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# Installing PowerShell Core, AzureRM, Az modules

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## 1 INTRODUCTION

Windows PowerShell is a Command-line interface that gives options to set commands instructions to azure subscription in the windows operating system. Windows PowerShell comes installed by default in windows 7, windows server 2008 R2, and other updated versions. Windows PowerShell help to azure PowerShell to interact with Microsoft Azure interface via commands.

Microsoft Azure PowerShell contains a set of modules that provide cmdlets to interact and manage Azure with Windows PowerShell. It helps to build Azure resources like VM, VNet, etc. Microsoft PowerShell is installed on the local computer.

**In this Activity Guide we cover Step-by-Step of:**

- How to check, install Windows PowerShell and Update it.
- How to install Modules in Azure PowerShell
- How to connect to Azure account using Module Az and AzureRM

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## 2 DOCUMENTATION

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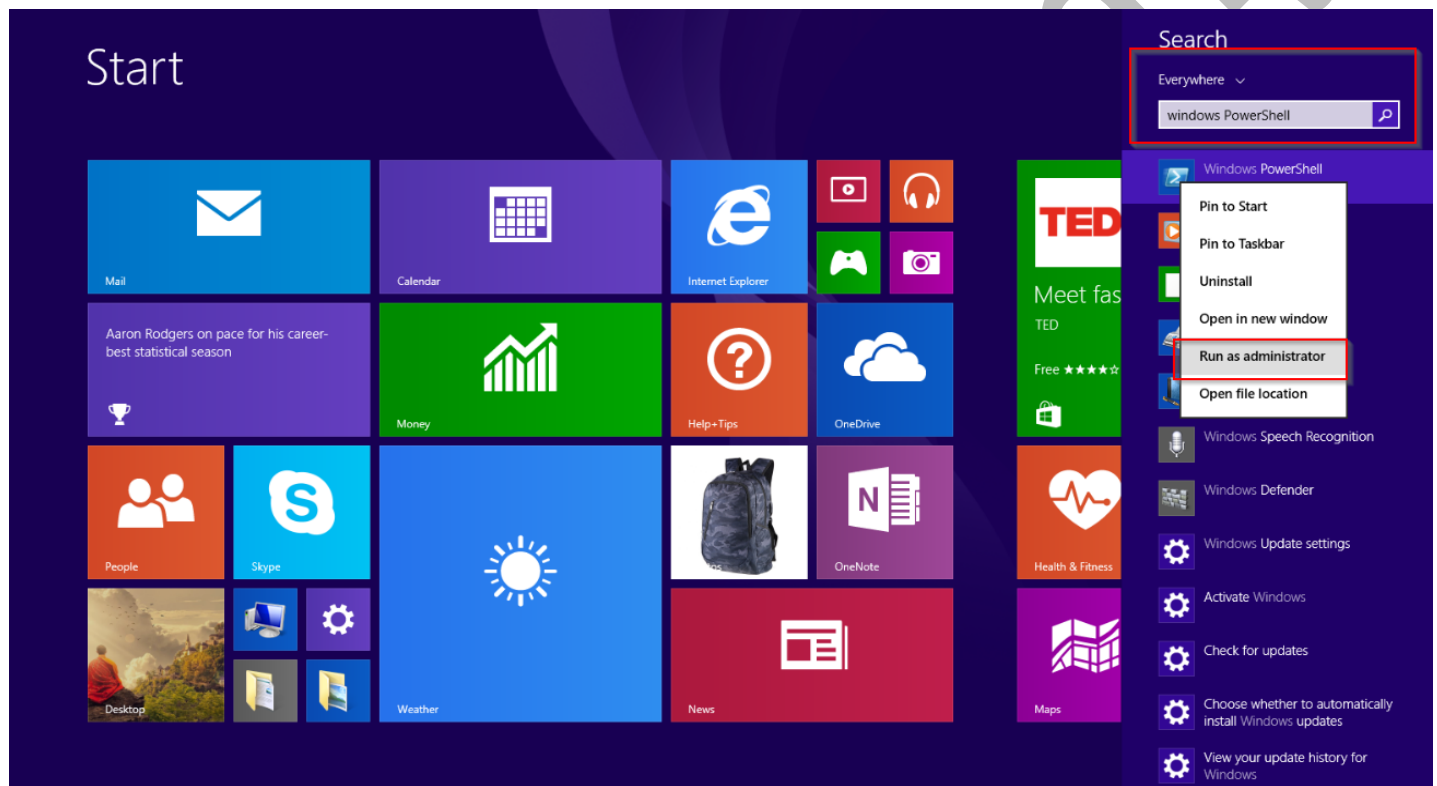
### 2.1 Microsoft Documentation

1. PowerShell Documentation: <https://docs.microsoft.com/en-us/powershell/scripting/windows-powershell/install/installing-windows-powershell?view=powershell-7>
2. Azure docs: <https://docs.microsoft.com/en-us/powershell/azure/?view=azps-3.8.0>

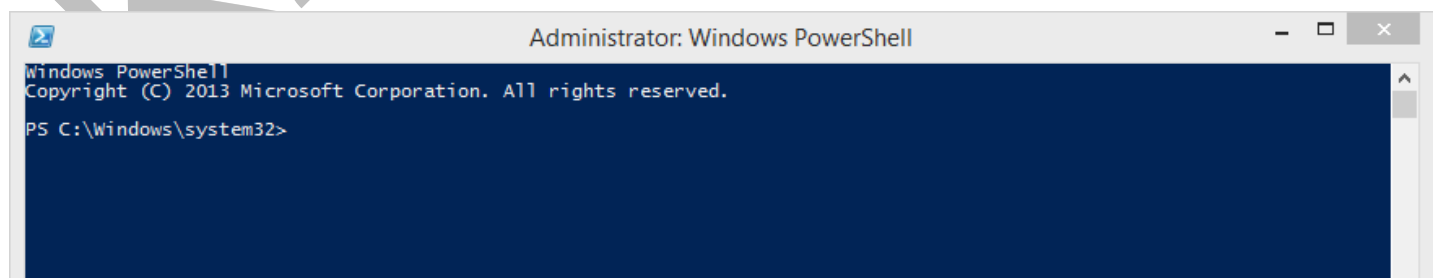
### 3 CHECKING AND INSTALLING WINDOWS POWERSHELL

#### 3.1 Checking PowerShell in the Windows operating system

1. Checking Windows PowerShell in the Windows Operating system. You can check windows PowerShell by click on the search bar and search for **Powershell**. Make sure you open it as **Run as Administrator** by right-clicking



2. It will open a Powershell panel.



## 3.2 Installation Powershell Core (Window PowerShell)

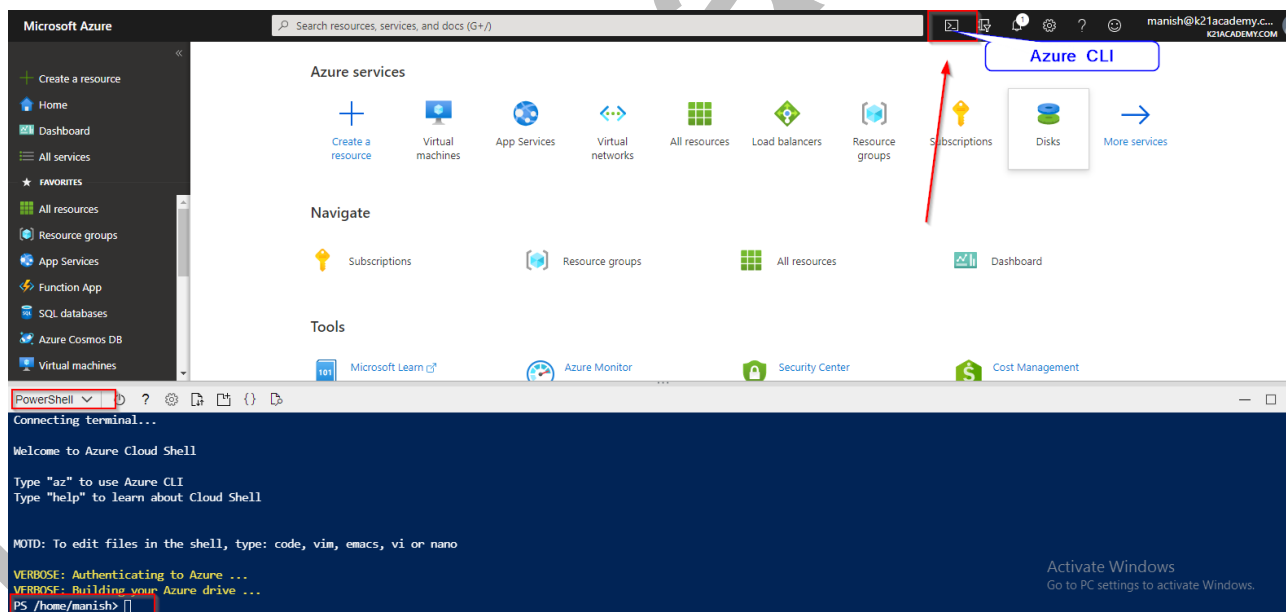
Powershell Core is the new version of Windows PowerShell 6 and higher versions. You can install PowerShell Core in MAC, Linux, and Windows operating systems. This is an open-source tool that is not specific for the windows operating system. This version of PowerShell supported on Windows 7, server 2008, and later versions. The latest release of PowerShell Core is 7.1 edition.

**Note:** On the Windows operating system, Powershell core is separately installed not like default PowerShell.

**Highly Recommended :** This is informed you for better performace and errorless working with Azure , Please install PowerShell Core.

Somewhat if you are not able to install powershell core on system, suppose if your system admin does not permits then please use following options




















- Create A virtual machine (windows 10) on Azure Free trail account. And use powershell there.
- You can use Azure Cli (powershell), you don't need to worry its same as powershell and you don't need to install modules.



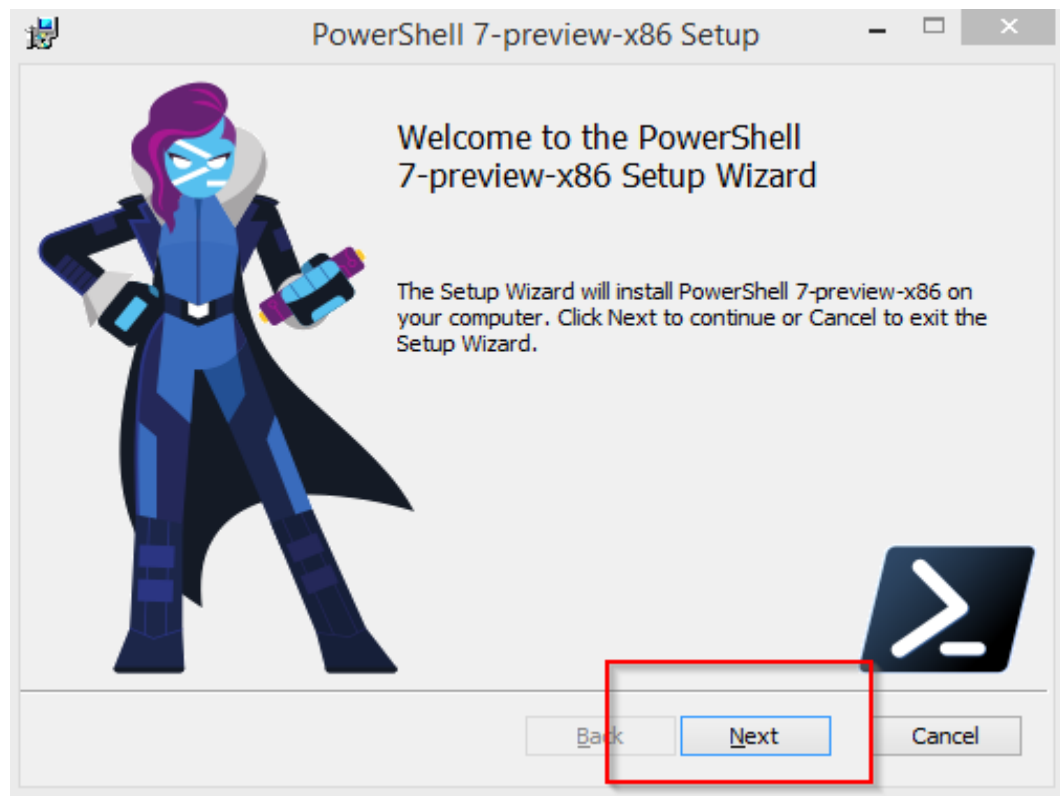
### POwershell guide

1. Download Powershell core(Official):  
<https://github.com/PowerShell/PowerShell/releases/tag/v7.1.0-rc.1>
2. Double click on and download the file:

▼ Assets 22

 powershell-7.1.0-rc.1-linux-alpine-x64.tar.gz	65.2 MB
 powershell-7.1.0-rc.1-linux-arm32.tar.gz	63.3 MB
 powershell-7.1.0-rc.1-linux-arm64.tar.gz	62 MB
 powershell-7.1.0-rc.1-linux-x64-fxdependent.tar.gz	19.6 MB
 powershell-7.1.0-rc.1-linux-x64.tar.gz	66.1 MB
 PowerShell-7.1.0-rc.1-win-arm32.zip	61.2 MB
 PowerShell-7.1.0-rc.1-win-arm64.zip	61.4 MB
 PowerShell-7.1.0-rc.1-win-fxdependent.zip	21.4 MB
 PowerShell-7.1.0-rc.1-win-fxdependentWinDesktop.zip	20.2 MB
 PowerShell-7.1.0-rc.1-win-x64.msi	95.4 MB
 PowerShell-7.1.0-rc.1-win-x64.zip	97 MB
 PowerShell-7.1.0-rc.1-win-x86.msi	86.2 MB
 PowerShell-7.1.0-rc.1-win-x86.zip	87.7 MB
 powershell-preview-7.1.0-rc.1-1.centos.8.x86_64.rpm	65.6 MB
 powershell-preview-7.1.0-rc.1-1.rhel.7.x86_64.rpm	65.6 MB
 powershell-preview_7.1.0-rc.1-1.debian.10_amd64.deb	66.1 MB
 powershell-preview_7.1.0-rc.1-1.debian.11_amd64.deb	66.1 MB
 powershell-preview_7.1.0-rc.1-1.debian.9_amd64.deb	66.1 MB
 powershell-preview_7.1.0-rc.1-1ubuntu16.04_amd64.deb	66.1 MB

3. Double click on the file download and start Installation:

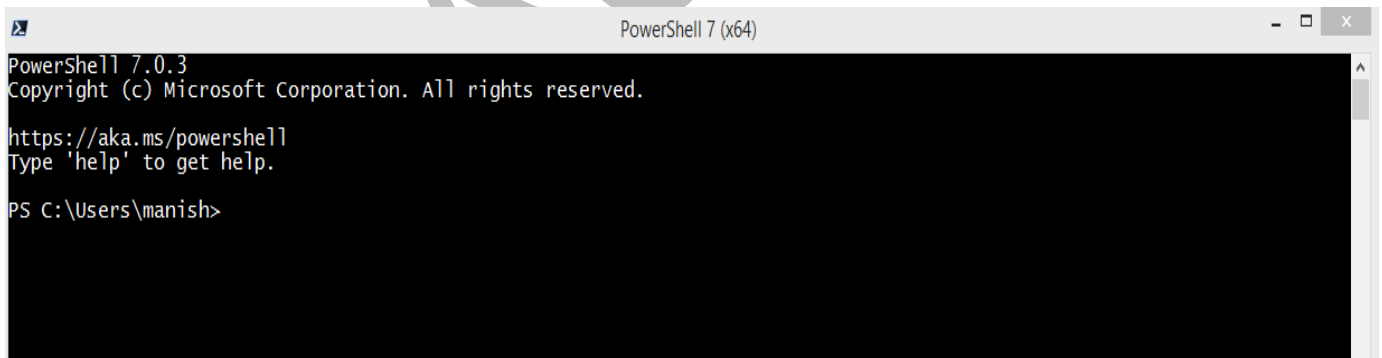


4. Installation is completed and starts by going into the search option.





5. Start menu and shows the following Screen.



## 4 INSTALL AZURE POWERSHELL MODULES

We prefer you to use the latest version of PowerShell because it added the latest functioning in the Modules and if we have Windows Powershell Version 5.1 or later than we have preinstalled Azure PowerShell.

### 4.1 Azure PowerShell

1. Checking Azure Powershell details using the following command

```
$PSVersionTable.PSVersion
```



```
PowerShell 7.0.3
Copyright (c) Microsoft Corporation. All rights reserved.

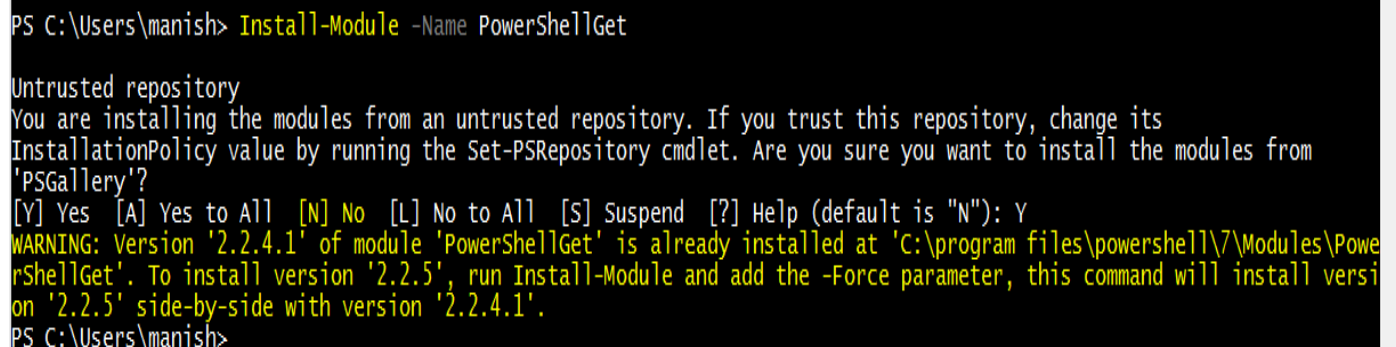
https://aka.ms/powershell
Type 'help' to get help.

PS C:\Users\manish> $PSVersionTable.PSVersion

Major Minor Patch PreReleaseLabel BuildLabel
-----
7      0      3
PS C:\Users\manish>
```

2. Install the latest version of PowershellGet.

```
Install-Module -Name PowerShellGet -Force
```



```
PS C:\Users\manish> Install-Module -Name PowerShellGet

Untrusted repository
You are installing the modules from an untrusted repository. If you trust this repository, change its
InstallationPolicy value by running the Set-PSRepository cmdlet. Are you sure you want to install the modules from
'PSGallery'?
[Y] Yes [A] Yes to All [N] No [L] No to All [S] Suspend [?] Help (default is "N"): Y
WARNING: Version '2.2.4.1' of module 'PowerShellGet' is already installed at 'C:\program files\powershell\7\Modules\PowerShellGet'. To install version '2.2.5', run Install-Module and add the -Force parameter, this command will install version '2.2.5' side-by-side with version '2.2.4.1'.
PS C:\Users\manish>
```

## 4.2 AZ Module vs AzureRM with PowerShell core

The Az PowerShell module is the replacement of AzureRM and is the recommended version to use for interacting with Azure. Azure PowerShell support AZ and AzureRM modules for the connecting to the Azure Infrastructure. AzureRM module is an Old module that is having some issues in it. Microsoft Azure introduced a new module name AZ, which is used for the PowerShell environment with Azure Cloud Shell. Azure Cloud Shell is a browser-based environment where the AZ module enables compatibility.

### 4.2.1 INSTALLATION AND UNINSTALLATION GUIDANCE FOR AZURERM AND AZ MODULE.

1. If you are using PowerShell version 5 or below than AzureRM works perfectly fine but if you moved to the latest version then you have to use the AZ module which was released in 2017.
2. AZ module is replacing the AzureRM and there will be no updates of AzureRM from Microsoft in the future. We strongly recommend using the AZ module while working with PowerShell and Azure.

### 4.2.2 FEATURE OF AZ MODULES

- AZ module is a replacement and Update version of AzureRM and AzureRM.NetCore.
- AZ runs on PowerShell 5.1 and PowerShell core.
- Updated and the latest version in the Azure cloud
- AZ ships in Cloud shell.
- AZ is short and shortens the commands in PowerShell.

### 4.2.3 INSTALLATION OF AZ MODULE AND REMOVING THE MODULE AZURERM:

1. Checking Version of AzureRM module

```
Get-InstalledModule -Name AzureRM -AllVersions
```

**Note: If you face any policy related like the following**

```
PS C:\WINDOWS\system32> Import-Module Az.Accounts
Import-Module : File C:\Users\Walter White\Documents\WindowsPowerShell\Modules\Az.Accounts\2.2.1\Az.Accounts.psm1
cannot be loaded because running scripts is disabled on this system. For more information, see
about_Execution_Policies at https://go.microsoft.com/fwlink/?LinkID=135170.
At line:1 char:1
+ Import-Module Az.Accounts
+ ~~~~~
+ CategoryInfo          : SecurityError: (:) [Import-Module], PSSecurityException
+ FullyQualifiedErrorId : UnauthorizedAccess,Microsoft.PowerShell.Commands.ImportModuleCommand
PS C:\WINDOWS\system32>
```

### Run this command for policy error solution

```
PS c:\> Set-ExecutionPolicy RemoteSigned
```

## 2. Uninstalling the AzureRM module

Uninstall-AzureRm

### 3. Installation of Azure PowerShell Az module

## Install-Module Az

```
PS C:\Users\manish> Install-Module AZ
Untrusted repository
You are installing the modules from an untrusted repository. If you trust this repository, change its
InstallationPolicy value by running the Set-PSRepository cmdlet. Are you sure you want to install the modules from
'PSGallery'?
[Y] Yes [A] Yes to All [N] No [L] No to All [S] Suspend [?] Help (default is "N"): Y
PS C:\Users\manish>
```

```
PowerShell 7.0.3
Copyright (c) Microsoft Corporation. All rights reserved.

Installing package 'Az'
  Installing dependent package 'Az.Network'
  [ooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooooo]
  Installing package 'Az.Network'
  Downloaded 0.81 MB out of 1.97 MB.
  [ooooooooooooooooooooooooooooooooooooo]

Untrusted repository
You are installing the modules from an untrusted repository. If you trust this repository, change its
InstallationPolicy value by running the Set-PSRepository cmdlet. Are you sure you want to install the modules from
'PSGallery'?
[Y] Yes  [A] Yes to All  [N] No  [L] No to All  [S] Suspend  [?] Help (default is "N"): Y
```

#### 4.2.4 LOGIN INTO THE AZURE ACCOUNT USING AZ MODULE

## Step 1: Open PowerShell and start typing

```
PS C:\Users\manish>
```

Step 2: To login into the Microsoft azure Account use the following command:

```
Connect-AzAccount
```

You will redirect to the browser and connect to it with a connection setup.

```
PS C:\Users\manish> Connect-AzAccount
```

Account	SubscriptionName	TenantId	Environment
manish@k21academy.com	Microsoft Partner Network	[REDACTED]	AzureCloud

```
PS C:\Users\manish>
```

### 4.3 Basic Commands AzureRM VS AZ Module

These are the following commands which can be used in the AzureRM module mostly now it replaced by AZ with commands as well.

<u>AzureRM Module Name</u>	<u>Az Module Name</u>
<u>AzureRM</u>	<u>Az</u>
<u>Azure.AnalysisServices</u>	<u>Az.AnalysisServices</u>
<u>Azure.Storage</u>	<u>Az.Storage</u>
<u>AzureRM.Aks</u>	<u>Az.Aks</u>
<u>AzureRM.AnalysisServices</u>	<u>Az.AnalysisServices</u>
<u>AzureRM.ApiManagement</u>	<u>Az.ApiManagement</u>
<u>AzureRM.ApplicationInsights</u>	<u>Az.ApplicationInsights*</u>
<u>AzureRM.Automation</u>	<u>Az.Automation</u>

## 5 TROUBLESHOOTING

In this section, we are going to add the troubleshooting done in the previous students and error present, resolution.

### 1. Issue: Command not working

```
PS C:\Program Files\PowerShell\7-preview> $PSVersionTable.PSVersion
Major Minor Patch PreReleaseLabel BuildLabel
-----
7 1 0 rc.1
```

```
PS C:\Program Files\PowerShell\7-preview> Get-InstalledModule -Name AzureRM -
AllVersions
```

AllVersions	Version	Name	Repository	Description
-----	6.13.1	AzureRM	PSGallery	Azure Resource Manager Module

```
PS C:\Program Files\PowerShell\7-preview> New-AzResourceGroup -Name rkhome_rg1 -Location EastUS
New-AzResourceGroup: The term 'New-AzResourceGroup' is not recognized as a name of a cmdlet, function, script file, or executable program.
Check the spelling of the name, or if a path was included, verify that the path is correct and try again.
```

Please check the installation Module is AzureRM and accessing command is from Az Module. So, make sure it will not work with different module's command. AzureRM is old module and Az module is the fully new and short commands for accessing Azure.

### 2. PowerShell Get Error

WARNING: The version '1.4.6' of module 'PackageManagement' is currently in use.  
Retry the operation after closing the applications

It's just a warning message which prompts you the version of package management and PowerShell get. Both modules installed recently and are working.

We can check using # Get-Modules to check all the versions and Modules installed. This warning message will not go on to cause any issues in further configuration.

```
PS C:\Users\manish> Install-Module -Name PowerShellGet -Repository PSGallery -Force
>>
>>
WARNING: The version '1.4.7' of module 'PackageManagement' is currently in use. Retri
plications.
PS C:\Users\manish>
```

### 3. Command issues

Its recommended not to use any special signs or any " in the beginning or ending of the command. This may cause you to not running the commands.

```
PS C:\Users\manish> "  
>>  
>> Install-Module -Name PowershellGet -Force
```



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## 6 SUMMARY

In this activity Guide we learned:

- How to check, install Windows PowerShell and Update it.
- How to install Modules in Azure PowerShell.
- How to connect to Azure account using Module Az and AzureRM? And Basic Commands of AzureRM VS AZ.