Placement Empowerment Program

Cloud Computing and DevOps Centre

Set Up a Cloud-Based Monitoring Service

Enable basic cloud monitoring (e.g., CloudWatch on AWS). View metrics like CPU usage and disk I/O for your cloud VM

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INTRODUCTION

Cloud-based monitoring is essential for tracking the performance, health, and availability of cloud resources. In Microsoft Azure, **Azure Monitor** is a powerful service that enables real-time insights into virtual machines (VMs), applications, and infrastructure. By enabling monitoring, users can view key metrics such as CPU usage, disk I/O, and network activity, helping them maintain optimal system performance.

OBJECTIVES

The primary objectives of this setup include:

- Enabling **Azure Monitor** for real-time metric tracking.
- Viewing key performance indicators such as **CPU usage**, **disk I/O**, and **network traffic**.
- Setting up **alerts** to notify administrators of potential issues.
- Enhancing **visibility and troubleshooting** for Azure VMs.

OVERVIEW

Azure Monitor collects and analyzes telemetry data from various cloud resources, providing a centralized view of performance. This service includes **Azure Metrics**, **Azure Logs**, and **Alerts**, which enable proactive troubleshooting and automation. For

virtual machines, **Azure Monitor Insights** provides a deeper analysis of system health and resource utilization.

IMPORTANCE

Monitoring cloud resources is crucial for:

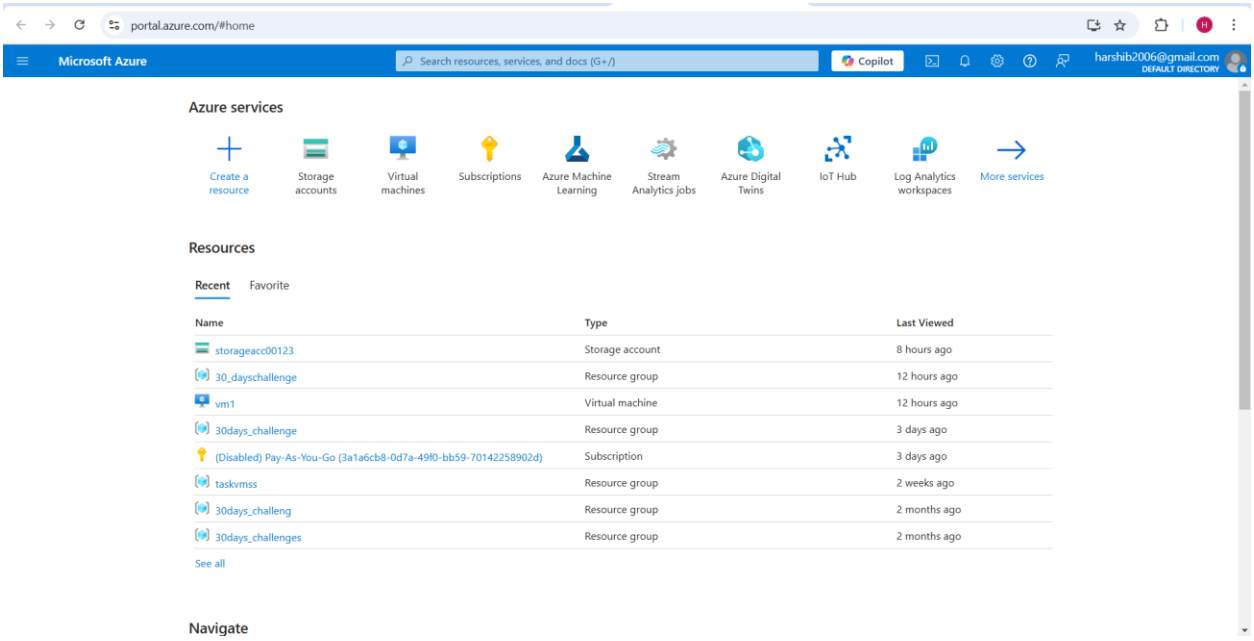
- **Performance Optimization**: Ensures that VMs run efficiently without excessive resource usage.
- **Cost Management**: Helps identify underutilized resources to reduce expenses.
- **Security & Compliance**: Detects unusual activity that may indicate security threats.
- **Proactive Issue Resolution**: Alerts enable quick responses before minor issues escalate.

STEP-BY-STEP OVERVIEW

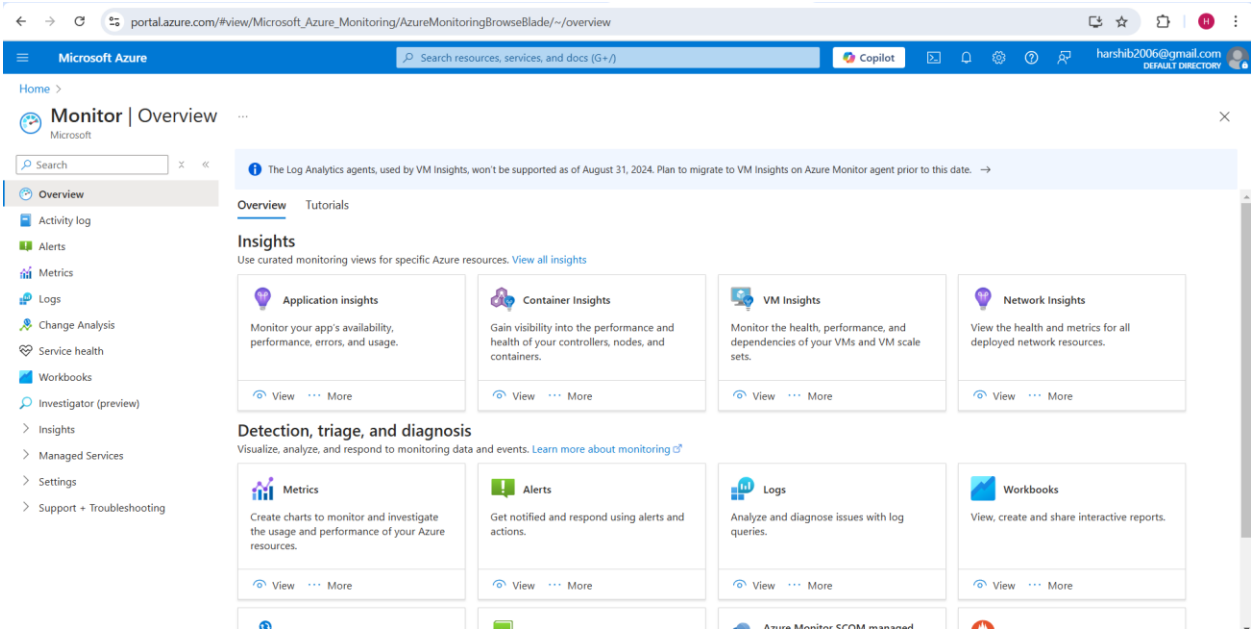
In Azure, you can set up a cloud-based monitoring service using **Azure Monitor** to track metrics like CPU usage and disk I/O for your cloud Virtual Machines (VMs). Here's how you can enable basic monitoring:

Step 1: Enable Monitoring in Azure Monitor

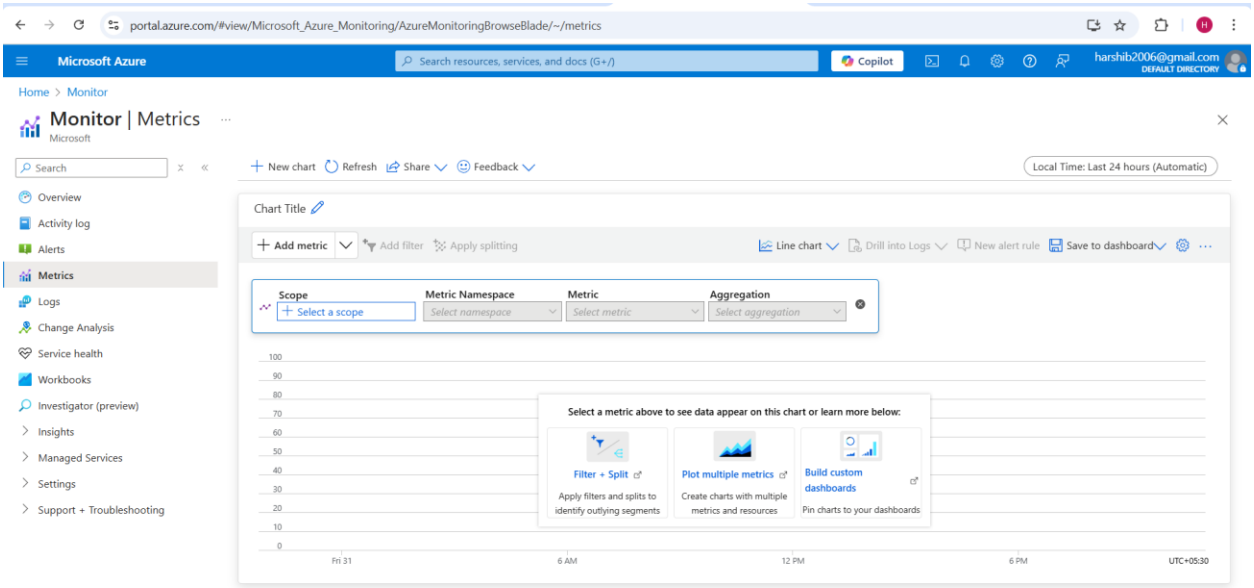
1. **Go to Azure Portal**



2. **Navigate to "Monitor"**: In the search bar, type **"Monitor"** and select it.



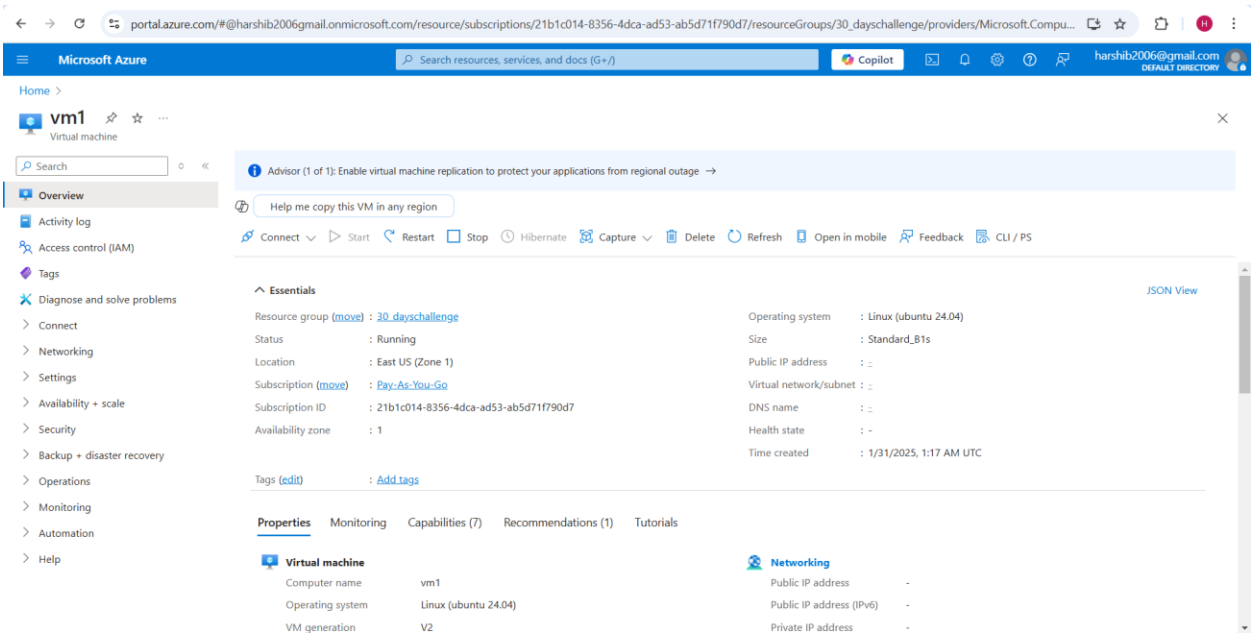
3. **Click on "Metrics"**: This allows you to view performance metrics for your VM.



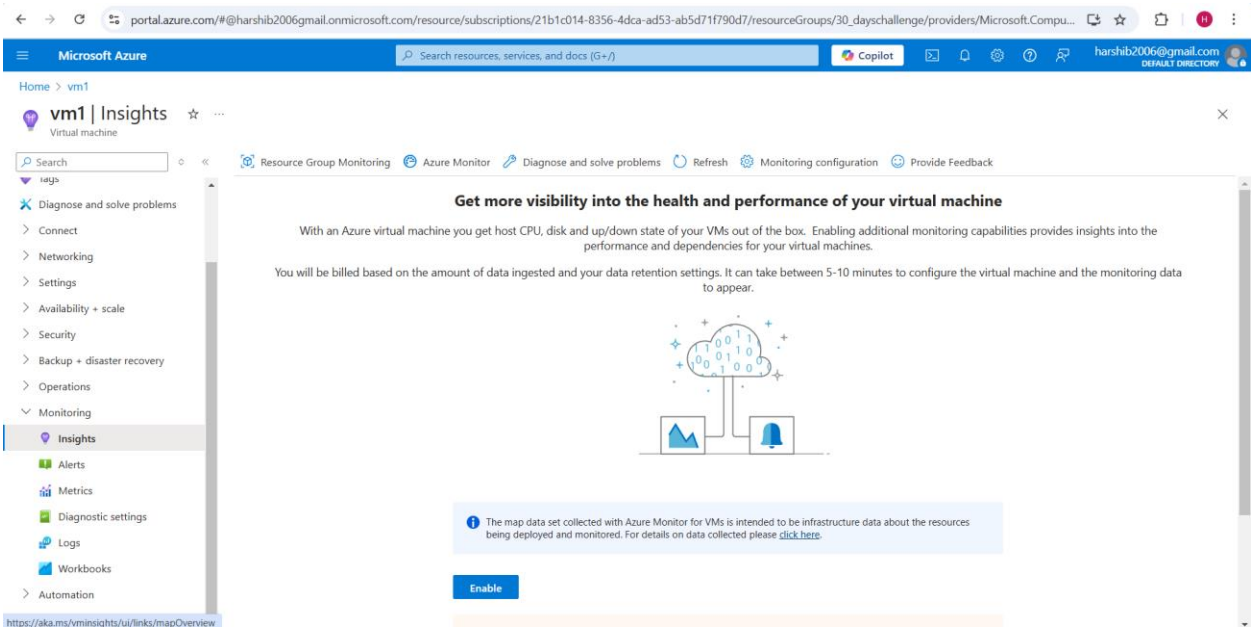
Step 2: Enable Monitoring for Your VM

1. **Go to "Virtual Machines"** in the Azure portal.

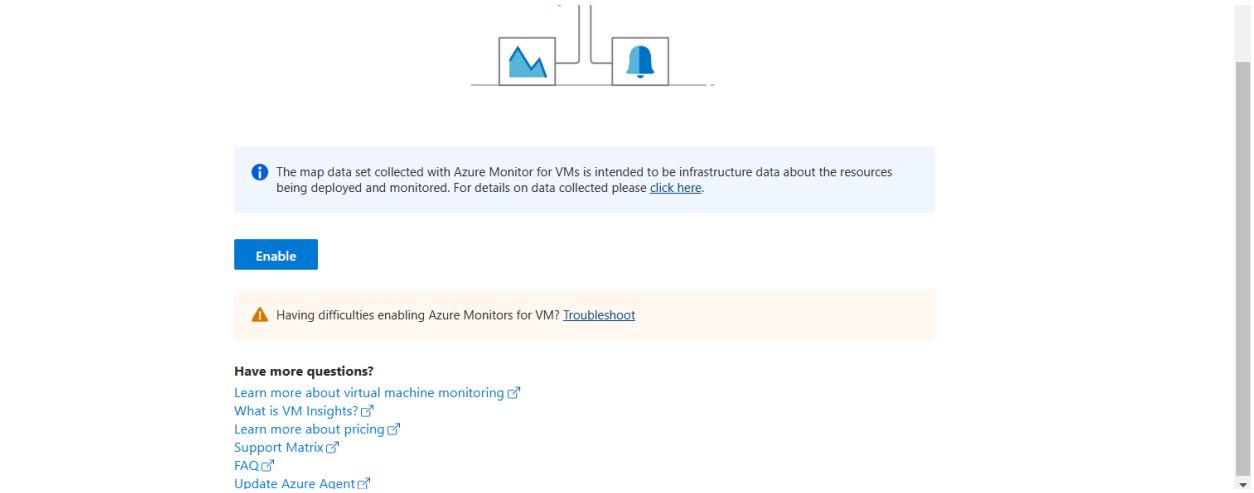
2. Select the VM you want to monitor.

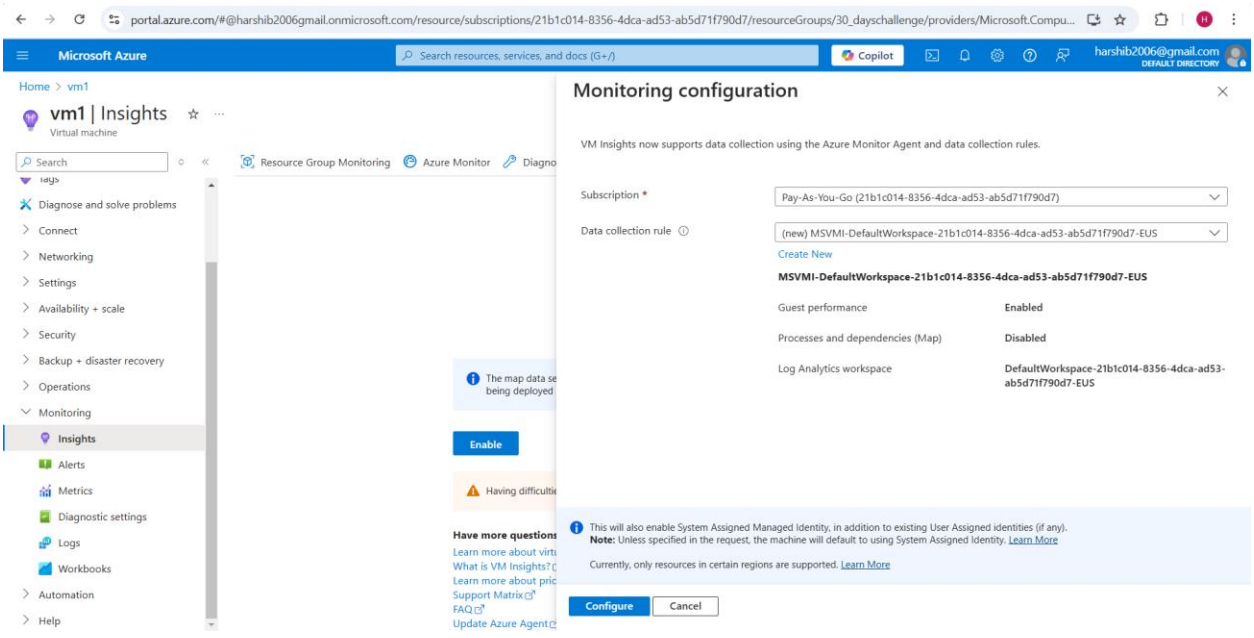


3. In the left menu, click on **"Monitoring" > "Insights"**.



4. Click **"Enable"** to start collecting performance metrics.





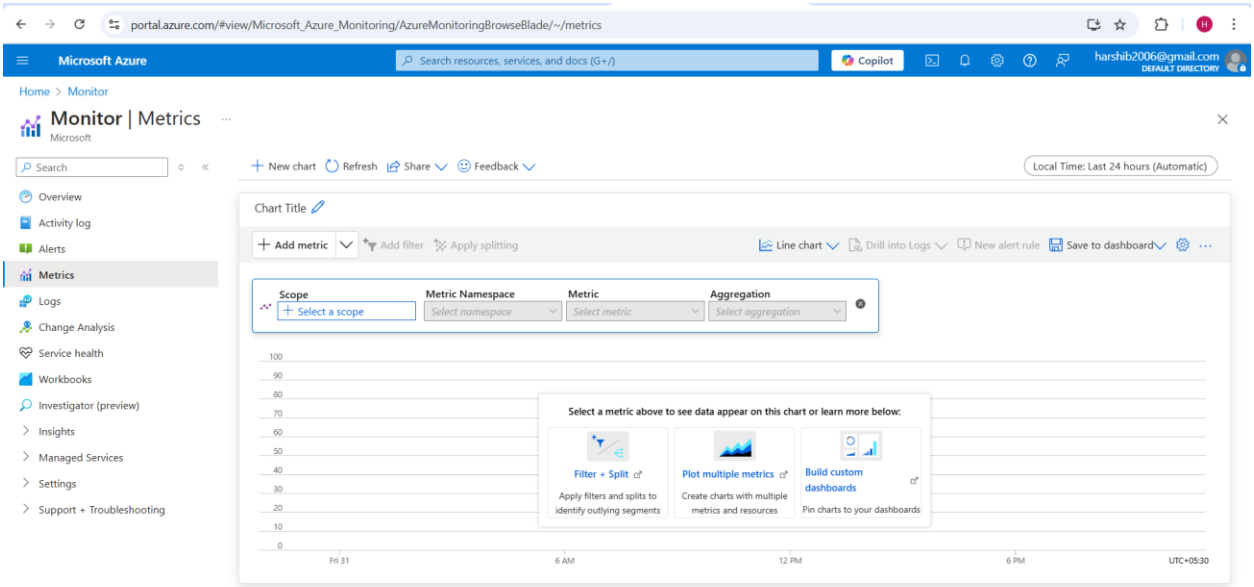
Step 3: View Basic Metrics

Once enabled, Azure Monitor will collect data such as:

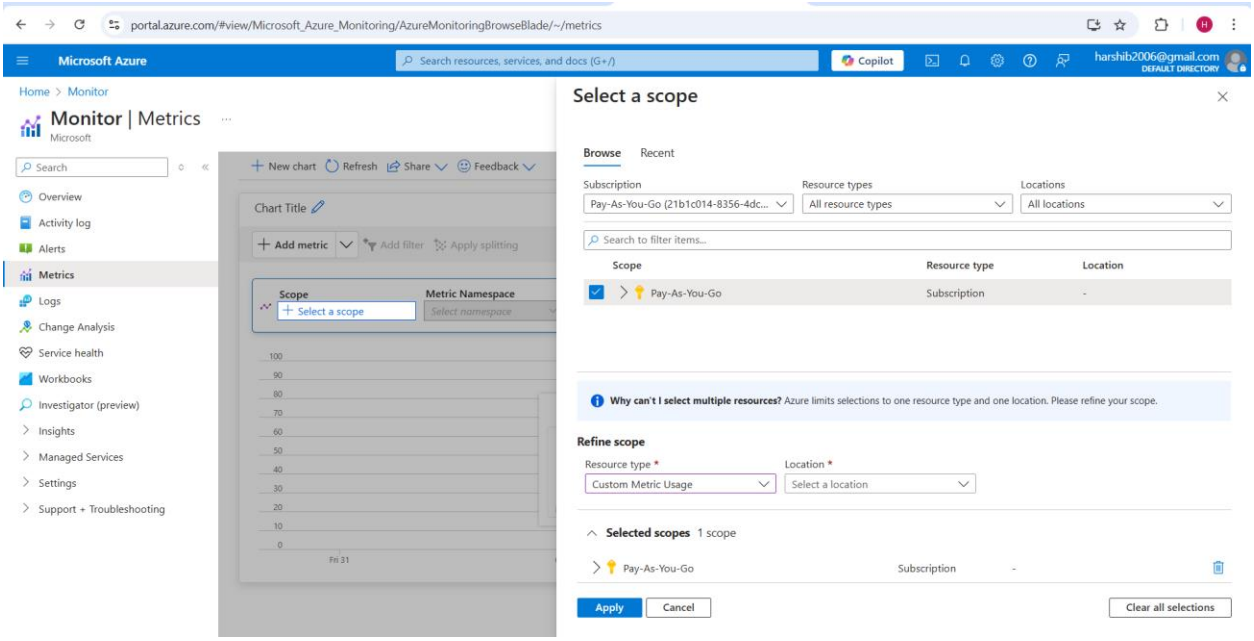
- **CPU Usage**: Measures the processor load of the VM.
- **Disk I/O**: Tracks read/write operations on the disk.
- **Network Traffic**: Monitors inbound and outbound traffic.

To view these metrics:

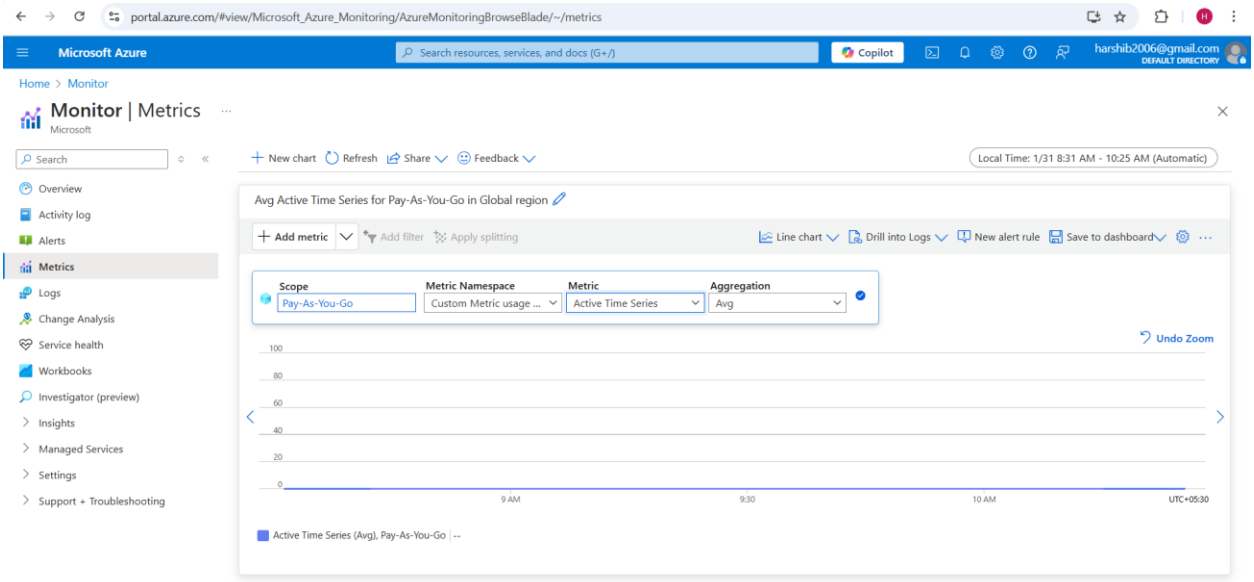
1. Go to **Azure Monitor > Metrics**.



2. Select the **Scope** (your VM).



3. Choose the **Metric Namespace**

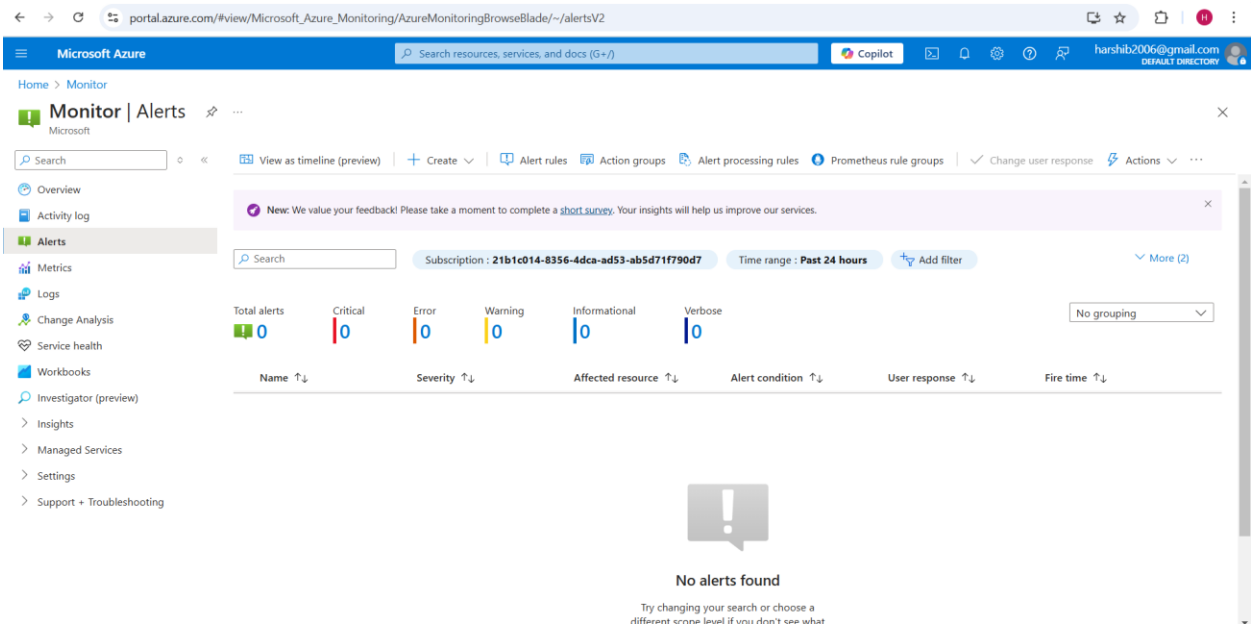


3. Select the **Metric** (e.g., CPU percentage, Disk I/O).

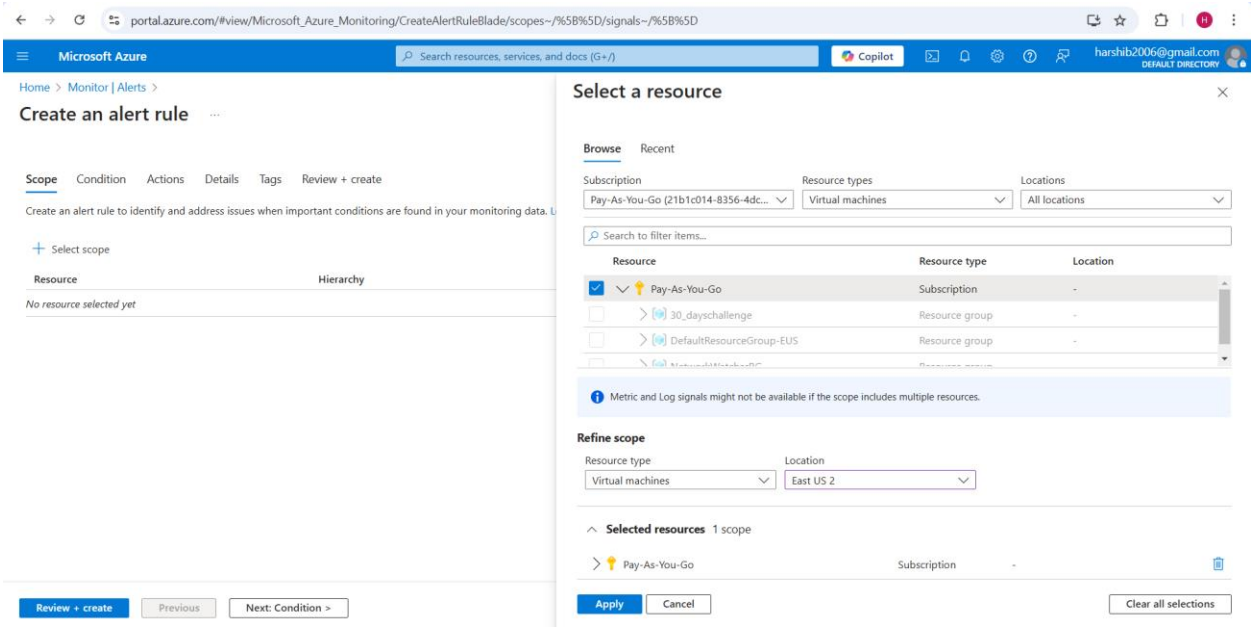
Step 4: Set Up Alerts (Optional)

You can set up alerts to notify you of high CPU usage or disk issues.

1. **Go to Azure Monitor > Alerts**.

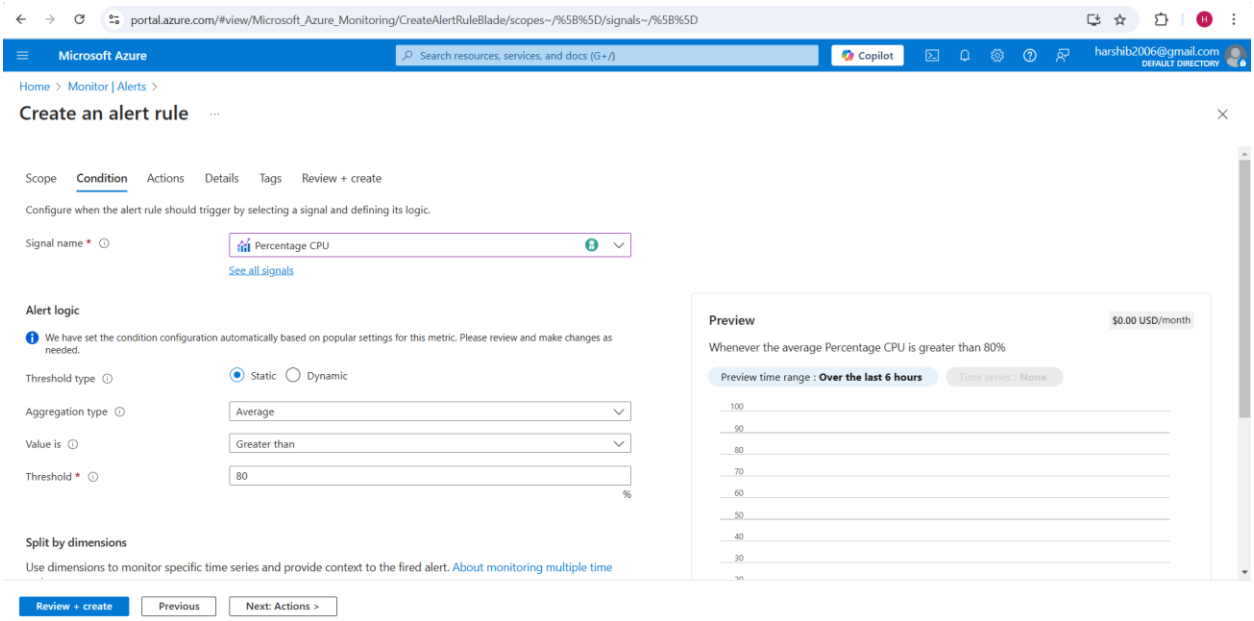


2. Click **"New alert rule"**.

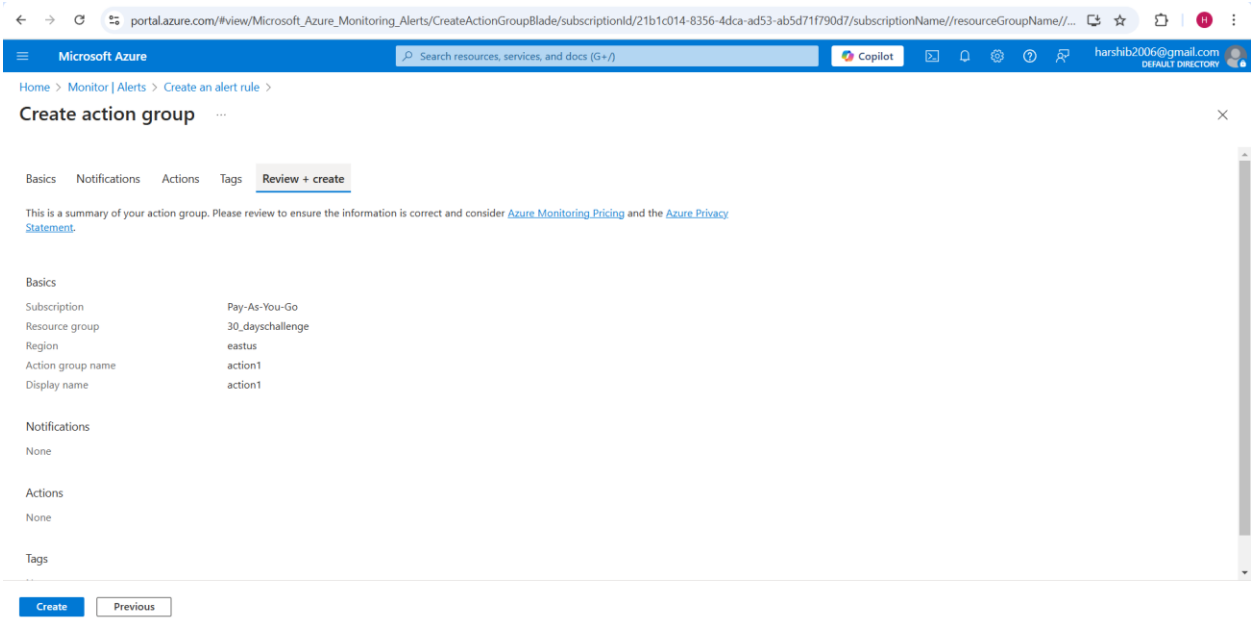


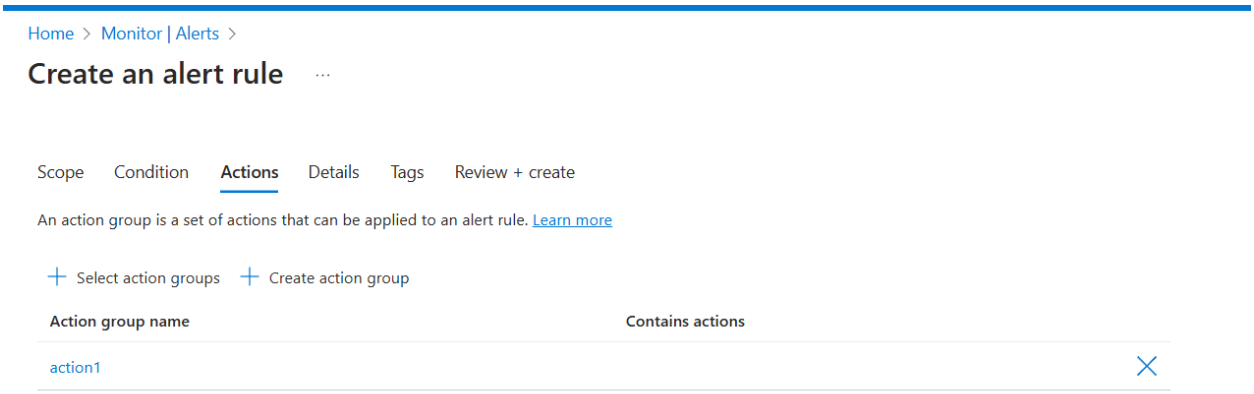
3. Select your **VM as the resource**.

4. Choose a **signal (e.g., CPU percentage > 80%)**.



5. Set up an **Action Group** to receive email or SMS alerts.





6. Click **Create**.

CONCLUSION:

Now our Azure VM is being monitored using **Azure Monitor**. We can view metrics and set alerts to track resource usage efficiently.

OUTCOME

By the end of this setup, We will be able to:

- Monitor Azure VM performance through the **Azure Monitor dashboard**.
- Track critical metrics for system health and efficiency.
- Detect performance bottlenecks and prevent downtime.
- Receive alerts for abnormal usage patterns, improving response time to issues.