

~~PowerShell in~~ "PowerShelling" Azure



Tim Warner

AUTHOR/TECH EVANGELIST, PLURALSIGHT

@TechTrainerTim

azuredepot.com



Agenda



Understand Azure Resource Manager (ARM)

Get productive with Azure PowerShell

Step into ARM templates

Session Materials

timw.info/azposh



Understand Azure Resource Manager



ARM Facts

Released in 2014
(Azure was GA in
2010)

Componentized
rather than
monolithic

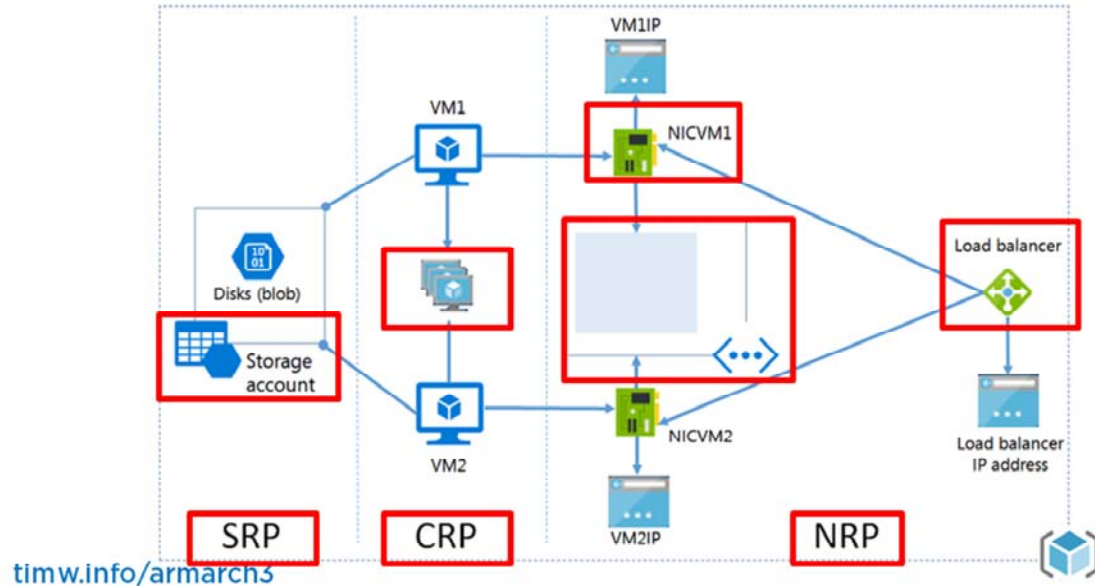
JSON instead of
XML

REST APIs (Portal,
PS, Azure CLI,
SDK)

RBAC

Template-based
deployment

ARM Architecture



Azure Resource Explorer

Explore the
REST API

The screenshot displays the Azure Resource Explorer web application. On the left, a sidebar lists various resource types under the 'Microsoft.Compute' namespace, including 'availabilitySets', 'disks', 'images', 'locations', 'locations/diskOperations', 'locations/operations', 'locations/publishers', 'locations/runCommands', 'locations/usage', 'locations/virtualMachines', 'locations/vmSizes', 'operations', 'restorePointCollections', 'restorePointCollections/restorePoints', 'snapshots', 'virtualMachines', 'virtualMachines/diagnosticSettings', 'virtualMachines/extensions', 'virtualMachines/networkDefinitions', 'virtualMachineScaleSets', 'virtualMachineScaleSets/extensions', 'virtualMachineScaleSets/networkInterfaces', and 'virtualMachineScaleSets/virtualMachines'. The 'Microsoft.Compute' item is selected. The main pane shows the REST API endpoint 'providers/Microsoft.Compute/versions/2018-04-01/preview' highlighted with a red box. Below this, the JSON response for the endpoint is displayed, showing the namespace 'Microsoft.Compute' and a list of resource types including 'availabilitySets' and 'locations'.

```
1 {
2   "namespace": "Microsoft.Compute",
3   "resourceTypes": [
4     {
5       "resourceType": "availabilitySets",
6       "locations": [
7         "East US",
8         "East US 2",
9         "West US",
10        "Central US",
11        "North Central US",
12        "South Central US",
13        "North Europe",
14        "West Europe",
15        "East Asia",
16        "Southeast Asia",
17        "Japan East",
18        "Japan West",
19        "Australia East",
20        "Australia Southeast",
21        "Brazil South",
22        "South India",
23        "Central India",
24        "West India",
25        "Canada Central",
26        "Canada East",
27        "West US 2",
28        "West Central US",
```

Demo



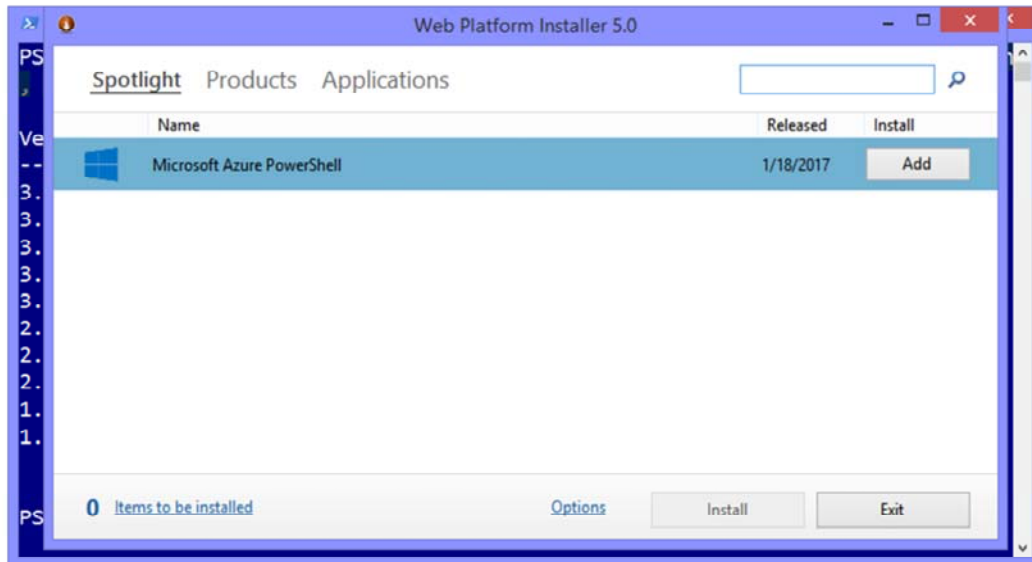
Create a Windows Server VM in the
Azure Portal

Save the ARM deployment template

Get Productive with Azure PowerShell



Obtain the ARM Modules



Demo



Discover

- AzureRM modules
- Azure RM commands
- Deploy a Windows Server VM

Step Into Pee ARM Templates



ARM Template Facts

Every Azure
deployment uses
these templates

Deterministic

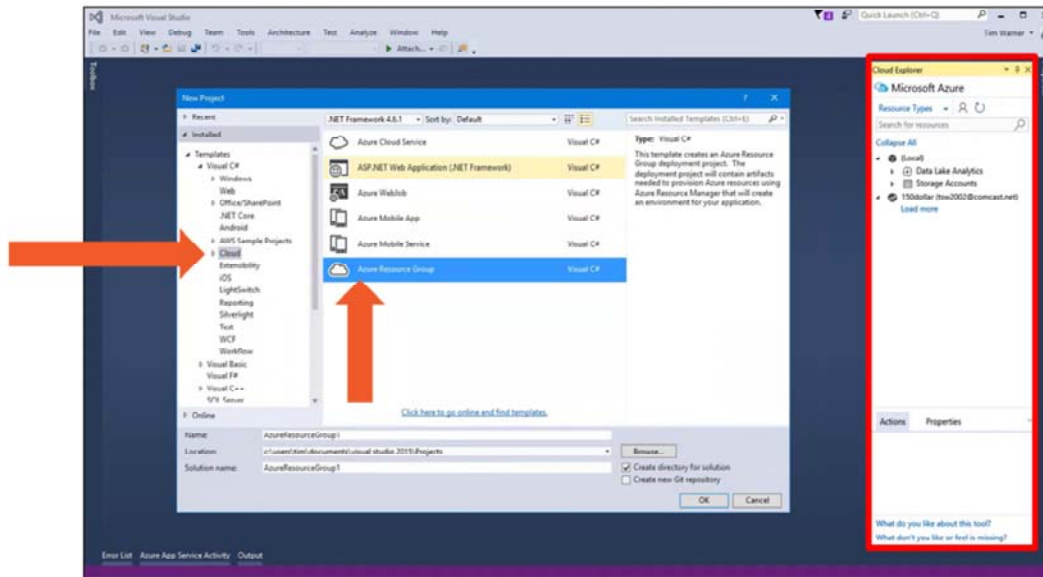
Idempotent

Parameters and
variables

Functions

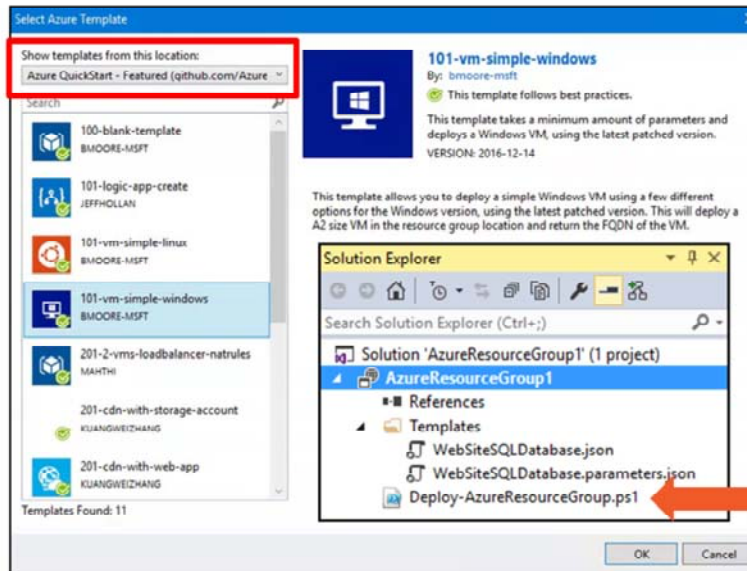
Nested templates

Visual Studio with the Azure .NET SDK



Visual Studio with the Azure .NET SDK

These templates follow best patterns/practices



Demo



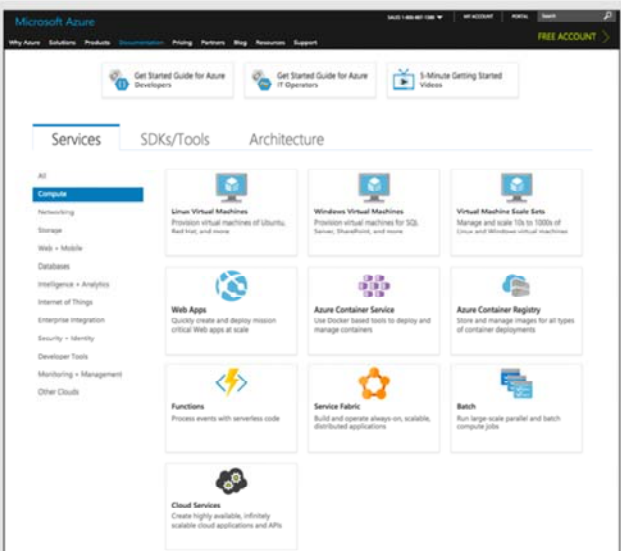
Azure Resource Explorer

Review the ARM template we
downloaded earlier

- Visual Studio Code

Azure Quickstart Templates

Resource Visualizer



Microsoft Azure

Why Azure Solutions Products Documentation Pricing Partners Blog Newsroom Support

FREE ACCOUNT

Get Started Guide for Azure Developers

Get Started Guide for Azure IT Administrators

1-Minute Getting Started Videos

Services SDKs/Tools Architecture

All

Compute

Networking

Storage

Web + Mobile

Databases

Intelligence + Analytics

Internet of Things

Enterprise Integration

Security + Identity

Developer Tools

Monitoring + Management

Other Clouds

Linux Virtual Machines

Provision virtual machines of Ubuntu, Red Hat, and more

Windows Virtual Machines

Provision virtual machines for SQL Server, SharePoint, and more

Virtual Machine Scale Sets

Manage and scale 10s to 1000s of Linux and Windows virtual machines

Web Apps

Quickly create and deploy mission critical Web apps at scale

Azure Container Service

Use Docker-based tools to deploy and manage containers

Azure Container Registry

Store and manage images for all types of container deployments

Functions

Process events with serverless code

Service Fabric

Build and operate always-on, scalable, distributed applications

Batch

Run large-scale parallel and batch compute jobs

Cloud Services

Create highly available, infinitely scalable cloud applications and APIs

Book Reference

Azure books almost always deal with Azure v1 (ASM)

Microsoft is centrally locating their TechNet and MSDN product docs

docs.microsoft.com/azure

Thank You!



Materials: timw.info/azposh

Twitter: [@TechTrainerTim](https://twitter.com/TechTrainerTim)

Mail: azuredepot.com/contact