

Configuring VMs in Microsoft Azure

MANAGING VM CONFIGURATION



Tim Warner

AUTHOR EVANGELIST, PLURALSIGHT

@TechTrainerTim

timw.info



Microsoft
CERTIFIED

Trainer

Solutions Expert

Cloud Platform and
Infrastructure



The Course at a Glance

1

Managing VM Configuration

2

Managing VM Availability

3

Managing VM Security



Overview



Perform common VM operations















- Start, stop, resize, deallocate, remove
- VM extensions

Configure VM storage

Configure VM networking



Exercise Files



What do you want to learn?

Timothy
timothywarner316@gmail.com

Troubleshooting with Microsoft Azure Network Watcher

by Tim Warner

Microsoft now gives you packet-level access to your Windows Server and Linux virtual machines (VMs) running in Azure. You'll learn how to use Network Watcher to troubleshoot network security groups (NSGs), perform packet captures, and much more.

[Resume Course](#) [Bookmark](#) [Add to Channel](#)

Table of contents

Description

Transcript

Exercise files

Discussion


Learning Check

Recommended

These exercise files are intended to provide you with the assets you need to create a video-based hands-on experience. With the exercise files, you can follow along with the author and re-create the same solution on your computer. We find this to be even more effective than written lab exercises.

[Download exercise files](#)

Course author

**Tim Warner**

Timothy Warner is a Microsoft Most Valuable Professional (MVP) in Cloud and Datacenter Management who is based in Nashville, TN.

Course info

Level	Intermediate
Rating	★★★★★
My rating	★★★★★
Duration	2h 12m
Released	31 Oct 2017

Share course

[f](#) [t](#) [g+](#) [in](#)



Perform Common VM Operations



Common Azure VM Operations

Start

- ARM REST APIs
- Azure portal
- Azure PowerShell
- Azure CLI
- Azure SDKs

Stop

- Deallocation
- Auto shutdown

Resize

- Vertical scaling
- CPU, RAM, other features
- Requires reboot
- Warning



Remove a VM

VM resource and its dependencies

Resource Group

Taxonomic tags

Azure PowerShell or CLI allow you to keep OS and/or data disks



Azure VM Extensions

**Extend VM
capabilities**

**Requires Azure VM
agent (Windows
Server or Linux)**

VM Access

VM Backup

Custom Script

**Microsoft
Monitoring Agent**



Demo



1

Lightly touch the portal

Show start, stop, resize, delete in Azure PowerShell (Cloud Shell?)

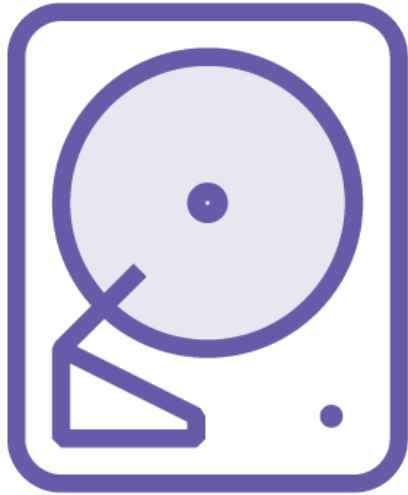
Go back to portal and install an extension



Configure VM Storage

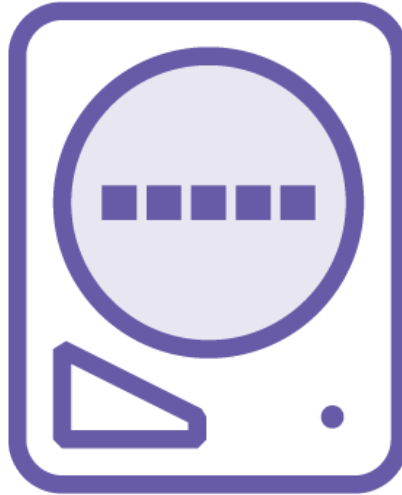


Azure VM Disk Types



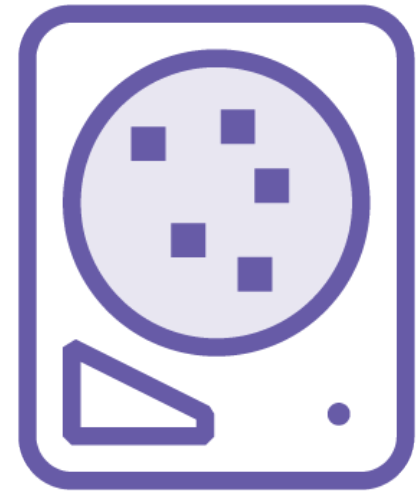
OS Disk

Generation 1 .VHD
Registered as SATA
drive
Max capacity 2 TB



Data Disk

dependent on VM
instance size
Registered as SCSI
disk
Max capacity 4 TB



Temporary Disk

D: or /dev/sdb1
Bound to the
hardware host
Do not store
permanent data!



Standard vs. Premium Storage Disks

Standard Disks

Backed by cost-effective HDDs

Several replication options

Standard SSD (Preview) available for managed disks only (for dev/test/entry level production applications)

Standard storage provides maximum IOPS values for each VHD

Premium Disks

Backed by high-speed SSDs

IOPS values are predictable, expected performance levels

Pre-pay for all storage used (fixed disk sizes)

P10, 128 GB, 500 IOPS, 50 MB/sec



Managed vs. Unmanaged Disks

Unmanaged Disks

Original method to store VM VHDs

VHDs stored as page blobs in an Azure storage account

Maximum 256 TB of storage per VM

You need to manage standard or premium storage account availability

20,000 IOPS limit across all VM disks in a standard storage account

Managed Disks

Azure manages the disks, so you don't have to worry about storage account-level IOPS restrictions

Pre-pay for disk size (no need for SA)

S10, 128 GB, 500 IOPS, 60 MB/sec

Supports Standard and Premium SSD and Standard HDD

LRS replication only for Premium managed disks



Demo



2

Create a disk with premium managed storage

Add a data disk

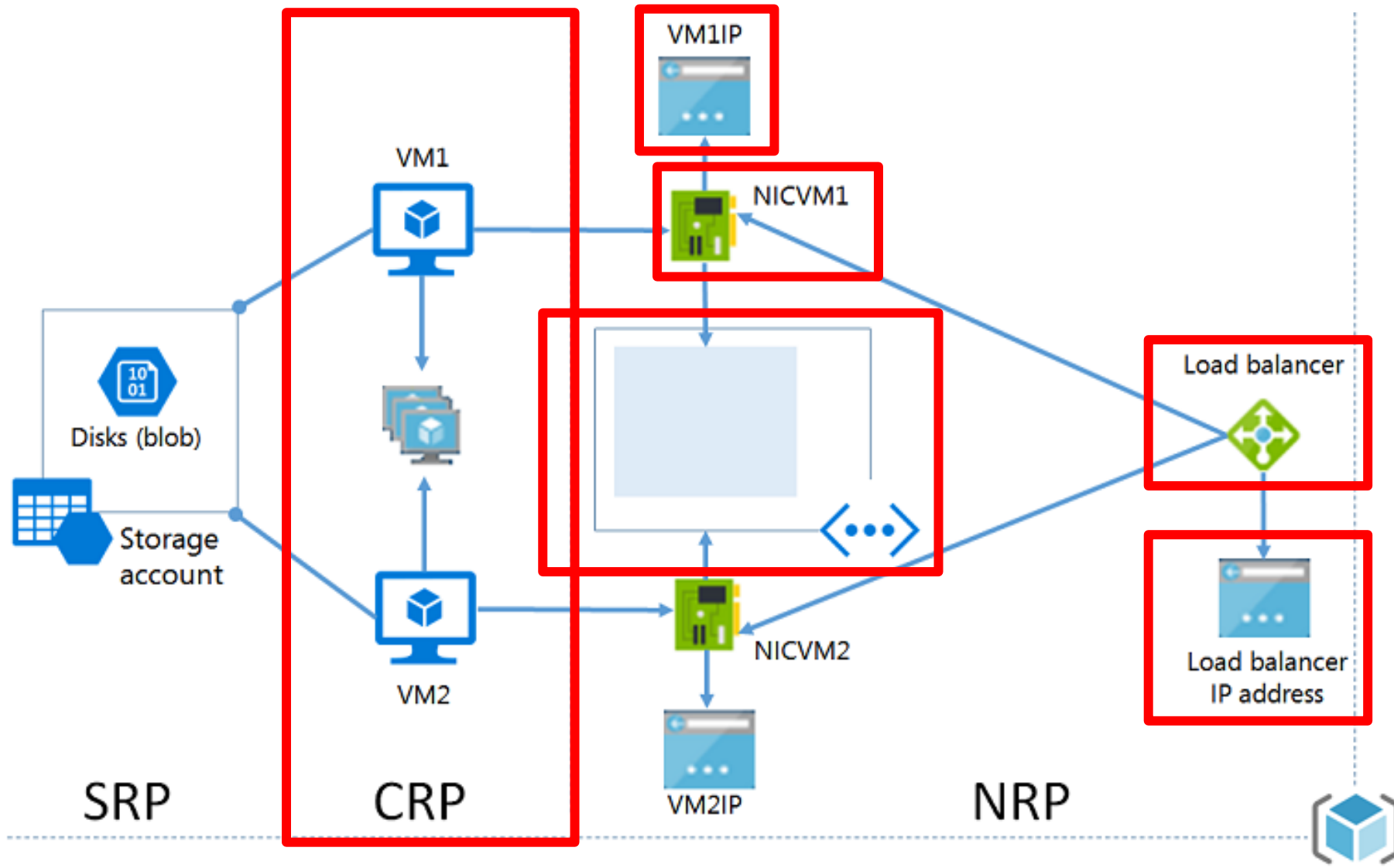
Inspect disks in managed disk blade



Configure VM Networking



Network Resource Provider (NRP)





Public IP Address Notes

Do you actually need a PIP?

- Consider Azure load balancer

Public IPv4 addresses can be associated with:

- VM vNICs, public load balancers, VPN gateways, and application gateways



Public IP Address SKUs

Basic SKU

- Open by default
- Static or dynamic allocation

Standard SKU

- Secure by default (NSG)
- Static allocation only
- Availability zone aware



Azure VM Monitoring Options



IaaS Monitoring extension



Azure Log Analytics



Hybrid cloud approach with System Center Operations Manager (SCOM)



Demo



3

Case: Host a simple web server

Examine VM networking

Assign public IP address

Configure firewall to allow TCP 80

Show IIS home page



Summary



The cloud is a different management paradigm from on-premises

- You have to look at Hyper-V virtualization in a new way!

Azure portal gives you basic options

- Use programmatic means to obtain full control over your VMs

Next module: Managing VM Availability

