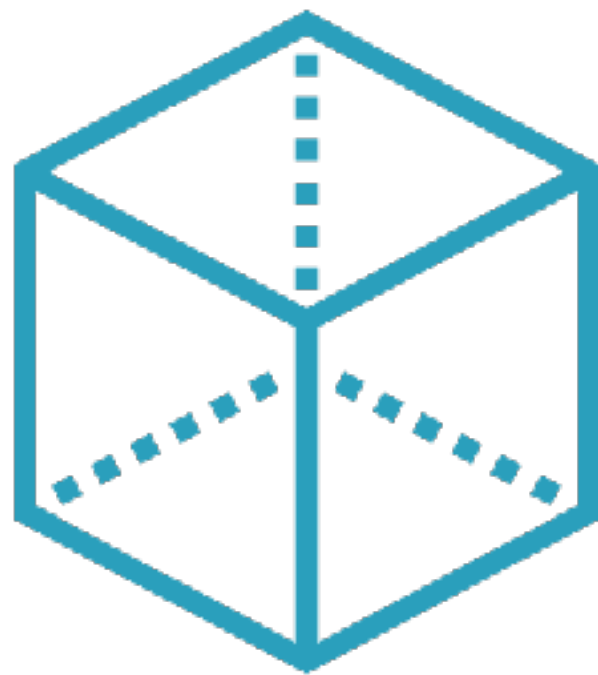
**Stop and
deallocate the
VM**

**Mark the
image as
generalized**

**Create a
Custom Image**

**Create VMs
from the
Custom Image**

Generalizing a Virtual Machine - Windows



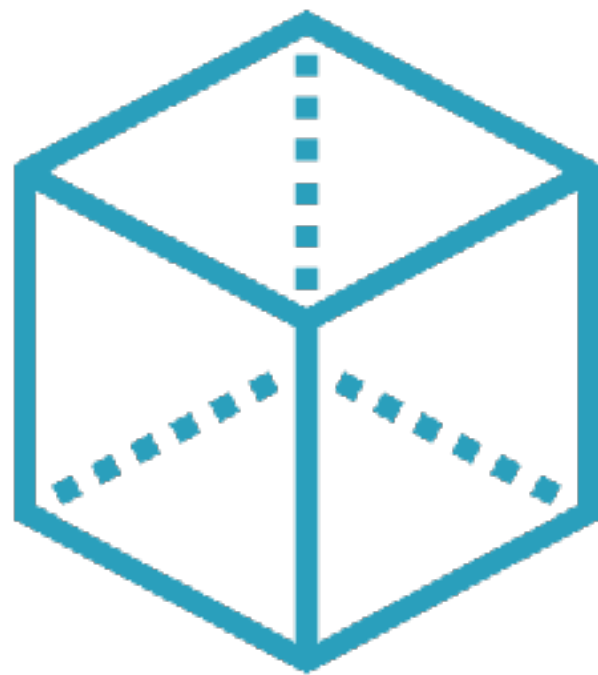
Generalize Windows VM with sysprep

Resets the security identifier and other computer specific information

`sysprep.exe /generalize /shutdown /oobe`

Shutdown and deallocate the VM

Generalizing a Virtual Machine - Linux



Deprovisioning

Uses waagent from the Azure VM Agent

Included in your Azure VM images

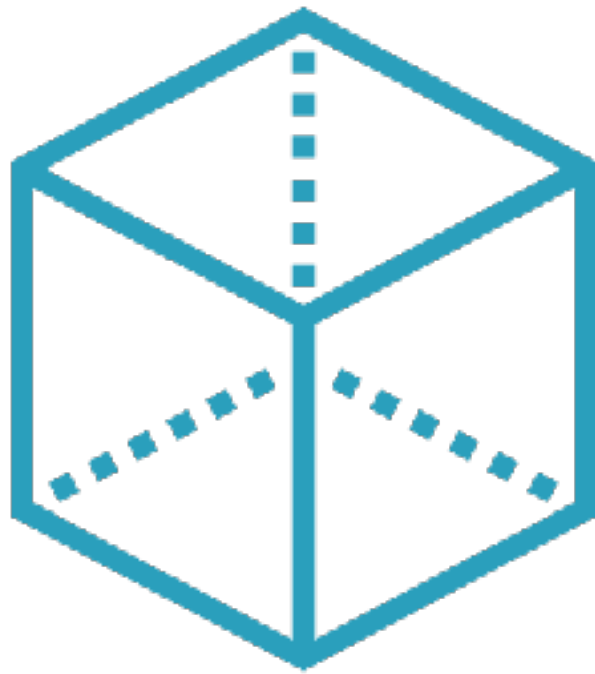
You can install it on your own from your distribution's package repository

For example: in RHEL and CentOS it's in the Extra's repository

Also available on GitHub

<https://docs.microsoft.com/en-us/azure/virtual-machines/linux/endorsed-distros>

Generalizing a Virtual Machine - Linux (con't)



```
sudo waagent -deprovision+user -force
```

Shutdown and deallocate the VM

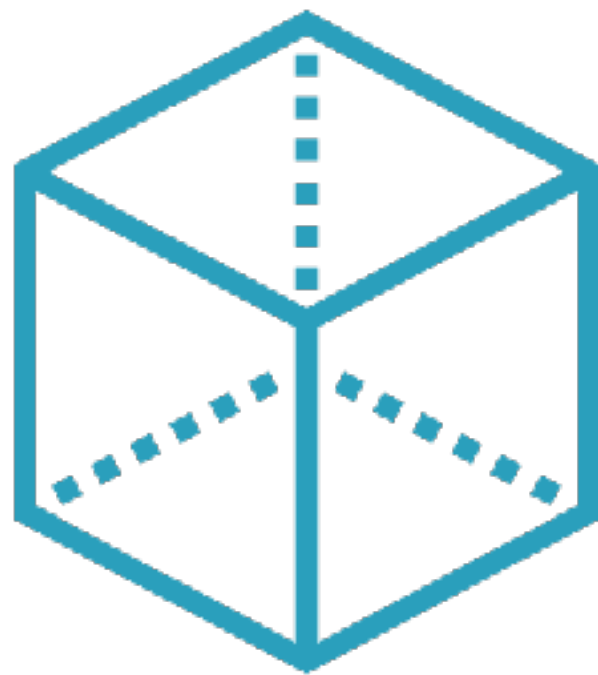
Demo

Creating Custom Images

- **Generalize and Deprovision VMs**
- **Stopping and Deallocating VMs**
- **Marking VMs as Generalized**
- **Create Custom Images**

Creating VMs from Custom Images

Managing Images



VM Custom Images consume space

Up to you to maintain the images

Custom Images are stored as Managed Disks or Storage Account

Up to you to copy them between Azure Regions if needed

Azure CLI - Image Copy Extension

PowerShell - Manual Process

<https://www.microsoft.com/developerblog/2018/02/15/copy-custom-vm-images-on-azure/>
<https://michaelcollier.wordpress.com/2017/05/03/copy-managed-images/>

Demo

Managing Custom Images

- Copying between Azure Regions
- Finding
- Deleting

Summary

Using Custom Images

Creating Custom Images

Deploying VMs from a Custom Image

Managing Custom Images

What's Next!

Managing Virtual Machine Disks