Agenda

- Pre-requisites
- Architecture
- Azure Compute
- Deploy Trend Deep Security Manager

Pre-requisites

- Internet Access
- Azure subscription access
 - You can register for a free account https://azure.microsoft.com/en-us/free/
- Visual studio Community -<u>https://go.microsoft.com/fwlink/?LinkId=691978&clcid=0x409</u>
- PowerShell https://www.microsoft.com/web/handlers/webpi.ashx/getinstaller/WindowsAzurePowershellGet.3f.3f.3fnew.appids
- Azure SDK https://go.microsoft.com/fwlink/?LinkId=518003&clcid=0x409

Azure Compute: Virtual Machines

Azure Virtual Machines

Variety of Images to Select



Bring your own on-premises images





Azure Management Portal



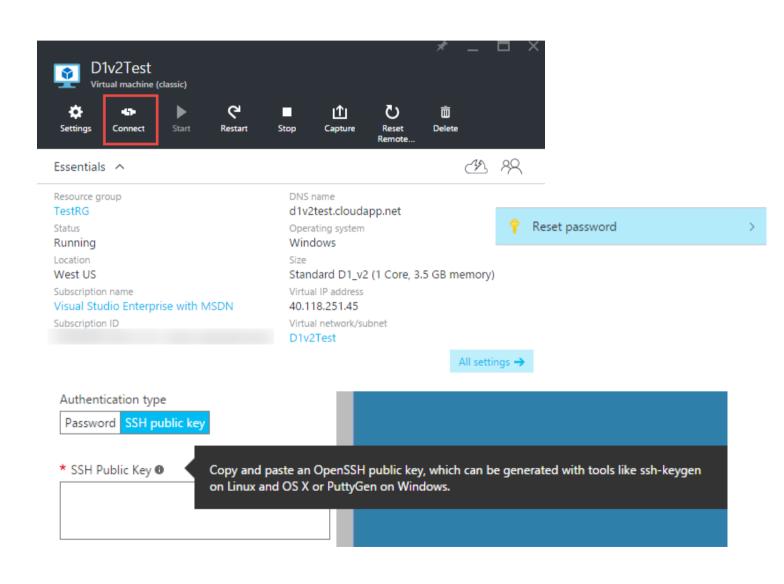
Scripting (Windows, Linux, and Mac)



Representational state transfer (REST) API

Connecting to Azure VMs

- Connect to a Windows VM via RDP
- RDP File is downloaded from Portal
- User Name & Password set when creating VM
- Reset password from Portal
- SSH available for Linux



Stopping a Virtual Machine

Virtual Machines Support two Stopped States:

Deallocated

- No longer paying for CPU (still paying for storage)
- Will lose IP address if not marked static (public or private)
- Stop via portal or command line tools

Stopped

- OS is shutdown, but still paying for compute
- Stop from within OS or command line tools

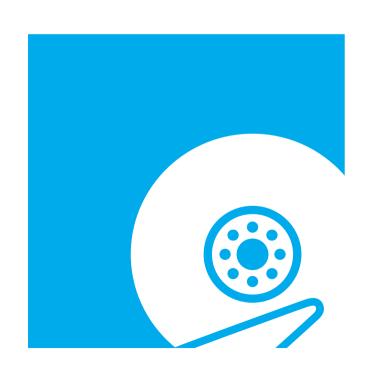
Bring Your Own VM: Image Types

Generalized

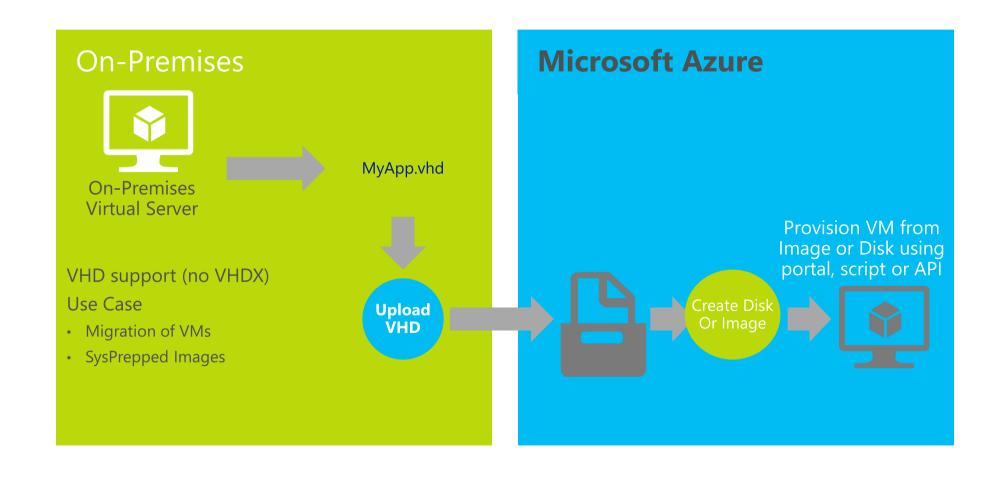
- Generalize OS using Windows Sysprep tool or Linux waagent (Windows Azure Agent)
- Captures OS and data
- Portal or CLI

Specialized (Not SysPrepped)

- No generalization has been applied
- Captures OS and data
- Portal or CLI



Bring Your Own VM/VHD



Virtual Machine Extensions: Examples

- laaS Antimalware
- Reset password
- Docker
- Backup
- BGInfo
- RDMA Drivers
- Bash Script
- PowerShell
- PowerShell DSC

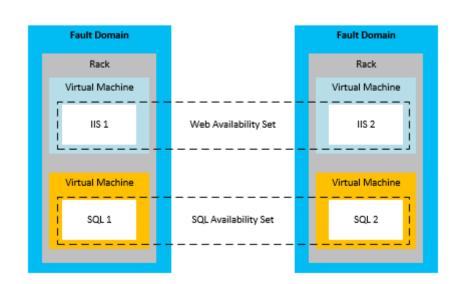
- Alert Logic Log Manager
- CloudLink Secure VM
- Symantec
- Tredn Micro
- Chef
- Puppet
- SQL laaS Agent
- Visual Studio
- More...

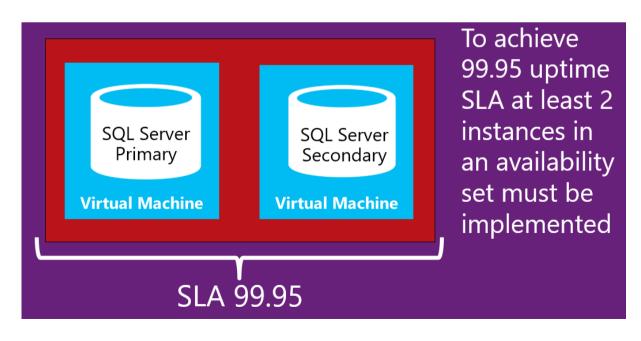
New resource Leverage Azure's powerful capabilities to build, deploy, and manage applications faster. Chef Client By Chef Inc. Custom Script By Microsoft Corp. Balnfo By Microsoft Corp. laaS Antimalware By Microsoft Corp. Symantec Endpoint Protection By Symantec. TrendMicro DSA

By TrendMicro DeepSecurity

Availability Sets

- Availability Sets tell the Fabric Controller in Azure to place the virtual machines in separate fault & upgrade domains
 - Fault Domains (ie racks) isolate VMs for faults
 - At a minimum half (67% with 3 or more servers) of your applications servers will be up in the event of hardware failure in the Microsoft Azure data center
 - Upgrade Domains isolate VMs for host upgrades
 - 5 VMs by default, with up to 20. Your VMs are rebooted safely through the hypervisor during an agreed period (not a power off)





Scale Sets

Deploy and Manage a collection of VMs as a Set Used for building large-scale services targeting

- Big compute
- Big data
- Containerized workloads

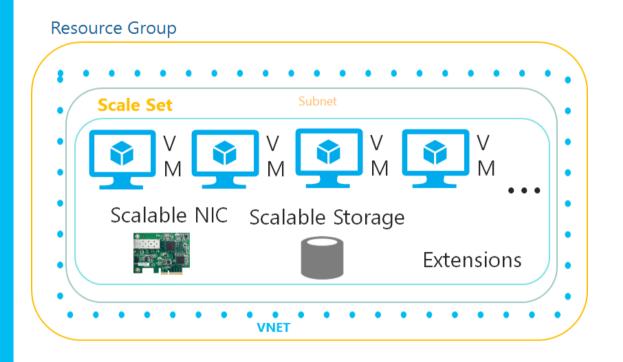
Scale Set VMs are configured identically

Up to 1000 virtual machines within a scale set

Choose how many VMs are required and a Scale Set will automatically build them for you

Scale Set integrates with Virtual Networks, Load Balancers and Network Security Groups

Scale Set implicitly deploys to an Availability Set

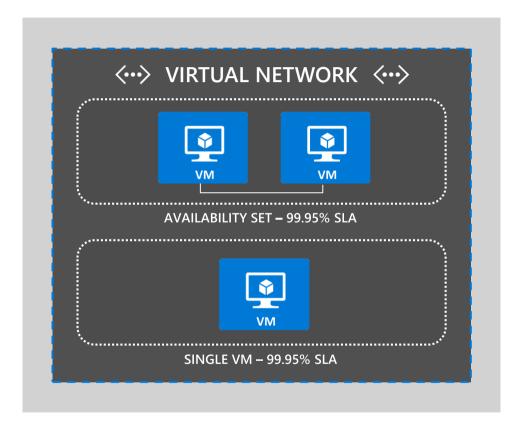


Single Instance SLA on Virtual Machines

Guaranteed service level availability with a single virtual machine

Azure guarantees availability at 99.9% with only a single instance!

Requires Premium Storage



Public IP

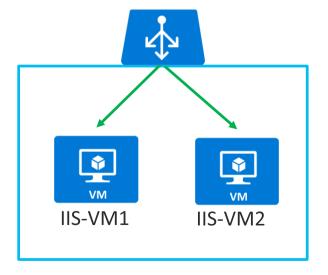
Public IP can be optionally created and associated with a VM or a Load Balancer

Up to 100 VMs per load balancer

Public IP can be:

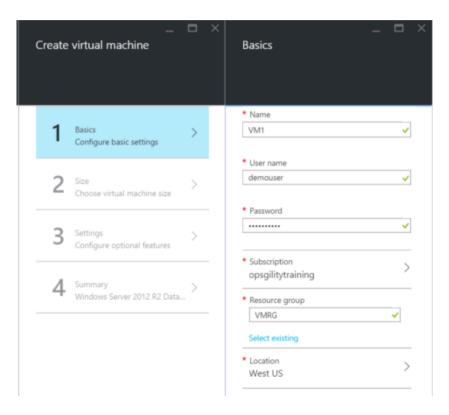
- Dynamic
- Static (reserved)

contososvc.uswest.azure.com 23.99.9.198



Creating an Azure Virtual Machine

Azure Management Portal



Command Line

PowerShell

```
New-AzureRmVM -ResourceGroupName $rg -VM $vm ...
```

X-Plat CLI

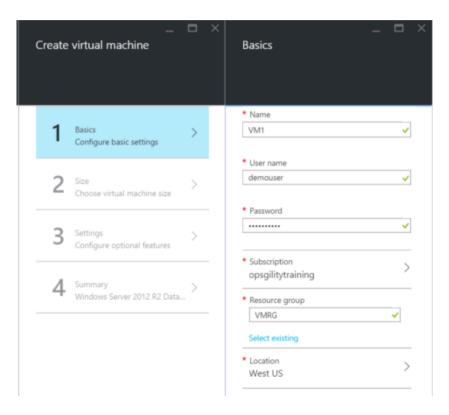
```
azure-cli@0.8.0:/# azure vm quick-create
info: Executing command vm quick-create
```

REST API

```
"OSDisk": {
    "EncryptionSettings": null,
    "OperatingSystemType": "Windows",
    "Caching": "ReadWrite",
    "CreateOption": "FromImage",
...
```

Creating an Azure Virtual Machine

Azure Management Portal



Command Line

PowerShell

```
New-AzureRmVM -ResourceGroupName $rg -VM $vm ...
```

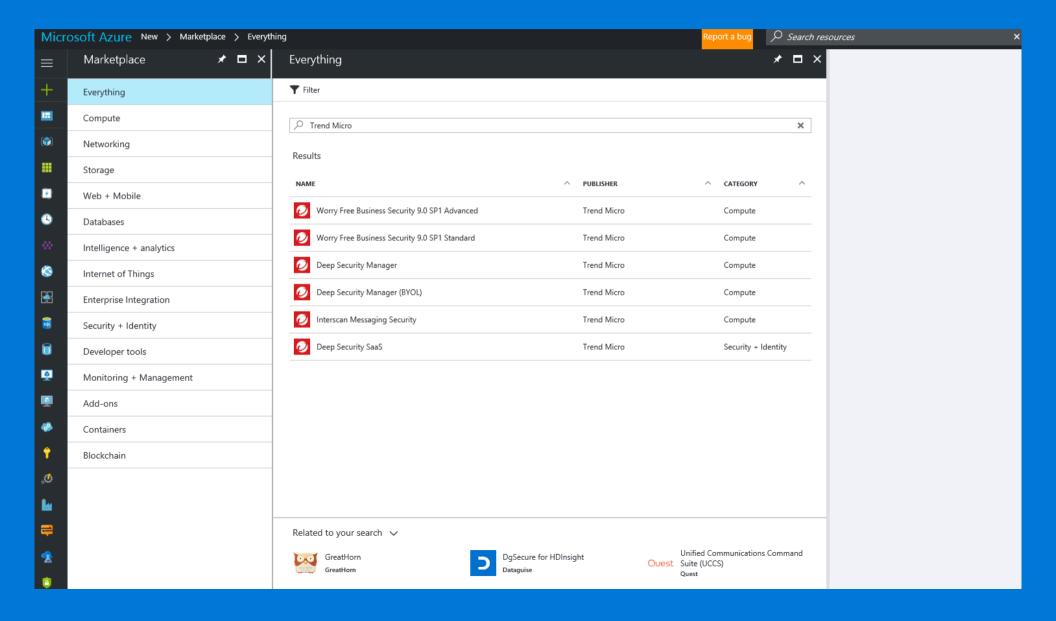
X-Plat CLI

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azure-cli@0.8.0:/# azure vm quick-create
info: Executing command vm quick-create
```

REST API

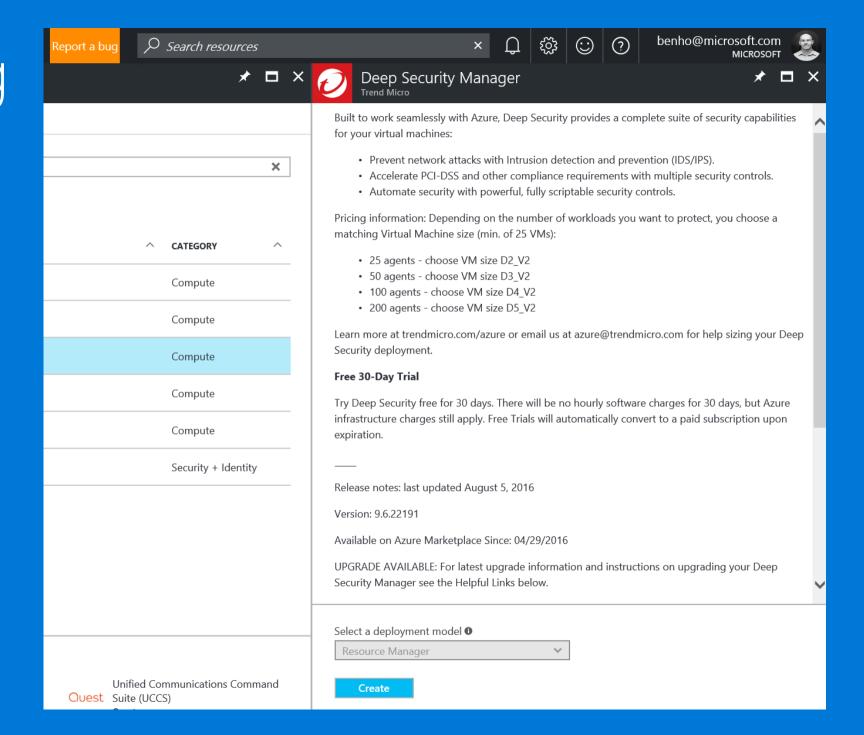
```
"OSDisk": {
    "EncryptionSettings": null,
    "OperatingSystemType": "Windows",
    "Caching": "ReadWrite",
    "CreateOption": "FromImage",
...
```

Deploying Trend Solutions

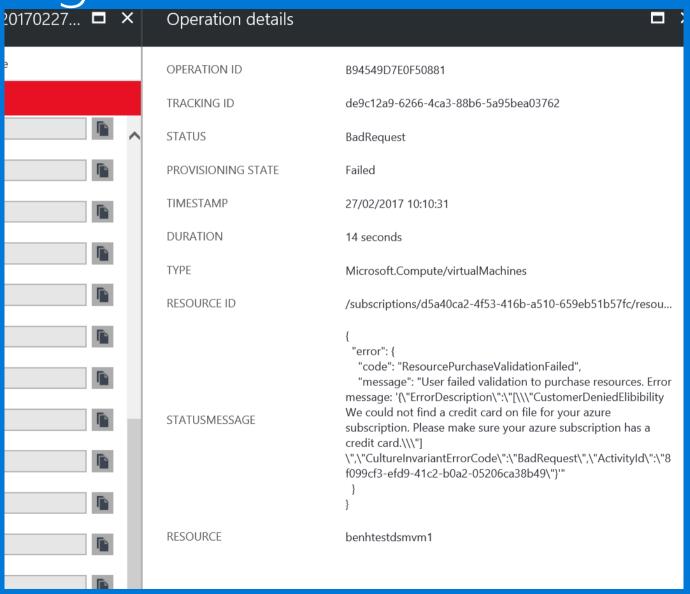


Trend Licensing

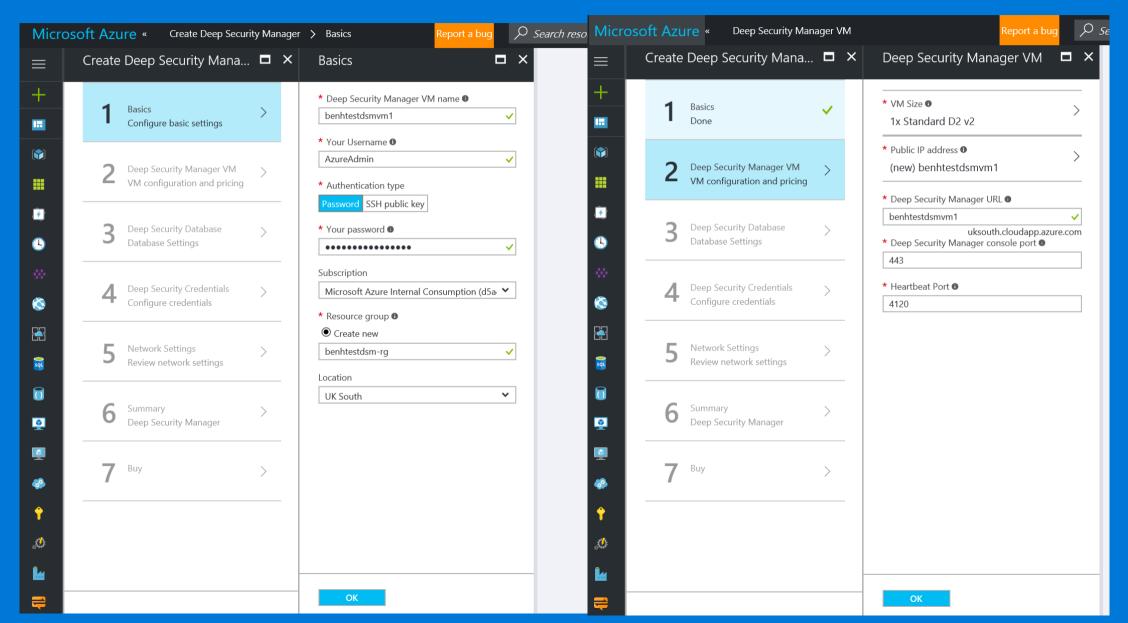
Choose BYOL if you don't have a credit card associated with your subscription



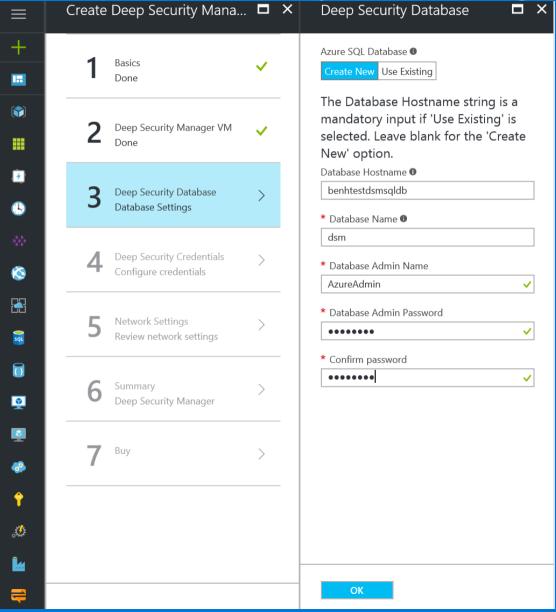
Choose the right licence!

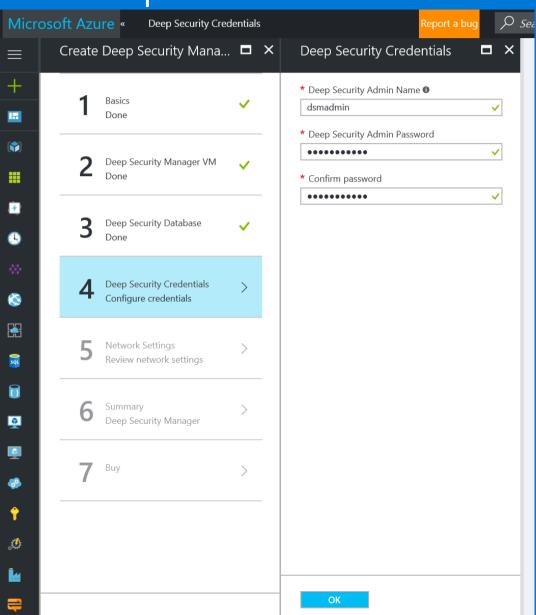


Deep Security Manager - Setup

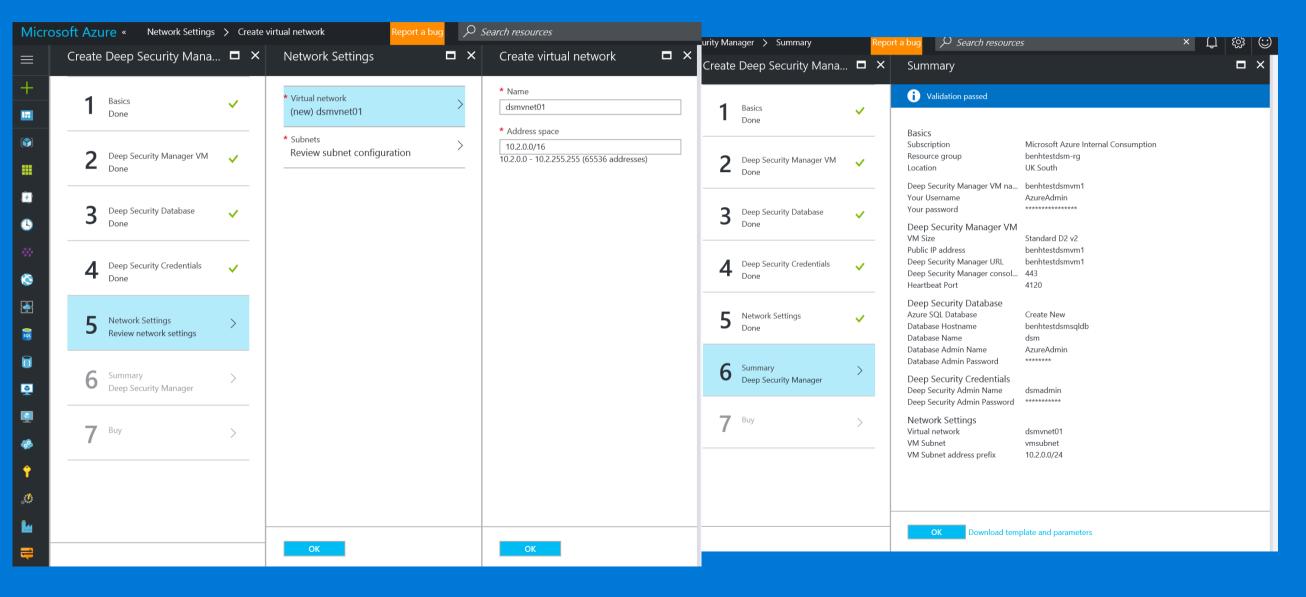


Deep Security Manager - Setup

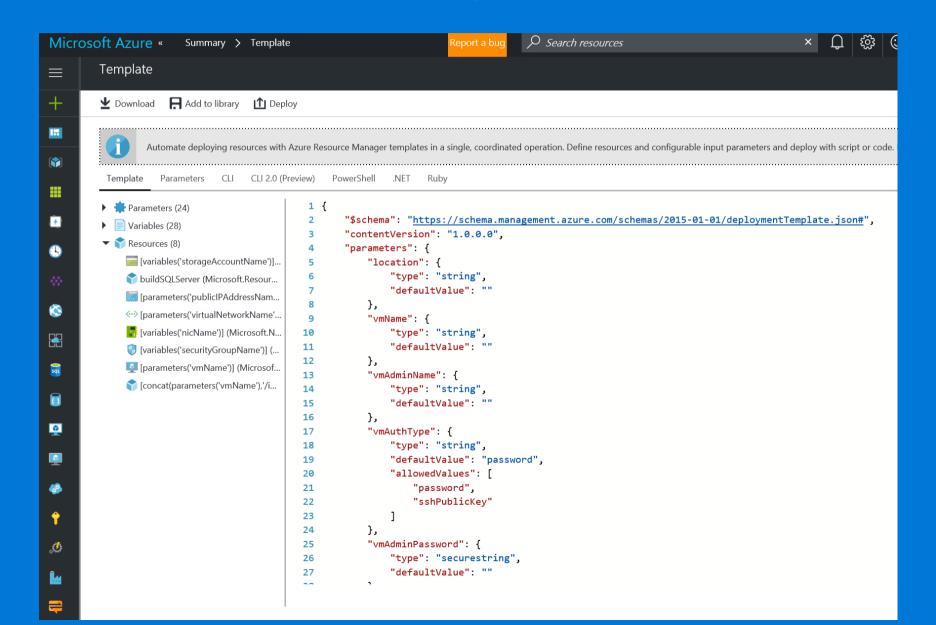




Deep Security Manager - Setup



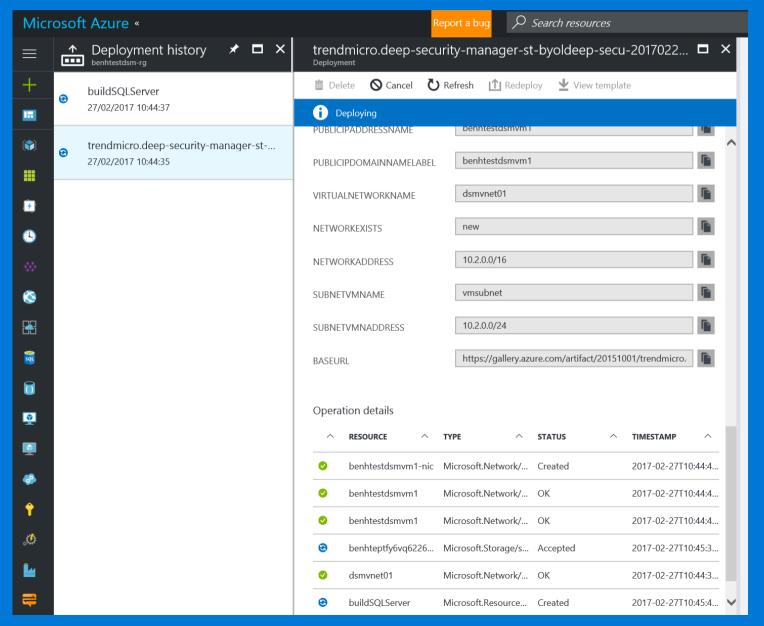
Automation – ARM Templates



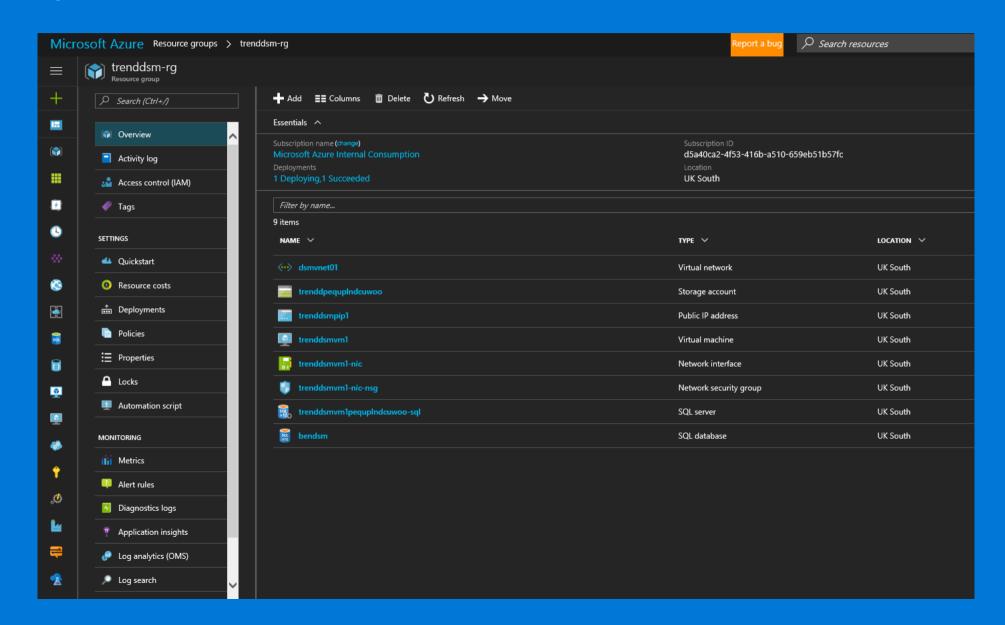
Custom Script Extensions

```
"type": "Microsoft.Compute/virtualMachines/extensions".
436
                    "name": "[concat(parameters('vmName'),'/installDSM')]",
437
                    "apiVersion": "2015-05-01-preview",
438
                    "location": "[variables('location')]",
439
                    "dependsOn": [
440
                        "[concat('Microsoft.Compute/virtualMachines/', parameters('vmName'))]"
441
442
                    "properties": {
443
                         "publisher": "Microsoft.OSTCExtensions",
444
                        "type": "CustomScriptForLinux",
445
                        "typeHandlerVersion": "1.2",
446
                        "settings": {
447
                            "commandToExecute": "cp ../../config/0.settings /opt/trend/packages/dsm/default/"
448
449
                        "protectedSettings": {
450
                            "subscriptionId": "[subscription().subscriptionId]",
451
                            "vmName": "[parameters('vmName')]",
452
                            "databaseName": "[parameters('dbName')]",
453
                            "adminUserName": "[parameters('dsmAdminName')]",
454
                            "adminPassword": "[parameters('dsmAdminPassword')]",
455
                            "databaseUserName": "[parameters('dbAdminName')]",
456
                            "databaseUserPassword": "[parameters('dbAdminPassword')]",
457
                            "licenseMode": "[variables('licenseMode')]",
458
                            "databaseServer": "[reference('buildSOLServer').outputs.sqlServerFODN.value]",
459
460
                            "location": "[variables('location')]",
                            "managerPort": "[parameters('managerPort')]",
461
462
                            "heartbeatPort": "[parameters('heartbeatPort')]",
                            "vmFQDN": "[reference(resourceId('Microsoft.Network/publicIPAddresses',parameters('public
463
                            "databaseOption": "[parameters('databaseOption')]",
464
                            "vmSize": "[variables('offerChoosed').vmSize]"
465
466
467
```

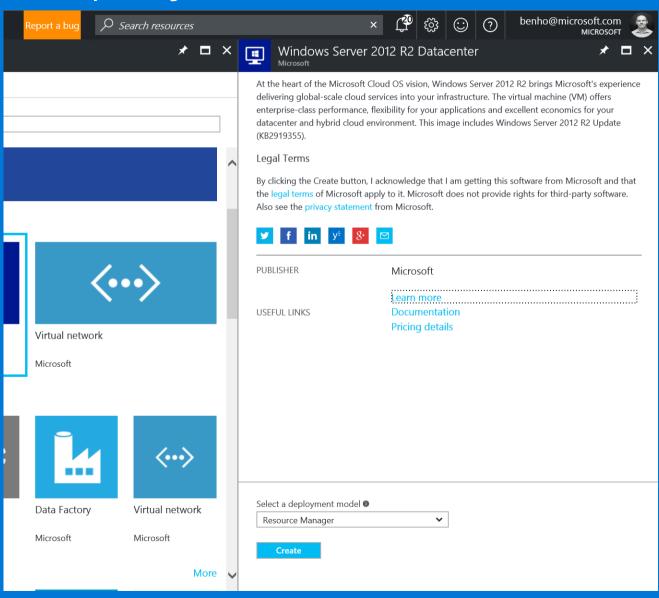
Deployment In Process



Deployed Trend DSM Server Resources

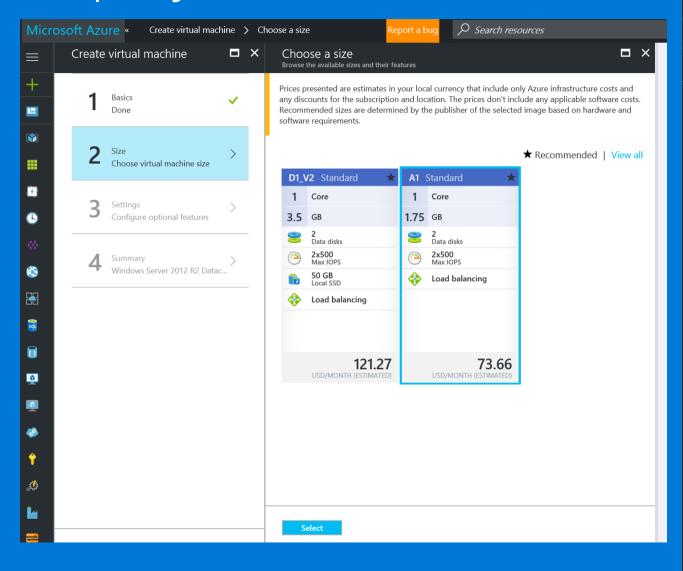


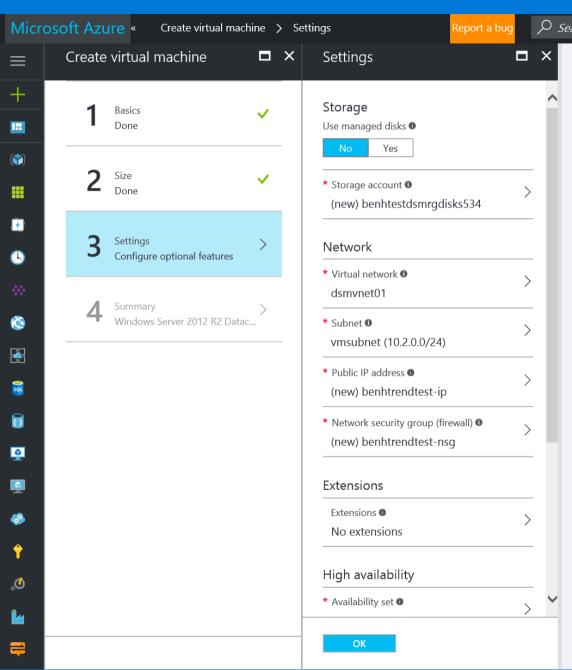
Deploy a Trend DSA VM



ure «	Create virtual mad	hine	> B	Report a b	ug
virtual	machine	_	×	Basics	_
Basics Configur	e basic settings	>		* Name benhtrendtest	~
Size Choose v	virtual machine size	>		HDD	~
Settings Configur	e optional features	>		AzureAdmin * Password	✓
		> c		* Confirm password	~
					(d5 ~
				benhtestdsm-rg	~
				UK South	~
	Basics Configur Size Choose v Settings Configur Summan	Basics Configure basic settings Size Choose virtual machine size Settings Configure optional features	Basics Configure basic settings Size Choose virtual machine size Settings Configure optional features	Basics Configure basic settings Size Choose virtual machine size Settings Configure optional features Summary	Basics Configure basic settings Size Choose virtual machine size Settings Configure optional features Summary Windows Server 2012 R2 Datac Subscription Microsoft Azure Internal Consumption (* Resource group (Create new () Use existing benhtestdsm-rg Location

Deploy a Trend DSA VM





Deploy a Trend DSA VM

