

Project : Auto-Healing Infrastructure

STEP 1: Create Resource Group

1. Azure Portal > **Resource Groups**
2. Click **Create**
3. Name: rg-auto-healing-sre
4. Region: Central India (or nearest)
5. Click **Create**

Or

Go to Azure Cloud-Shell > Powershell

Write a script:

New-AzResourceGroup -Name YourResourceGroupName -Location YourLocation
Snapshot for reference:

```
PS /home/arunesh> New-AzResourceGroup -Name rg-auto-healing-sre -Location CentralIndia

ResourceGroupName : rg-auto-healing-sre
Location           : centralindia
ProvisioningState  : Succeeded
Tags               :
ResourceId         : /subscriptions/41d0bf62-f847-44dd-b99b-860776425a5d/resourceGroups/rg-auto-healing-sre
```

STEP 2: Create Virtual Machine (Problem Target)

1. Azure Portal > **Virtual Machines**
2. Click **Create** > **Azure Virtual Machine**
3. Settings:
 - Name: vm-autoheal-01
 - Image: Ubuntu 24.04 LTS
 - Size: Standard B2as v2
 - Authentication: Password or SSH
4. Networking > keep defaults
5. Click **Create**.

Once Vm deployed you will see messages below like this:

[More events in the activity log →](#)

[Dismiss all](#) ▼

✓ **Deployment succeeded** ✕


Deployment 'CreateVm-canonical.ubuntu-24_04-lts-server-20260214172132' to resource group 'rg-auto-healing-sre' was successful.













[Go to resource](#)

[Pin to dashboard](#)

8 minutes ago

Below Snapshot for the reference:

 Help me copy this VM in any region

 Connect  Start  Restart  Stop  Hibernate  Capture  Delete  Refresh  Scale  Open in mobile  Feedback  CLI / PS

^ Essentials

Resource group [\(move\)](#) : [rg-auto-healing-sre](#)

Status : Running

Location : Central India (Zone 1)

Subscription [\(move\)](#) : [Azure subscription 1](#)

Subscription ID : 41d0bf62-f847-44dd-b99b-860776425a5d

Availability zone : 1

Operating system : Linux (ubuntu 24.04)

Size : Standard B2as v2 (2 vcpus, 8 GiB memory)

Primary NIC public IP : [98.70.33.142](#)
[1 associated public IPs](#)

Virtual network/subnet : [vnet-centralindia/snet-centralindia-1](#)

DNS name : [Not configured](#)

Health state : -


Time created : 2/14/2026, 11:57 AM UTC






Tags [\(edit\)](#) : [Add tags](#)

STEP 3: Enable Monitoring

1. Open VM > **Monitoring** > **Insights** > **Monitor Settings**
2. Click **Enable**
3. Create **Log Analytics Workspace**
 - Name: vm-autoheal-01
4. Enable

Home > vm-autoheal-01

 **vm-autoheal-01** | Insights ☆ ...
Virtual machine

 Refresh  Resource Group  **Azure Monitor**  Diagnose And Solve Problems  Monitor Settings

Time range: Last 6 hours

Overview

Map

VM availability ⓘ

Available

Azure outages ⓘ

No outages

Health events ⓘ

5 events

Metrics

✓ CPU / Availability / Memory

Availability ⓘ

0.9

CPU Utilization % ⓘ

90 %

STEP 4: Create Automation Account (Auto-Fix Engine)

1. Azure Portal > **Automation Accounts**
2. Click **Create**
3. Name: aa-autoheal-sre
4. Enable **System Assigned Managed Identity**
5. Create

Home > Automation Accounts

Create an Automation Account ...

Basics Advanced Networking Tags Review + Create

Create an Automation Account to hold the Automation runbooks & configuration used for automating operations and management tasks around Azure and non-Azure resources. You could execute cloud jobs in a serverless environment or use hybrid jobs on your compute via Azure Virtual machines, Arc-enabled servers or Arc-enabled VMWare VM (preview). [Learn more](#)

Subscription * ⓘ

Azure subscription 1

Resource group * ⓘ

rg-auto-healing-sre

[Create new](#)

Instance Details

Automation account name * ⓘ

aa-autoheal-sre ✓

Region * ⓘ

Central India

Basics

Advanced

Networking

Tags

Review + Create

Managed Identities

Use Managed Identities as the recommended method for authenticating with Azure. Managed identity would be more secure than Runas account since it doesn't require a password. [more](#)

System assigned



User assigned



✓ Validation passed

Basics Advanced Networking Tags Review + Create

Basics

Name	aa-autoheal-sre
Subscription	Azure subscription 1
Resource group	rg-auto-healing-sre
Region	Central India


Advanced


System assigned identity	Yes
User assigned identity	None

Networking

Network connectivity	Public access
----------------------	---------------

Once created you will see like this:

 Control your job execution environment, manage packages easily and update the runtime version of your runbooks using Runtime environment. [Learn more](#)

 Azure Automation is revising the service and subscription limits starting 13 January 2025 to ensure fair share of cloud resources for all users. [Learn more](#)

^ Essentials

Resource group (move)	: rg-auto-healing-sre	Subscription ID	: 41d0bf62-f847-44dd-b99b-860776425a5d
Location	: East US	Status	: Active
Subscription (move)	: Azure subscription 1	Last modified	: 2/14/2026, 17:51:44
Tags (edit)	: Add tags		

[Get started](#) Monitoring What's new Tutorials

STEP 5: Give Automation Permission (CRITICAL)

1. Go to VM > **Access Control (IAM)**

2. Add role assignment
3. Role: **Virtual Machine Contributor**
4. Assign to: aa-autoheal-sre
5. Save.

Snapshot for the reference:

Home > Compute infrastructure | Virtual machines > vm-autoheal-01 | Access control (IAM)

Add role assignment

Role

Members

Conditions

Review + assign

Selected role

Virtual Machine Contributor

Assign access to

☐ User, group, or service principal

☒ Managed identity

Members

+ Select members

Name	Object ID	Type	
aa-autoheal-sre	e0fefca3-fc75-4c5b-a7a4-7f19531e9d50	Automation Account ⓘ	

Description

Optional

Review + assign

Previous

Next

Home > Compute infrastructure | Virtual machines > vm-autoheal-01 | Access control (IAM)

Add role assignment

Role

Members

Conditions

Review + assign

Role

Virtual Machine Contributor

Scope

/subscriptions/41d0bf62-f847-44dd-b99b-860776425a5d/resourceGroups/rg-auto-healing-sre/providers/microsoft.compute/virtualMachines/vm-autoheal-01

Members

Name	Object ID	Type
aa-autoheal-sre	e0fefca3-fc75-4c5b-a7a4-7f19531e9d50	Automation Account ⓘ

Description

Granted VM restart permissions to Automation Account.

```
param (
    [string] $ResourceGroupName = "rg-auto-healing-sre",
    [string] $VMName = "vm-autoheal-01"
)
```

Connect-AzAccount -Identity

Restart-AzVM -ResourceGroupName \$ResourceGroupName -Name \$VMName

1. Save > Publish

STEP 7: Create Alert Rule

1. Azure Monitor > **Alerts > Create**
2. Scope: vm-autoheal-01

3. Condition:
 - Metric: CPU Percentage
 - Operator: Greater than
 - Threshold: 80
 - Duration: 5 minutes
4. Action Group > **Create New**

STEP 7.4: Action Group

In **Actions** section:

Click **Create new action group**

Creating Action Group (Inside Alert Setup)

Action Group Name: ag-autoheal

Display Name: AutoHeal

Actions Tab

1. Click + **Add action**
2. Action type: **Automation Runbook**
3. Select:
 - Subscription: your subscription
 - Automation Account: aa-autoheal-sre
 - Runbook: Restart-VM-Runbook
4. Leave parameters default
5. Click **OK**

Review + Create Action Group

Click **Review + Create**

STEP 7.5: Finalize Alert Rule

Back on Alert Rule page:

Alert Rule Name: cpu-high-autoheal

Severity: Sev 2

Click **Create alert rule**

Create an alert rule ...


Signal name * ⓘ

 Percentage CPU

 ▼

[See all signals](#)

Alert logic

 We have set the condition configuration automatically based on popular settings for this metric. Please review and make changes as needed.

Threshold type ⓘ ☒ Static ☐ Dynamic


Aggregation type ⓘ

Average ▼

Value is ⓘ

Greater than ▼

Threshold * ⓘ

50 

 %

When to evaluate

Check every ⓘ

1 minute ▼

Lookback period ⓘ

5 minutes ▼

Review + create

Previous


Next: Actions >

Create an alert rule ...

Scope Condition Actions Details Tags Review + create

An action group is a set of actions that can be applied to an alert rule. [Learn more](#)

[+ Select action groups](#) [+ Create action group](#)

Action group name	Contains actions	
ag-autoheal	1 Automation Runbook	

Create action group ...

Basics Notifications Actions Tags **Review + create**

This is a summary of your action group. Please review to ensure the information is correct and consider [Azure Monitoring Pricing](#) and the [Azure Privacy Statement](#).

Basics

Subscription Azure subscription 1
 Resource group rg-auto-healing-sre
 Region global
 Action group name ag-autoheal
 Display name AutoHeal

Notifications

None

Actions

Action type	Name	Selected	Identity
Automation Runbook	restart-vm-autoheal	Restart-VM-Runbook	None

Create

Previous

Scope Condition Actions **Details** Tags Review + create

Project details

Select the subscription and resource group in which to save the alert rule.

Subscription * ⓘ Azure subscription 1
 Resource group * ⓘ rg-auto-healing-sre
[Create new](#)

Alert rule details

Severity * ⓘ 2 - Warning
 Alert rule name * ⓘ cpu-high-autoheal
 Alert rule description ⓘ

Advanced options

Review + create

Previous

Next: Tags >

STEP 8: Test Incident

OPTION 1: SSH FROM AZURE PORTAL

vm-autoheal-01 | Connect

Virtual machine

Search

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Resource visualizer

Connect

Connect

Bastion

Networking

Settings

Availability + scale

Security

Backup + disaster recovery

Operations

Monitoring

Now view, configure, and even save your connection settings — all in one place. Have comments or suggestions for our new Connect experience? [Provide feedback](#)

Refresh Reset password or keys Manage JIT Troubleshoot Feedback

Native SSH

MOST POPULAR LOCAL MACHINE

Source machine

Source machine OS Windows

Source IP address Local IP 182.69.181.176 [Connecting over a VPN?](#)

Destination VM

VM IP address Public IP | 98.70.33.142

VM port 22

Connection prerequisites

VM access ☐ Check inbound NSG rules

Check access

SSH command

Execute in your choice of local shell

ssh azureuser@98.70.33.142

Forgot password? [Reset password](#)

You are seeing this line:

```
ssh azureuser@98.70.33.142
```

Option A

1. **Copy** the SSH command shown
2. Open **Bash in your azure portal**
3. Paste and run:
`ssh azureuser@98.70.33.142`

1. Type **yes** > Enter
 2. Enter your VM password (you won't see typing, that's normal)
- If successful, you'll see something like:

```
Individual files in /usr/share/doc/*/*copyright.  
  
Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by  
applicable law.  
  
To run a command as administrator (user "root"), use "sudo <command>".  
See "man sudo_root" for details.  
  
azureuser@vm-autoheal-01:~$
```

STEP 9: INSTALL STRESS TOOL (Inside VM)

Now run these commands **inside the VM**:

Sudo apt update
Sudo apt install stress -y

Once stress app install run this command:
stress --cpu 2 --timeout 300

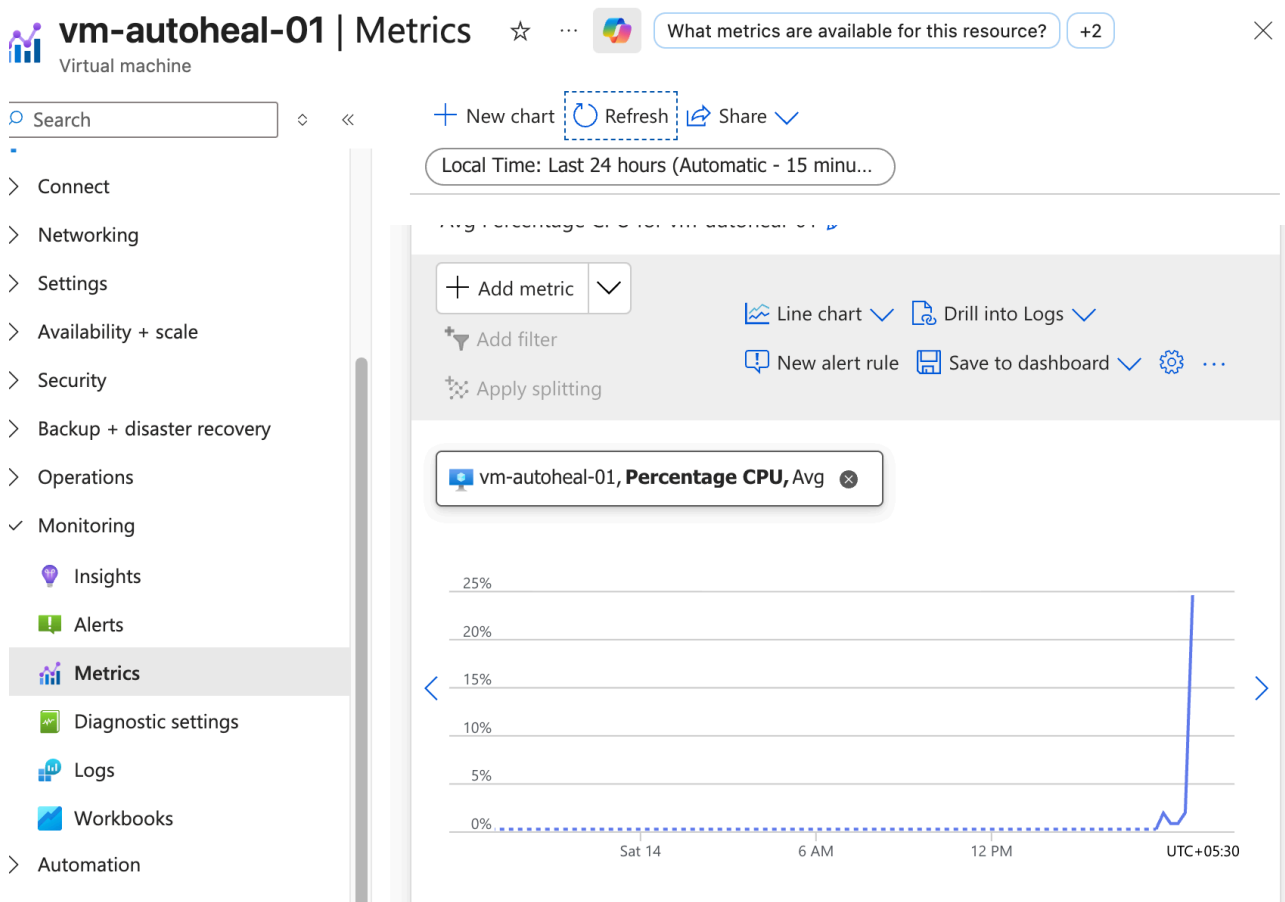
NOW DO THESE CHECKS :

WAIT 2-3 MINUTES

Azure metrics + alerts are **not instant**.
Do **not** stop the stress command.

Check CPU Metric

Azure Portal > VM > Monitoring > Metrics



Set:

- **Metric:** CPU Percentage
- **Time range:** Last 30 minutes
- **Aggregation:** Average

You should see CPU go **above 80%**

Check Alert Status

Azure Portal > Monitor > Alerts

You should see:

- Alert status: **Fired**
- Severity: whatever you set (Sev 2 / Sev 3)

The screenshot shows the Azure Portal interface for the 'vm-autoheal-01' virtual machine. The left sidebar contains navigation options like Connect, Networking, Settings, Availability + scale, Security, Backup + disaster recovery, Operations, Monitoring, Insights, Alerts, Metrics, Diagnostic settings, Logs, Workbooks, Automation, and Help. The 'Alerts' section is selected, showing a list of alerts for 'cpu-high-autoheal'. The alert is listed with a severity of '2 - Warning'. The main pane displays the details for this alert, including a 'Summary' tab and a 'History' tab. The 'General details' section shows the alert was fired on 2/14/2026 at 7:00 PM. The 'Why did this alert fire?' section explains that the average Percentage CPU crossed the threshold of 50% and reached 52.11%. A line graph shows the CPU usage over time, with a red vertical line indicating the alert firing point.

Check Runbook Execution

Automation Account > Runbooks > Restart-VM-Runbook > Jobs

Expected:

- Status: **Running > Completed**
- No red **✗** errors

The screenshot shows the Azure Portal interface for the 'Restart-VM-Runbook' job. The top navigation bar shows the path: Home > Automation Accounts > aa-autoheal-sre | Runbooks > Restart-VM-Runbook (aa-autoheal-sre/Restart-VM-Runbook). The main pane displays the job details for 'Restart-VM-Runbook 2/14/2026, 19:05'. The job status is 'Completed'. The 'Essentials' section shows the job ID, status, and other details. The 'Input' tab is selected, showing a table with columns for Name and Value. The table is empty, indicating no parameters were supplied for this job.

Confirm VM Restart

Any one of these means success:

- SSH disconnects suddenly
- VM > Overview > **Restarting**
- VM uptime resets
- You cannot SSH for 1–2 minutes

