St. JOSEPH'S GROUP OF INSTITUTIONS
OMR, CHENNAI - 119

PLACEMENT EMPOWERMENT PROGRAM

CLOUD COMPUTING AND DEVOPS CENTRE

TASK 13 - Use Cloud Storage Create a storage bucket on your cloud platform and upload/download files. Configure access permissions for the bucket..

NAME - MAHASHREE U
DEPT - ADS

Introduction

Monitoring cloud-based infrastructure is essential to ensure optimal performance, reliability, and cost-efficiency. Azure Monitor provides a powerful solution for collecting, analyzing, and acting on telemetry data from your Azure resources. This exercise focuses on enabling monitoring for a Virtual Machine (VM) and analyzing metrics like CPU usage, disk I/O, and network traffic.

Objectives

1. Understand how to enable and configure Azure Monitor for cloud VMs.
2. Learn how to view and analyze key performance metrics (e.g., CPU usage, disk I/O).
3. Gain insights into setting up alerts for proactive monitoring.

Steps to Perform Hands-on Exercise

Step 1: Log in to the Azure Portal

1. Navigate to Azure Portal and sign in with your credentials.

Step 2: Select Your Virtual Machine

1. **Locate Your VM**:
   - In the search bar, type **Virtual Machines** and select your desired VM from the list.
2. **Enable Monitoring Extensions** (if not already enabled):
   - Click **Extensions + Applications** in the left-hand menu.
   - Click **+ Add**, search for **Azure Monitor Agent**, and install it.

- Wait for the extension to deploy.

Step 3: Enable Azure Monitor

1. **Navigate to Azure Monitor**:
   - Search for **Monitor** in the top search bar and select it.
2. **Add VM to Monitoring**:
   - Click on **Insights**
   - Click **Add**, select your VM, and enable monitoring.
3. **Configure Metrics Collection**:
   - Select **Logs** in the monitoring settings.
   - Enable specific metrics like CPU usage, disk I/O, and network throughput.

Step 4: View Metrics

1. **Go to VM Overview**:
   - Open your VM and click on **Insights** or **Metrics** from the left-hand menu.
2. **Analyze Metrics**:
   - Choose metrics like **Percentage CPU**, **Disk IOPS**, or **Network In/Out**.
   - Use filters to select specific time ranges or resources.
   - Visualize data with charts or graphs.

Step 5: Set Up Alerts

1. **Create an Alert Rule**:
   - In the **Monitor** section, go to **Alerts** > **+ New Alert Rule**.
   - Select the target resource (your VM).
   - Define a **Condition**:
     - Example: Set CPU usage to trigger an alert if it exceeds 80%.
   - Configure **Actions**:
     - Add email or SMS notifications using **Action Groups**.
   - Save the rule.

2. **Test the Alert**:
    - Generate load on the VM to test whether the alert triggers as expected.

Outcomes

1. **Monitoring Setup**: Successfully enable Azure Monitor for your cloud VM.
2. **Metrics Analysis**: View and analyze key performance metrics like CPU usage, disk I/O, and network traffic.
3. **Proactive Alerts**: Configure alert rules to notify you of performance issues or unusual activity.
4. **Improved System Reliability**: Gain insights into resource performance, enabling informed scaling and troubleshooting decisions.