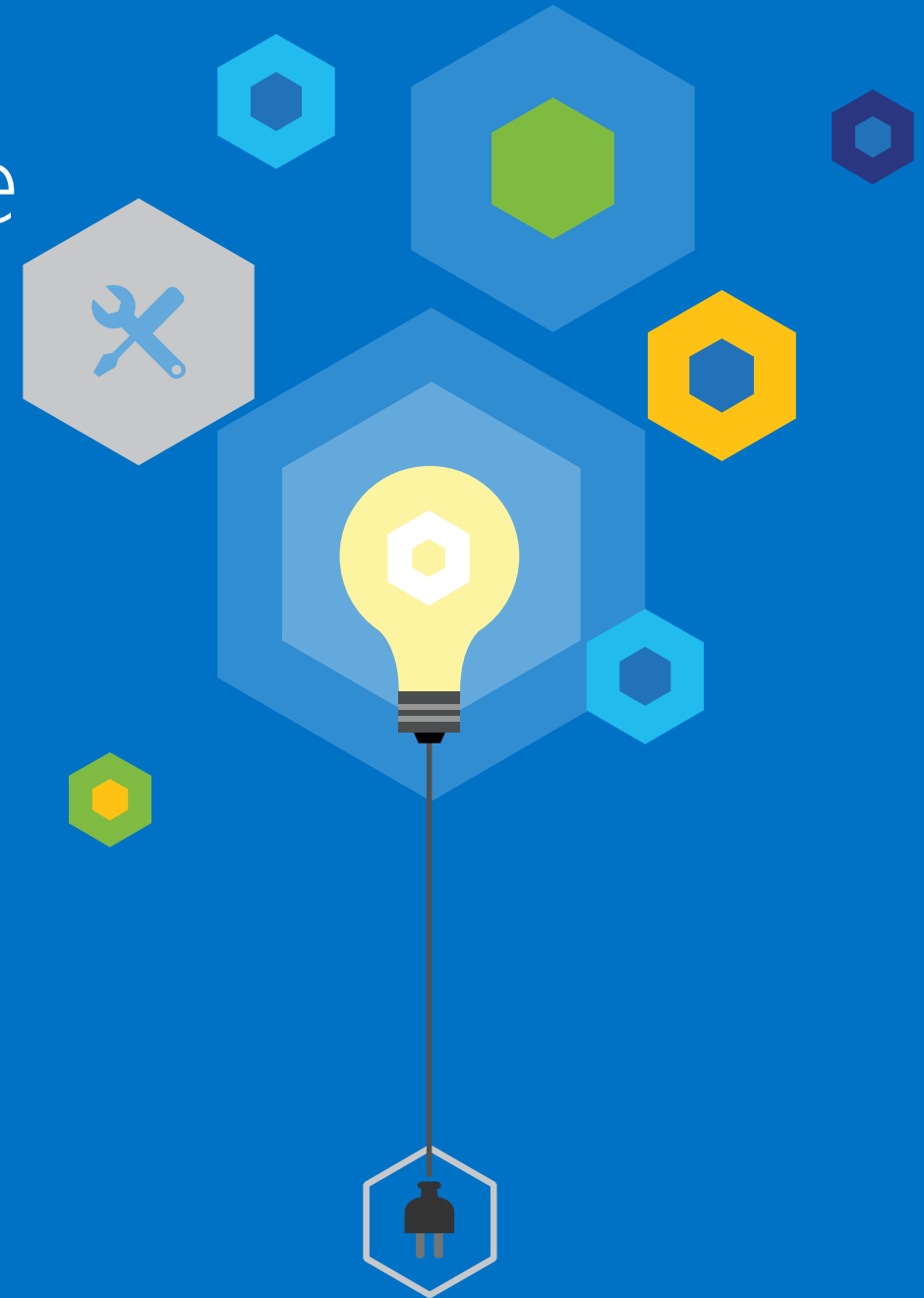


# Azure Planned Maintenance for Virtual Machines

# Agenda

- Planned Maintenance in Azure - ARM
- Planned Maintenance Experience
  - Introduction
  - Create Alert in UI ([portal.azure.com](https://portal.azure.com))
- PowerShell samples
- Summary
- Q & A

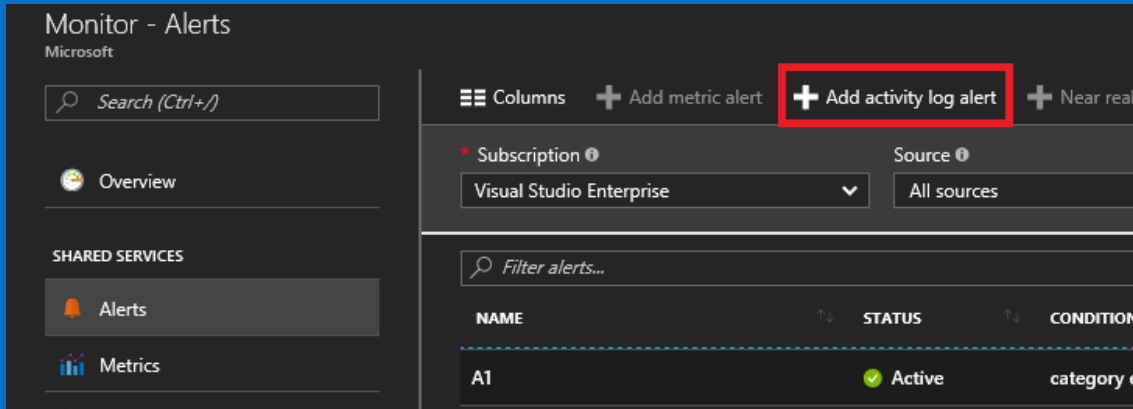
# Planned Maintenance in Azure



# Introduction

- **VM preserving maintenance**
  - The virtual machine is placed into a “paused” state
  - RAM, Network connection, open files remain open
  - Virtual machine is then resumed within 30 seconds
- **VM restarting maintenance**
  - VM Reboot – VM is restarted. Memory, open files, network connections are lost
  - VM Redeploy – VM is moved to another host.

# Create Alert in UI



Save Discard Disable Delete

Activity log alert name ⓘ A1

Description ⓘ Alert VM Update

Subscription ⓘ Visual Studio Enterprise

Resource group ⓘ Default-ActivityLogAlerts

Source

Input ⓘ Activity log

Criteria

Event category ⓘ ServiceHealth

\* Service(s) ⓘ 2 selected

\* Region(s) ⓘ 7 selected

Type ⓘ Maintenance

Status ⓘ All

Level ⓘ All

Alert via

\* Subscription ⓘ Visual Studio Enterprise

\* Action group ⓘ Alert1

# Create Alert in UI

- Sign in to the Azure portal.
- In the menu on the left, select Monitor.
- In the Monitor - Activity log pane, select Alerts.
- In the Monitor - Alerts pane, click + Add activity log alert.
- Complete the information in the Add activity log alert page and make sure you set the following in

Criteria:


Type:

Maintenance Status: All (Do not set status to Active or Resolved)

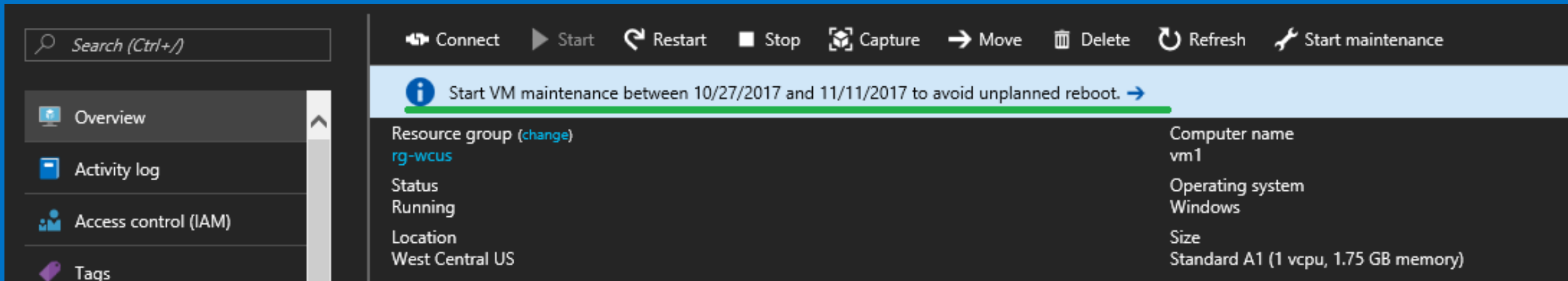
Level: All.

# Planned Maintenance in Azure - UI

1 items

<input type="checkbox"/>	NAME <small>↑↓</small>	TYPE <small>↑↓</small>	STATUS	RESOURCE GROUP <small>↑↓</small>	LOCATION <small>↑↓</small>	MAINTENANCE
<input type="checkbox"/>	 vm1	Virtual machine	Running	rg-wcus	West Central US	<div>Start now</div>

# Planned Maintenance in Azure - UI




The screenshot displays the Azure portal interface for a virtual machine. On the left, a navigation pane includes a search bar and links to Overview, Activity log, Access control (IAM), and Tags. The main area features a toolbar with actions like Connect, Start, Restart, Stop, Capture, Move, Delete, Refresh, and Start maintenance. A prominent blue information banner at the top of the main area states: "Start VM maintenance between 10/27/2017 and 11/11/2017 to avoid unplanned reboot." Below this, the VM's details are shown in a table format.

Resource group <a href="#">(change)</a>	Computer name
<a href="#">rg-wcus</a>	vm1
Status	Operating system
Running	Windows
Location	Size
West Central US	Standard A1 (1 vcpu, 1.75 GB memory)



# Planned Maintenance in Azure - UI

Maintenance is scheduled  
vm1

 Azure needs to shut down and restart this virtual machine to complete scheduled maintenance.

### Timeline

10/27

**Start maintenance now**

If you want to avoid an unplanned reboot and control the timing of upcoming maintenance, complete the maintenance anytime between 10/27/2017 3:00 AM and 11/11/2017 3:00 AM. [Learn more](#)

Start maintenance

11/11

**Wait for scheduled maintenance**


If you don't complete maintenance by 11/11/2017 3:00 AM, Azure will shut down and restart your virtual machine sometime during this maintenance window.

11/13

# Planned Maintenance in Azure - UI

# Planned Maintenance in Azure - UI

1 items

<input type="checkbox"/>	NAME <small>↑↓</small>	TYPE <small>↑↓</small>	STATUS	MAINTENANCE
<input type="checkbox"/>	 vm1	Virtual machine	Running	Completed

Filter by name...

Visual Studio Enterprise







All resource groups

All types

All locations

No grouping

2 of 6 items selected

<input type="checkbox"/>	NAME <small>↑↓</small>	TYPE <small>↑↓</small>	STATUS	RESOURCE GROUP <small>↑↓</small>	LOCATION <small>↑↓</small>	MAINTENANCE	SUBSCRIPTION <small>↑↓</small>	MAINTENANCE...	MAINTENANCE...	INSTANCE IP A...	VIRTUAL IP AD...
<input checked="" type="checkbox"/>	 myVM1	Virtual machine	Running	TestLB	East US		Visual Studio Enterpr...			Not supported	Not supported
<input checked="" type="checkbox"/>	 myVM2	Virtual machine	Stopped (deallocated)	rg-wc	West Central US	Completed	Visual Studio Enterpr...			Not supported	Not supported
<input type="checkbox"/>	 myVM2	Virtual machine	Stopped (deallocated)	TestLB	East US		Visual Studio Enterpr...			Not supported	Not supported
<input type="checkbox"/>	 VMASRTWIN1	Virtual machine (clas...	Stopped (deallocated)	rg-asr	East US		Visual Studio Enterpr...			-	-
<input type="checkbox"/>	 VMLINUX	Virtual machine	Stopped (deallocated)	Adobe	East US		Visual Studio Enterpr...			Not supported	Not supported
<input type="checkbox"/>	 VMLINUX2	Virtual machine	Stopped (deallocated)	Adobe	East US		Visual Studio Enterpr...			Not supported	Not supported

# Planned Maintenance in Azure

## PowerShell

ModuleType	Version
-----	-----
Manifest	3.4.1

```
1 function MaintenanceIterator
2 {
3     Select-AzureRmSubscription -SubscriptionId $args[0]
4
5     $rgList= Get-AzureRmResourceGroup
6
7     for ($rgIdx=0; $rgIdx -lt $rgList.Length ; $rgIdx++)
8     {
9         $rg = $rgList[$rgIdx]
10        $vmList = Get-AzureRMVM -ResourceGroupName $rg.ResourceGroupName
11        for ($vmIdx=0; $vmIdx -lt $vmList.Length ; $vmIdx++)
12        {
13            $vm = $vmList[$vmIdx]
14            $vmDetails = Get-AzureRMVM -ResourceGroupName $rg.ResourceGroupName -Name $vm.Name -Status
15            if ($vmDetails.MaintenanceRedeployStatus )
16            {
17                Write-Output
18                "VM: $($vmDetails.Name)
19                IsCustomerInitiatedMaintenanceAllowed: $($vmDetails.MaintenanceRedeployStatus.IsCustomerInitiatedMaintenanceAllowed)
20                $($vmDetails.MaintenanceRedeployStatus.LastOperationMessage)"
21            }
22        }
23    }
24 }
```

# Planned Maintenance in Azure

**PowerShell samples** (West Central US testing):

ModuleType	Version
-----	-----
Manifest	3.4.1

```
PS C:\Users\ovtimpan> Restart-AzureRmVM -PerformMaintenance -Name $vm3.Name -ResourceGroupName $vm3.ResourceGroupName
```

```
OperationId :  
Status      : Succeeded  
StartTime   : 2017-11-07 11:25:40 AM  
EndTime     : 2017-11-07 11:32:49 AM  
Error       :
```

# Planned Maintenance in Azure

## PowerShell samples (West Central US testing):

```
1 function MaintenanceIterator2
2 {
3     Select-AzureRmSubscription -SubscriptionId $args[0]
4
5     $rgList= Get-AzureRmResourceGroup
6
7     for ($rgIdx=0; $rgIdx -lt $rgList.Length ; $rgIdx++)
8     {
9         $rg = $rgList[$rgIdx]
10        $vmList = Get-AzureRMVM -ResourceGroupName $rg.ResourceGroupName
11        for ($vmIdx=0; $vmIdx -lt $vmList.Length ; $vmIdx++)
12        {
13            $vm = $vmList[$vmIdx]
14            $vmDetails = Get-AzureRMVM -ResourceGroupName $rg.ResourceGroupName -Name $vm.Name -Status
15            if ($vmDetails.MaintenanceRedeployStatus -eq $false )
16            {
17                if ($vmDetails.MaintenanceRedeployStatus.LastOperationResultCode -eq "MaintenanceCompleted")
18                {
19                    Write-Output "VM: $($vmDetails.Name) - Completed"
20                }
21                else
22                {
23                    Write-Output "VM: $($vmDetails.Name) - Failed Message: $($vmDetails.MaintenanceRedeployStatus.LastOperationMessage)"
24                }
25            }
26        }
27    }
28 }
```

# Planned Maintenance in Azure

Service Health - Planned maintenance

PREVIEW

🔍 Search (Ctrl+ /)

ACTIVE EVENTS

🔔 Service issues

📅 Planned maintenance

📢 Health advisories

HISTORY

📋 Health history

RESOURCE HEALTH

💓 Resource health

\* Subscription Windows Azure MSDN - Vi... \* Region 4 selected \* Service 112 selected

ISSUE NAME	TRACKING ID	SERVICE(S)	REGION(S)
Try out the new Planned Maintenance experience for ...	5946-EKG	Virtual Machines	West Central US

Summary

Affected resources

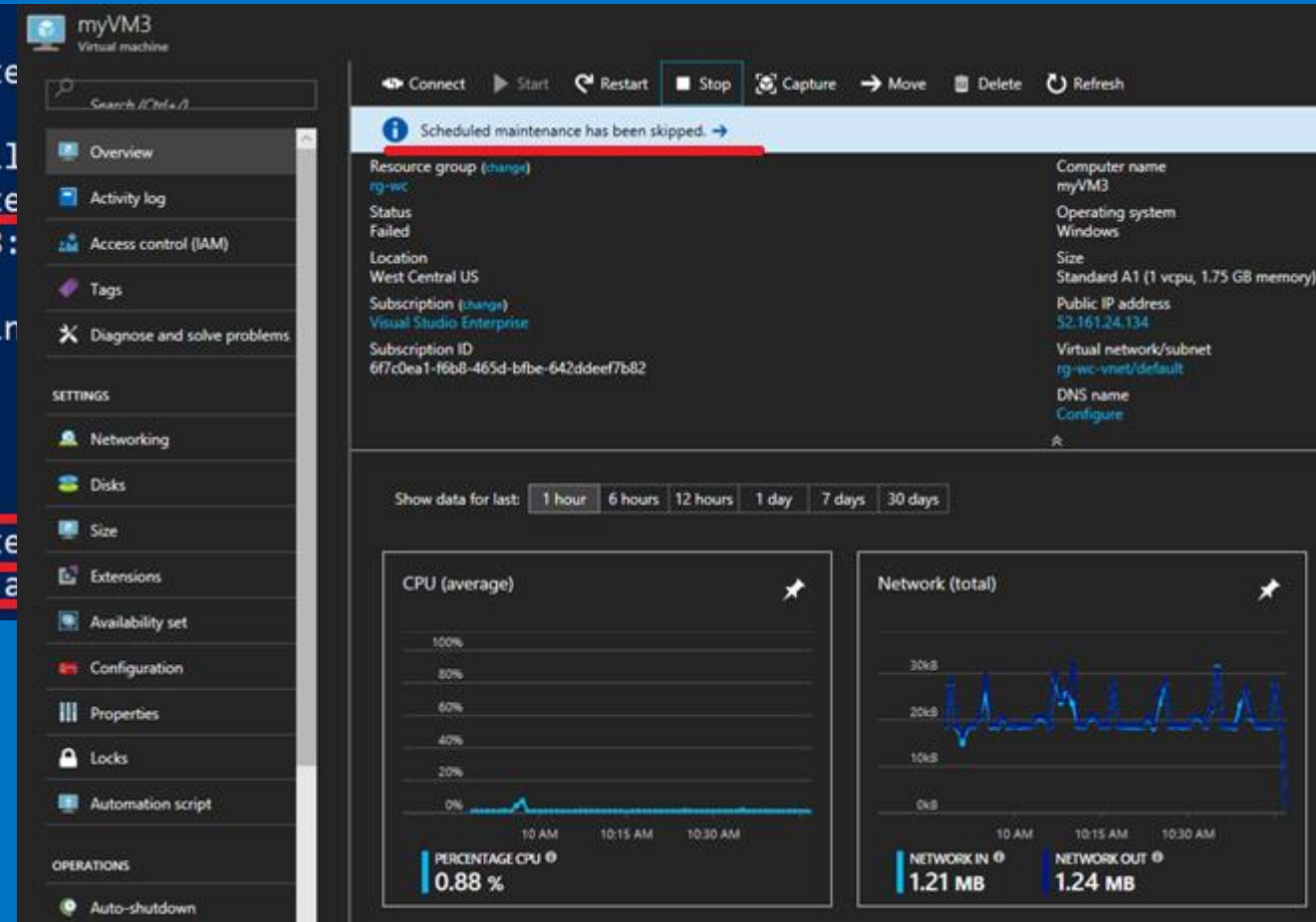
Issue updates

5 Virtual Machines in 1 subscription(s) | [Export to CSV](#)

RESOURCE N...	RESOURCE T...	RESOURCE G...	SUBSCRIPTION	STATUS	PRE-EMPTIVE REDEPLOY
zivpmntsrv...	Virtual Mac...	zivTestRG	979adf7c-32ee-4d...	▶ StartNow	<a href="#">Redeploy</a>
zivpmntsrv...	Virtual Mac...	zivTestRG	979adf7c-32ee-4d...	▶ StartNow	<a href="#">Redeploy</a>
zivpmntsrv...	Virtual Mac...	zivTestRG	979adf7c-32ee-4d...	✅ Completed	
zivpmntsrvSI1	Virtual Mac...	zivTestRG	979adf7c-32ee-4d...	▶ StartNow	<a href="#">Redeploy</a>
zivpmntsrvSI3	Virtual Mac...	zivTestRG	979adf7c-32ee-4d...	▶ StartNow	<a href="#">Redeploy</a>

# Planned Maintenance in Azure

```
Statuses[0]
  Code      : ProvisioningState
  Level     : Error
  DisplayStatus
  Message   : VM 'myVM3' Maintenance
  Time      : 2017-11-06 10:48:
Statuses[1]
  Code      : PowerState/running
  Level     : Info
  DisplayStatus
MaintenanceRedeployStatus
IsCustomerInitiatedMaintenanceAllowed : False
LastOperationResultCode : MaintenanceAborted
LastOperationMessage    : Your VM was not a
```





# Planned Maintenance in Azure

## Demo

# Planned Maintenance in Azure

How to

- UI
- PowerShell

Control



# REFERENCES

- <https://azure.microsoft.com/en-us/blog/a-new-planned-maintenance-experience-for-your-virtual-machines/>
- <https://docs.microsoft.com/en-us/azure/virtual-machines/windows/maintenance-notifications>
- <https://docs.microsoft.com/en-us/azure/virtual-machines/windows/scheduled-events>
- <https://docs.microsoft.com/en-us/azure/virtual-machines/linux/scheduled-events>
- <https://github.com/MicrosoftDocs/azure-docs/blob/master/articles/virtual-machines/windows/instance-metadata-service.md>

Q & A

**Contact email:**



Microsoft