

AZURE BOOT DIAGNOSTIC AND RUN COMMAND FOR WINDOWS VIRTUAL MACHINE

😊 I want to showcase the use of the Boot Diagnostics feature that's available with Azure Virtual Machines. This is a feature that is automatically enabled when you deploy a VM while the wizard in the Azure portal. Now what this feature actually does is it allows you to get diagnostics about the VM during the boot time. So, when the VM is booted up, if there are any sort of failures, it helps you to diagnose those failures because boot diagnostics will actually take the state of the beam has it is boarding up and it will collect and give you that serial log information and screenshots.

😊 **Boot diagnostics is a debugging feature for Azure virtual machines (VM) that allows diagnosis of VM boot failures. Boot diagnostics enables a user to observe the state of their VM as it is booting up by collecting serial log information and screenshots**

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👀 TO BEGIN WITH THE LAB

STEP 1: BOOT DIAGNOSTICS

1. Log in to Azure Portal.
2. There you need to navigate to create resources page.
3. There you are going to create a Windows Virtual Machine.
4. Do not forget to add HTTP (80) to the inbound ports.
5. Now simply jump to review page and create your virtual machine.
6. Wait for the deployment
7. Once the deployment is done go to resources page.

Create a virtual machine

Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription *	<input type="text" value="Free Trial"/>
Resource group *	<input type="text" value="app-grp"/> Create new

Instance details

Virtual machine name *	<input type="text" value="WindowsVm2"/> ✓
Region *	<input type="text" value="(Asia Pacific) Central India"/> ✓
Availability options	<input type="text" value="No infrastructure redundancy required"/> ✓
Security type	<input type="text" value="Standard"/> ✓
Image *	<input type="text" value="Windows Server 2022 Datacenter - x64 Gen2 (free services eligible)"/> ✓
See all images Configure VM generation	
 This image is compatible with additional security features. Click here to swap to the Trusted launch security type.	

VM architecture ⓘ

<input type="radio"/> Arm64
<input checked="" type="radio"/> x64

 Arm64 is not supported with the selected image.

Run with Azure Spot discount ⓘ

Size * ⓘ

<input type="text" value="Standard_B1s - 1 vcpu, 1 GiB memory (₹871.42/month) (free services eligible)"/> ✓
See all sizes

Enable Hibernation (preview) ⓘ

 To enable Hibernation, you must register your subscription. [Learn more](#) 

Administrator account

Username *	<input type="text" value="demouser"/> ✓
Password *	<input type="text" value="*****"/> ✓
Confirm password *	<input type="text" value="*****"/> ✓

Inbound port rules

Select which virtual machine network ports are accessible from the public internet. You can specify more limited or granular network access on the Networking tab.

Public inbound ports * ⓘ

- None
 Allow selected ports

Select inbound ports *

HTTP (80), RDP (3389)



i All traffic from the internet will be blocked by default. You will be able to change inbound port rules in the VM > Networking page.

Review + create

< Previous

Next : Disks >

✓ Your deployment is complete



Deployment name: CreateVm-MicrosoftWindowsServer.WindowsSe... Start time: 12/27/2023, 10:44:40 AM
Subscription: Free Trial Correlation ID: 47dd3a00-6254-47af-a794-67c00166ae8c

∨ Deployment details

∧ Next steps

Setup auto-shutdown Recommended

Monitor VM health, performance and network dependencies Recommended

Run a script inside the virtual machine Recommended

Go to resource

Create another VM

8. Now on the left-hand side of the screen you have so many options to play with but for the time being scroll down to the bottom. There you will see a help section.
9. Under the help section, there is an option for boot diagnostics. Open it.

Help

Resource health

Boot diagnostics

Serial console

Reset password

Connection troubleshoot

Performance diagnostics

VM Inspector (Preview)

Redeploy + reapply

Support + Troubleshooting

10. When you'll open boot diagnostics, you'll see the booting page of virtual machine, which means that your machine has successfully booted up.
11. You can also see the serial logs of the machine.

Home > CreateVm-MicrosoftWindowsServer.WindowsServer-202-20231227104331 | Overview > appvm

appvm | Boot diagnostics Virtual machine

Operations

- Auto-shutdown
- Run command
- Updates
- Health monitoring
- Configuration management
- Policies
- Inventory
- Change tracking

Monitoring

- Insights
- Alerts
- Metrics
- Diagnostic settings
- Logs
- Connection monitor (classic)
- Workbooks

Automation

- Tasks (preview)
- Export template

Refresh Settings Troubleshoot

Screenshot Serial log

Updated: Wednesday, December 27, 2023 at 5:30:53 AM UTC [Download screenshot](#)

Press Ctrl+Alt+Delete to unlock.

5:30
Wednesday, December 27

STEP 2: RUN COMMAND

1. There are options within the run command to execute scripts without login into the VM itself.
2. Assume you wish to deploy internet information services, as we've seen many methods. The first step was to get onto the machine and then install Internet information services.
3. We saw an automated approach in which you could use custom script extensions, but even after the VM is running, if you haven't used custom script extensions and don't want to log into the VM itself and still want to install Internet information services, you can do so using the run command, which allows you to run various types of scripts. If I chose to run a PowerShell script at this location.
4. When it comes to implementing Internet information services and custom script extensions, we employed this PowerShell script early on. I may use the run command to execute the same script again. As I previously stated, we have not put anything on the machine for this VM. As a result, we did not use any custom script extensions. But now I want to install internet information services on the system itself by running the script remotely.

5. So, on the same virtual machine, if you scroll up the left side a little then in the operation section you will see an option as Run Command. Click on it.

Operations

-  Auto-shutdown
-  Run command
-  Updates
-  Health monitoring
-  Configuration management
-  Policies
-  Inventory
-  Change tracking

6. In the run command you will see multiple options to choose from.

 Now it's possible to execute multiple scripts at the same time, manage their progress and persist execution outputs. Scripts and parameters can now be used in ARM templates to automate deployment. Learn more about the updated Run Command feature, now available through Azure CLI and PowerShell. →

Run Command uses the VM agent to let you run a script inside this virtual machine. This can be helpful for troubleshooting and recovery, and for general machine and application maintenance. Select a command below to see details.

[Learn more](#) [Run Command](#) [Provide feedback](#)

Name	Description
RunPowerShellScript	Executes a PowerShell script
DisableNLA	Disable Network Level Authentication
DisableWindowsUpdate	Disable Windows Update Automatic Updates
EnableAdminAccount	Enable administrator account
EnableEMS	Enable EMS
EnableRemotePS	Enable remote PowerShell
EnableWindowsUpdate	Enable Windows Update Automatic Updates
IPConfig	List IP configuration
RDPSettings	Verify RDP Listener Settings
ResetRDPCert	Restore RDP Authentication mode to defaults
SetRDPPort	Set Remote Desktop port

7. You need to click on **RunPowerShellScript** and paste this line of code.

```
import-module servermanager  
add-windowsfeature web-server -includeallsubfeature
```

8. Then you need to paste the above script and run it.

Run Command Script

X

RunPowerShellScript

PowerShell Script

```
1 import-module servermanager
2 add-windowsfeature web-server -includeallsubfeature|
```

Run

9. Wait till the execution is complete.
10. Once the execution is completed, you'll get an output.

Output

Success	Restart Needed	Exit Code	Feature Result
True	No	Success	{ASP.NET 4.8, .NET Framework 3.5 (includes...

11. Now you need to copy the public IP address of the virtual machine and paste it in a new tab.
12. You can see that the web server is successfully installed on the virtual machine.



Internet Information Services

Welcome

Bienvenue

Tervetuloa

ようこそ

Benvenuto

歡迎

Bem-vindo



Bienvenido

Hos geldiniz

ברוכים הבאים

Welkom

Microsoft

Vitejte

Καλώς
ορίσατε

Välkommen



Добро
пожаловать

مرحبا

欢迎

Witamy

Üdvözöljük