InsightScape

(Monitor and maintain Azure resources)

Manual

By
Vivek Vashisht

Date: 05 October 2024

Contact:
LinkedIn: https://www.linkedin.com/in/vivek-vashisht04/

GitHub: https://github.com/vivekvashisht04/InsightScape

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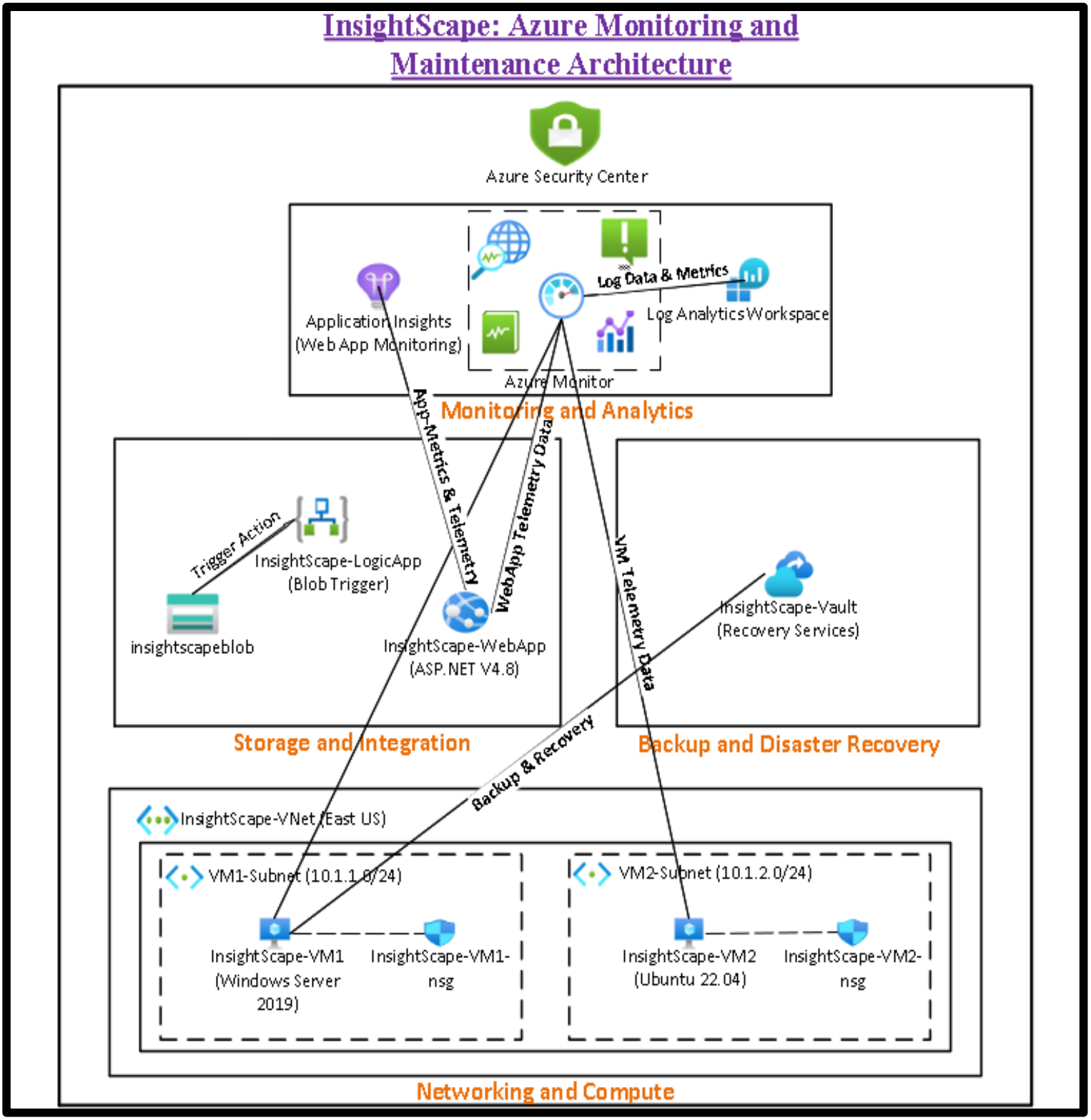
Project Architecture Diagram



Introduction

Project Overview

The InsightScape: Azure Monitoring and Maintenance project represents a comprehensive endeavor to create an integrated monitoring and maintenance framework for Azure resources, using Microsoft Azure's suite of monitoring, analytics, and security services. This project aims to ensure comprehensive visibility, security, and performance optimization across the cloud environment, utilizing various Azure tools and services for effective resource management.

Throughout the project, I utilized multiple Azure services, including Azure Monitor, Log Analytics, Application Insights, Network Watcher, Azure Security Center, and Azure Backup. The goal was to design and implement a monitoring infrastructure that ensures the resources deployed in the cloud environment operate at optimal levels, providing insights into application performance, resource health, network security, and compliance. The project captures the entire process—from the initial setup of resources, such as Virtual Machines, Virtual Networks, and a Web App, to the integration of monitoring and alerting capabilities—ensuring all components function seamlessly to support effective cloud management.

Purpose of this Documentation

This document provides a comprehensive, step-by-step guide for replicating the InsightScape project, complete with instructions and screenshots to ensure clarity. It serves as a resource for understanding how to implement monitoring and maintenance solutions for Azure resources, beneficial for both students and professionals. The primary goal is to thoroughly document my project, showcasing my technical skills, knowledge of Azure services, and thought process, while serving as a professional record for potential employers and the broader community.

Prerequisites

Before starting this project, it's important to have a basic understanding of cloud computing, monitoring concepts, and the Azure portal. Additionally, you should ensure that you meet the following prerequisites:

1. **Azure Subscription**: A valid Azure subscription is necessary for deploying and managing resources.
2. **Basic Azure Knowledge**: Understanding of Azure resources, such as Virtual Machines, Virtual Networks, and Network Security Groups (NSGs).
3. **Kusto Query Language (KQL) (Optional)**: Familiarity with KQL is beneficial for custom monitoring queries in Log Analytics.

This documentation, created to showcase how I completed the InsightScape project, provides a practical guide to building and managing a monitoring and maintenance framework in Azure, offering key insights and best practices for successfully replicating this project.

Resources Setup

a) RG and VNet

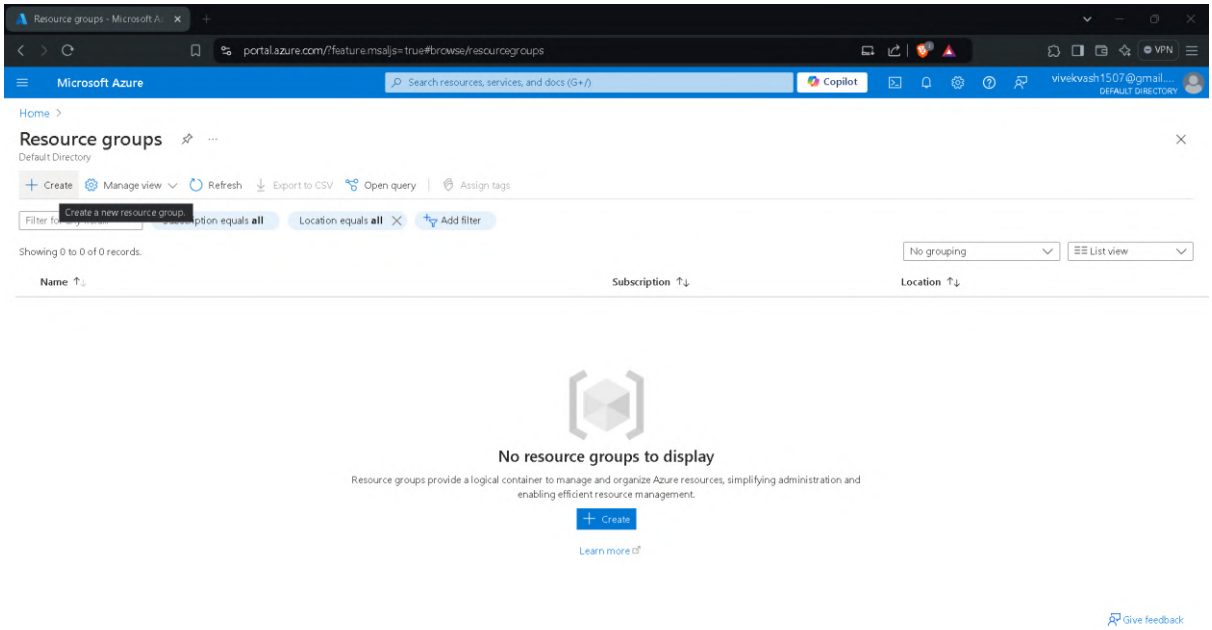
First, I created a Resource Group named **InsightScape-RG** in the **East US** region, which I used to deploy the entire project. Next, I proceeded to create a Virtual Network:

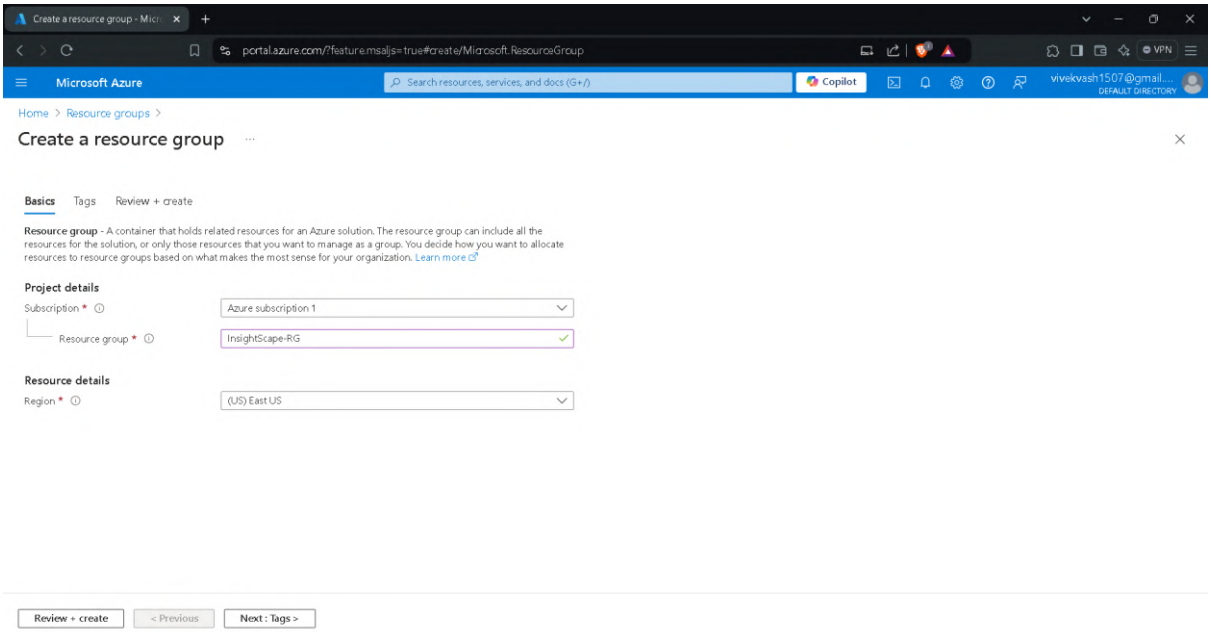
Virtual Network Creation:

- Name: **InsightScape-VNet**
- **Region**: East US
- **IP Addresses Configuration**:
  - Added a subnet named **VM1-Subnet**
    - IPv4 Address Range: **10.1.0.0/16**
    - **Starting Address**: 10.1.1.0
    - **Size**: /24
  - Added a second subnet named **VM2-Subnet**
    - IPv4 Address Range: **10.1.0.0/16**
    - **Starting Address**: 10.1.2.0
    - **Size**: /24

After completing these configurations, the **InsightScape-VNet** was successfully created.

Screenshots




Create a resource group - Micr
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Microsoft Azure
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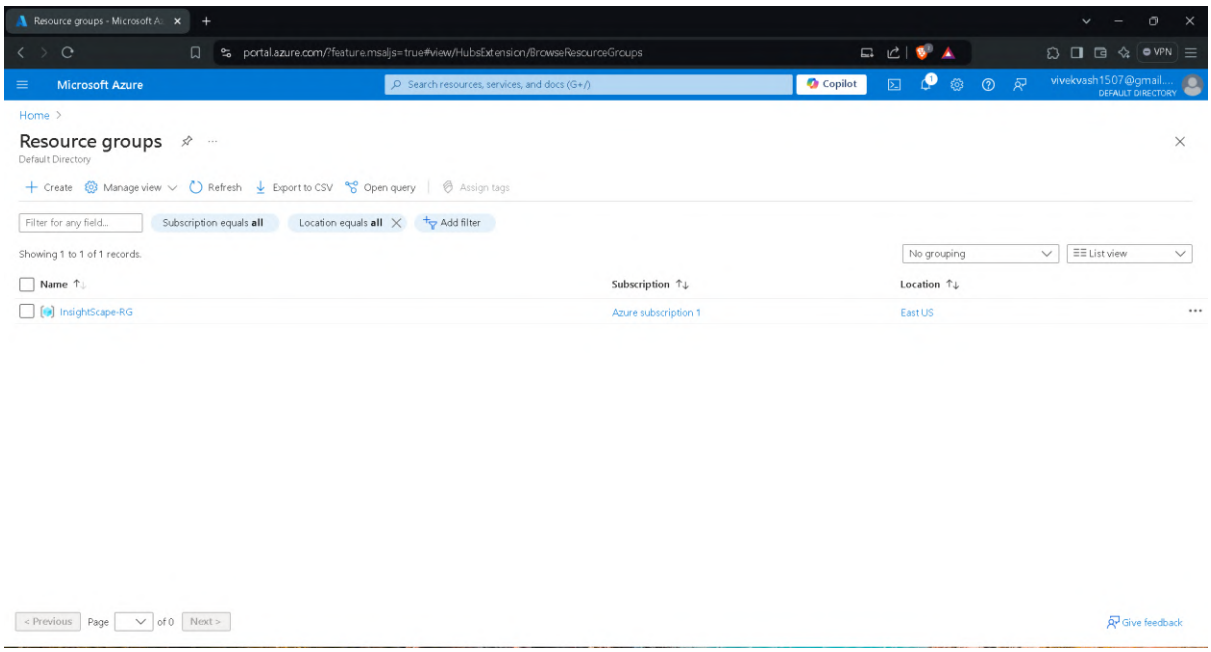
DEFAULT DIRECTORY
Home > Resource groups >
Create a resource group
Basics
Tags
Review + create
Resource group - A container that holds related resources for an Azure solution. The resource group can include all the resources for the solution, or only those resources that you want to manage as a group. You decide how you want to allocate resources to resource groups based on what makes the most sense for your organization. Learn more
Project details
Subscription *
Azure subscription 1
Resource group *
InsightScape-RG
Resource details
Region *
(US) East US
Review + create
< Previous
Next : Tags >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DEFAULT DIRECTORY
Home >
Resource groups
Default Directory
Create
Manage view
Refresh
Export to CSV
Open query
Assign tags
Filter for any field...
Subscription equals all
Location equals all
Add filter
Showing 1 to 1 of 1 records.
No grouping
List view
Name
Subscription
Location
InsightScape-RG
Azure subscription 1
East US
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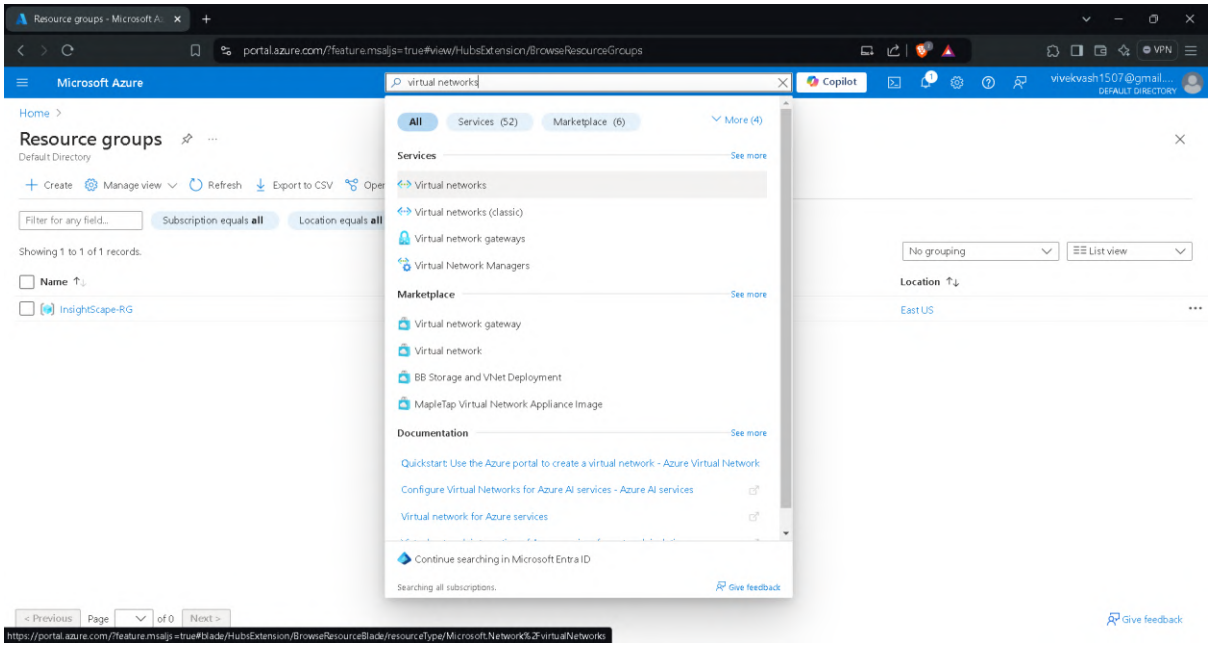
Resource groups - Microsoft A
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Microsoft Azure
virtual networks
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DEFAULT DIRECTORY
Home
Resource groups
Default Directory
Create
Manage view
Refresh
Export to CSV
Filter for any field...
Subscription equals all
Location equals all
Showing 1 to 1 of 1 records.
No grouping
List view
Name
Location
InsightScape-RG
East US
All
Services (52)
Marketplace (6)
More (4)
Services
See more
Virtual networks
Virtual networks (classic)
Virtual network gateways
Virtual Network Managers
Marketplace
Virtual network gateway
Virtual network
BB Storage and VNet Deployment
MapleTap Virtual Network Appliance Image
Documentation
Quickstart: Use the Azure portal to create a virtual network - Azure Virtual Network
Configure Virtual Networks for Azure AI services - Azure AI services
Virtual network for Azure services
Continue searching in Microsoft Entra ID
Searching all subscriptions.
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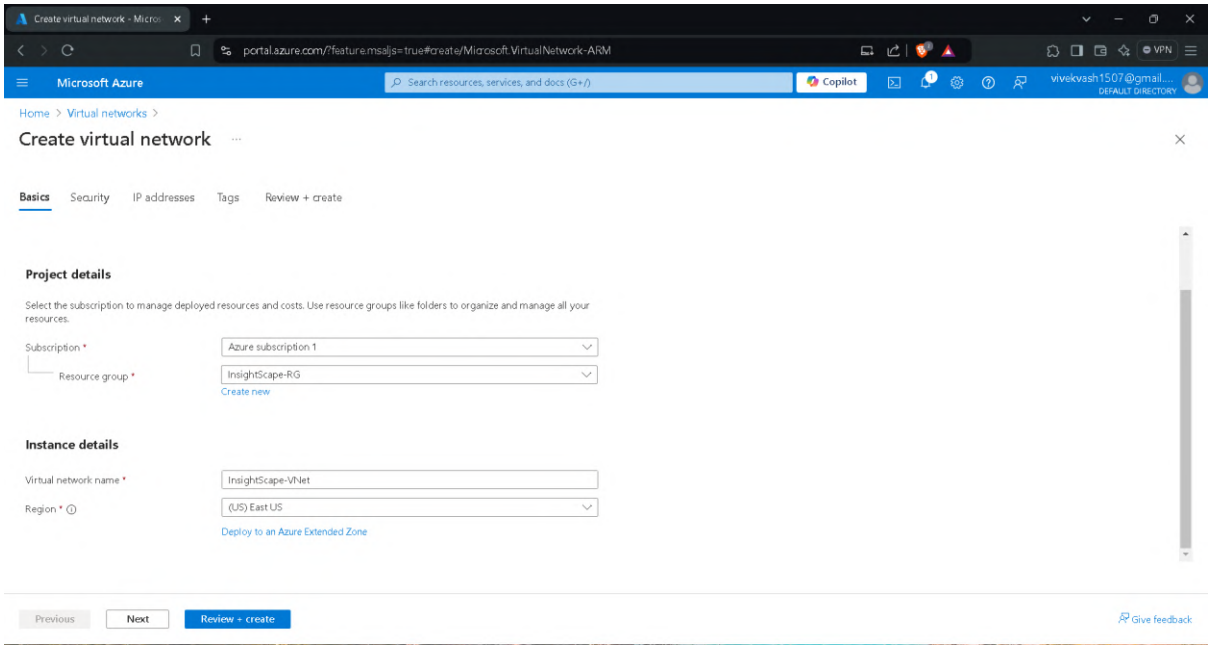
https://portal.azure.com/?feature.msaljs=true#blade/HubsExtension/BrowseResourceBlade/resourceType/Microsoft.Network%2FvirtualNetworks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Basics
Security
IP addresses
Tags
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Project details
Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.
Subscription *
Azure subscription 1
Resource group *
InsightScape-RG
Create new
Instance details
Virtual network name *
InsightScape-VNet
Region *
(US) East US
Deploy to an Azure Extended Zone
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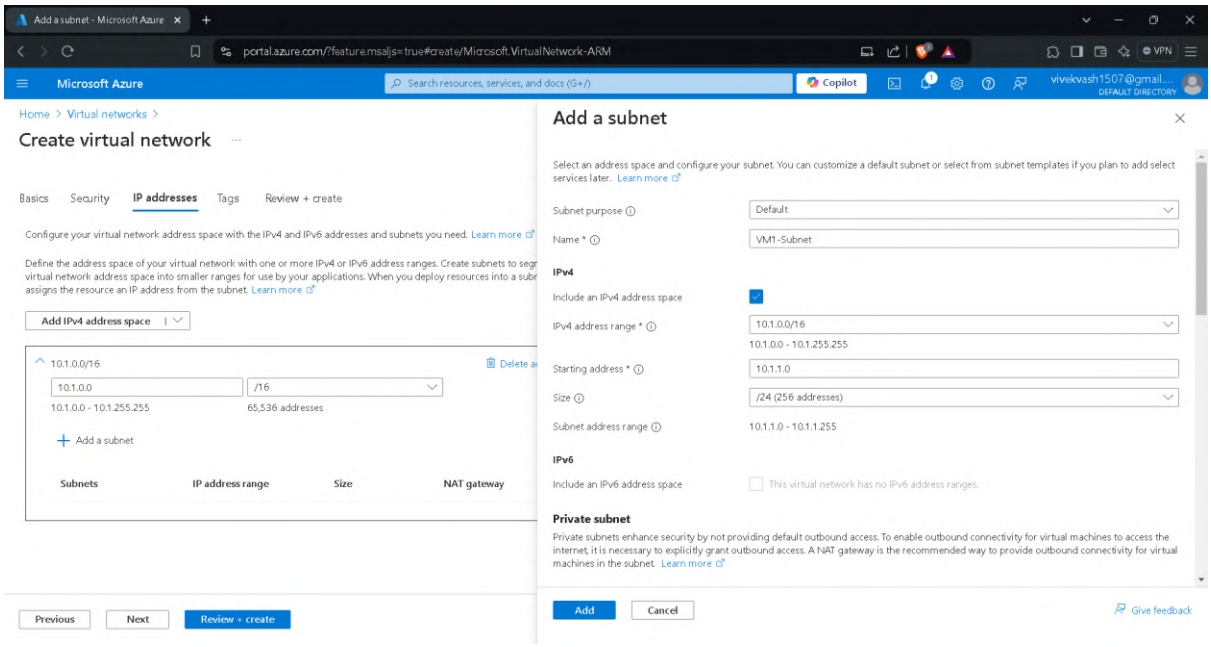
Add a subnet - Microsoft Azure
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Home > Virtual networks >
Create virtual network
Basics Security IP addresses Tags Review + create
Configure your virtual network address space with the IPv4 and IPv6 addresses and subnets you need. Learn more
Define the address space of your virtual network with one or more IPv4 or IPv6 address ranges. Create subnets to segr
virtual network address space into smaller ranges for use by your applications. When you deploy resources into a subr
assigns the resource an IP address from the subnet. Learn more
Add IPv4 address space
10.1.0.0/16
Delete a
10.1.0.0
/16
10.1.0.0 - 10.1.255.255
65,536 addresses
Add a subnet
Subnets
IP address range
Size
NAT gateway
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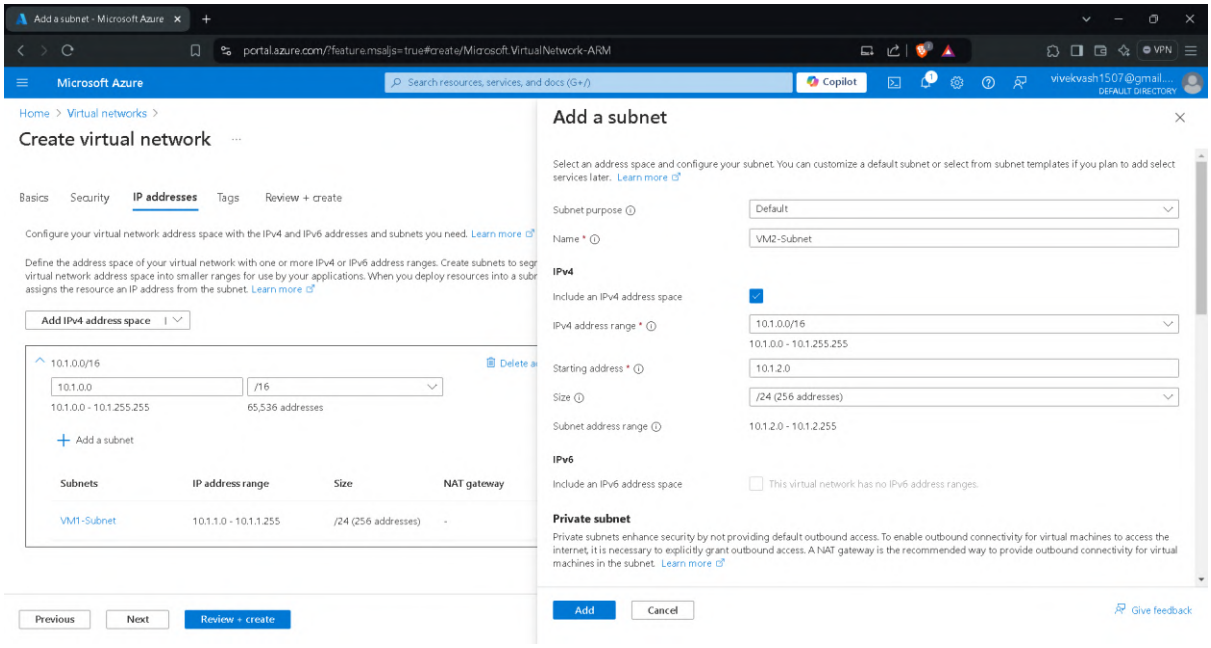
Review + create
Add a subnet
Select an address space and configure your subnet. You can customize a default subnet or select from subnet templates if you plan to add select
services later. Learn more
Subnet purpose
Default
Name *
VM1-Subnet
IPv4
Include an IPv4 address space
IPv4 address range *
10.1.0.0/16
10.1.0.0 - 10.1.255.255
Starting address *
10.1.1.0
Size
/24 (256 addresses)
Subnet address range
10.1.1.0 - 10.1.1.255
IPv6
Include an IPv6 address space
This virtual network has no IPv6 address ranges.
Private subnet
Private subnets enhance security by not providing default outbound access. To enable outbound connectivity for virtual machines to access the
internet, it is necessary to explicitly grant outbound access. A NAT gateway is the recommended way to provide outbound connectivity for virtual
machines in the subnet. Learn more
Add
Cancel
Give feedback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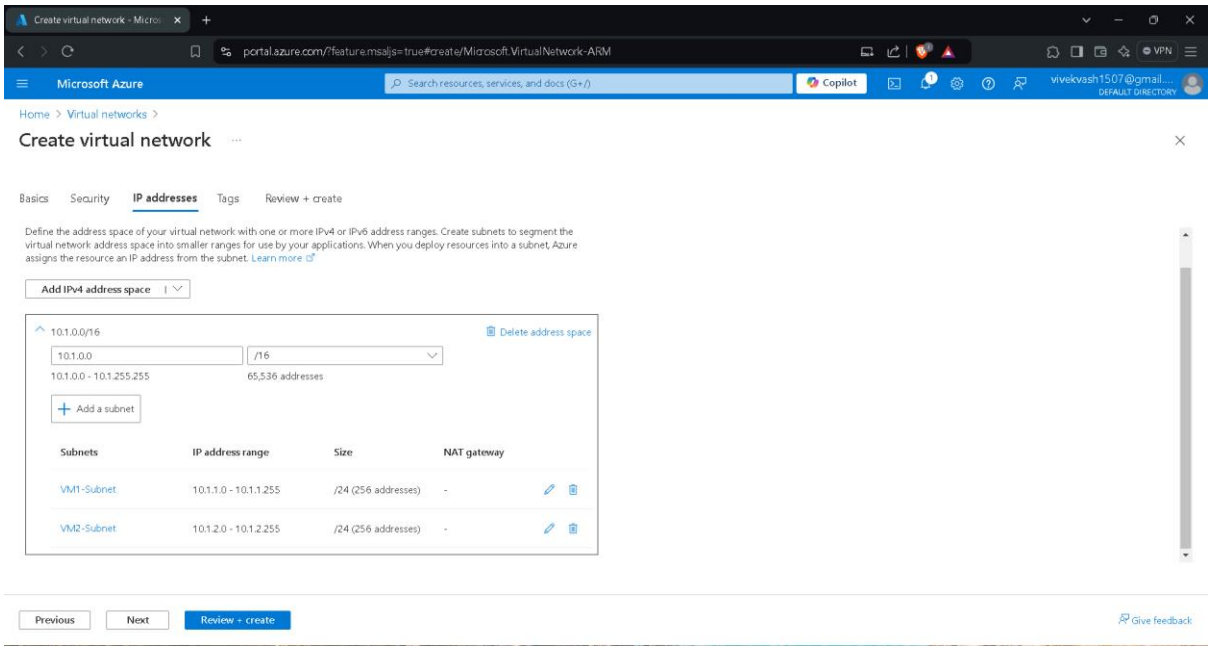
Home > Virtual networks >
Create virtual network
Basics Security IP addresses Tags Review + create
Configure your virtual network address space with the IPv4 and IPv6 addresses and subnets you need. Learn more
Define the address space of your virtual network with one or more IPv4 or IPv6 address ranges. Create subnets to segr
virtual network address space into smaller ranges for use by your applications. When you deploy resources into a subr
assigns the resource an IP address from the subnet. Learn more
Add IPv4 address space
10.1.0.0/16
Delete a
10.1.0.0
/16
10.1.0.0 - 10.1.255.255
65,536 addresses
Add a subnet
Subnets
IP address range
Size
NAT gateway
VM1-Subnet
10.1.1.0 - 10.1.1.255
/24 (256 addresses)
-
Previous
Next
Review + create
Add a subnet
Select an address space and configure your subnet. You can customize a default subnet or select from subnet templates if you plan to add select
services later. Learn more
Subnet purpose
Default
Name *
VM2-Subnet
IPv4
Include an IPv4 address space
IPv4 address range *
10.1.0.0/16
10.1.0.0 - 10.1.255.255
Starting address *
10.1.2.0
Size
/24 (256 addresses)
Subnet address range
10.1.2.0 - 10.1.2.255
IPv6
Include an IPv6 address space
This virtual network has no IPv6 address ranges.
Private subnet
Private subnets enhance security by not providing default outbound access. To enable outbound connectivity for virtual machines to access the
internet, it is necessary to explicitly grant outbound access. A NAT gateway is the recommended way to provide outbound connectivity for virtual
machines in the subnet. Learn more
Add
Cancel
Give feedback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Create virtual network
Basics
Security
IP addresses
Tags
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Define the address space of your virtual network with one or more IPv4 or IPv6 address ranges. Create subnets to segment the virtual network address space into smaller ranges for use by your applications. When you deploy resources into a subnet, Azure assigns the resource an IP address from the subnet. Learn more
Add IPv4 address space
10.1.0.0/16
Delete address space
10.1.0.0
/16
10.1.0.0 - 10.1.255.255
65,536 addresses
Add a subnet
Subnets
IP address range
Size
NAT gateway
VM1-Subnet
10.1.1.0 - 10.1.1.255
/24 (256 addresses)
VM2-Subnet
10.1.2.0 - 10.1.2.255
/24 (256 addresses)
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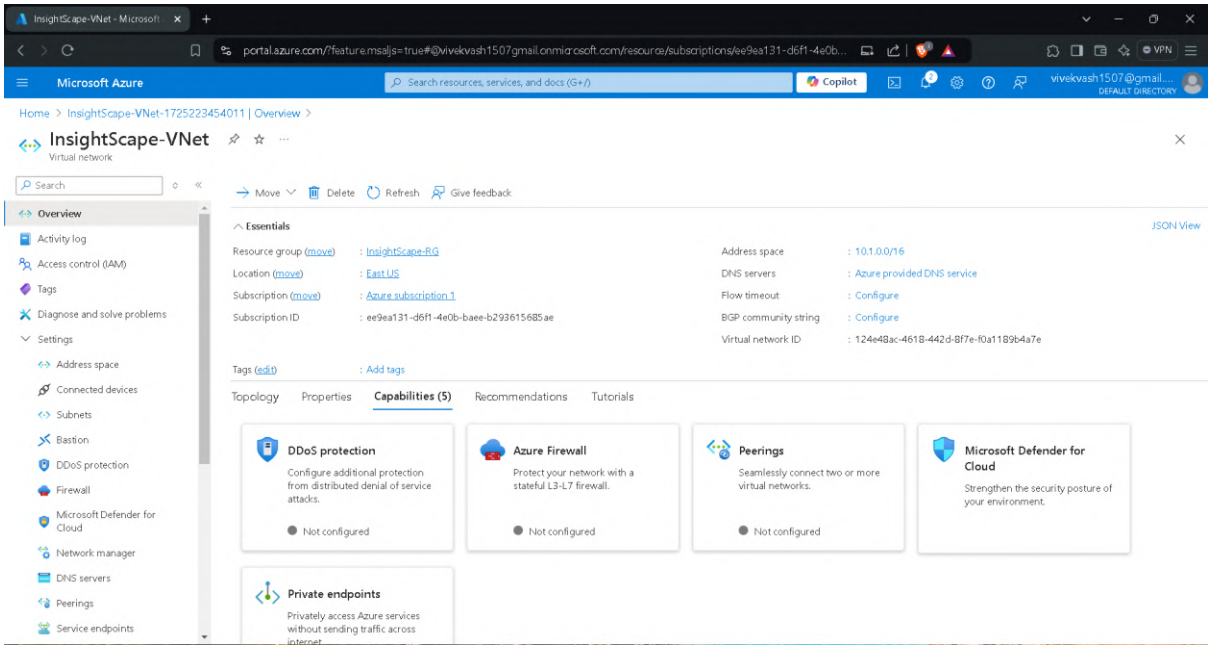
Give feedback


InsightScape-VNet - Microsoft
portal.azure.com/?feature.msaljs=true#@vivekvash1507gmail.onmicrosoft.com/resource/subscriptions/ee9ea131-d6f1-4e0b...
Microsoft Azure
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DEFAULT DIRECTORY
Home > InsightScape-VNet-1725223454011 | Overview >
InsightScape-VNet
Virtual network
Search
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Settings
Address space
Connected devices
Subnets
Bastion
DDoS protection
Firewall
Microsoft Defender for Cloud
Network manager
DNS servers
Peerings
Service endpoints
Move
Delete
Refresh
Give feedback
Essentials
JSON View
Resource group (move) : InsightScape-RG
Location (move) : East US
Subscription (move) : Azure subscription 1
Subscription ID : ee9ea131-d6f1-4e0b-baee-b293615685ae
Address space : 10.1.0.0/16
DNS servers : Azure provided DNS service
Flow timeout : Configure
BGP community string : Configure
Virtual network ID : 124e48ac-4618-442d-8f7e-f0a1189b4a7e
Tags (edit) : Add tags
Topology
Properties
Capabilities (5)
Recommendations
Tutorials
DDoS protection
Configure additional protection from distributed denial of service attacks.
Not configured
Azure Firewall
Protect your network with a stateful L3-L7 firewall.
Not configured
Peerings
Seamlessly connect two or more virtual networks.
Not configured
Microsoft Defender for Cloud
Strengthen the security posture of your environment.
Private endpoints
Privately access Azure services without sending traffic across

b) VMs and NSGs

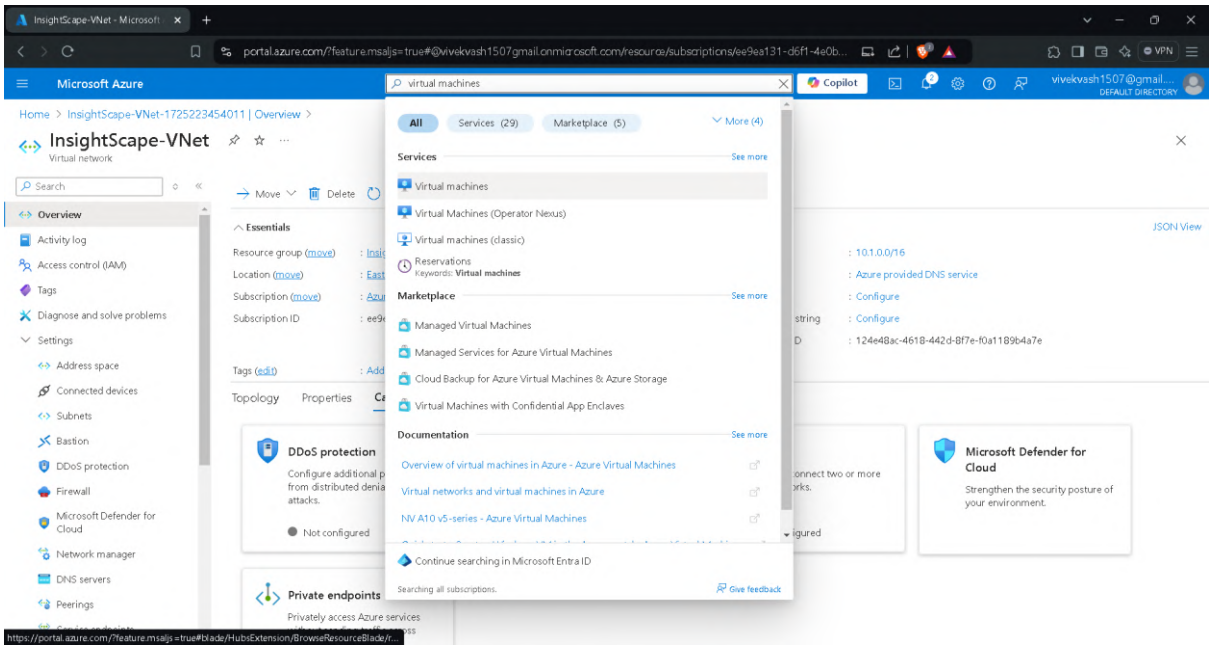
Next, it was time to set up the Virtual Machines (VMs) and the Network Security Groups (NSGs):

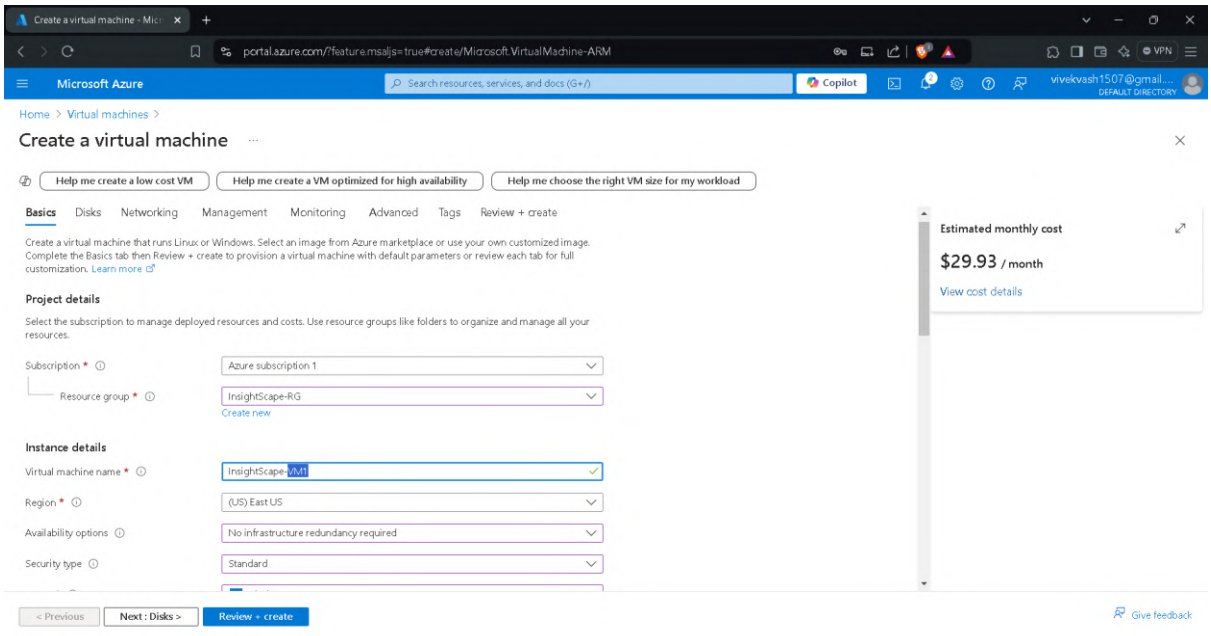
1. **Windows VM Creation (InsightScape-VM1):**
    - Resource Group: InsightScape-RG
    - Virtual Machine Name: InsightScape-VM1
    - Region: East US
    - Availability Options: No infrastructure redundancy required
    - Security Type: Standard
    - Size: Standard B1s
    - Virtual Network: InsightScape-VNet
    - Subnet: VM1-Subnet (10.1.1.0/24)
    - Public IP: Created a new IP, named InsightScape-VM1-ip
    - NIC Network Security Group: Basic
    - Public Inbound Ports: RDP, HTTP
2. **Linux VM Creation (InsightScape-VM2):**
    - Resource Group: InsightScape-RG
    - Virtual Machine Name: InsightScape-VM2
    - Region: East US
    - Availability Options: No infrastructure redundancy required
    - Security Type: Standard
    - Size: Standard B1s
    - Authentication Type: Password
    - Username: VivekVashisht-VM2
    - Virtual Network: InsightScape-VNet
    - Subnet: VM2-Subnet (10.1.2.0/24)
    - Public IP: Created a new IP, named InsightScape-VM2-ip
    - NIC Network Security Group: Basic
    - Public Inbound Ports: SSH, HTTPS, HTTP

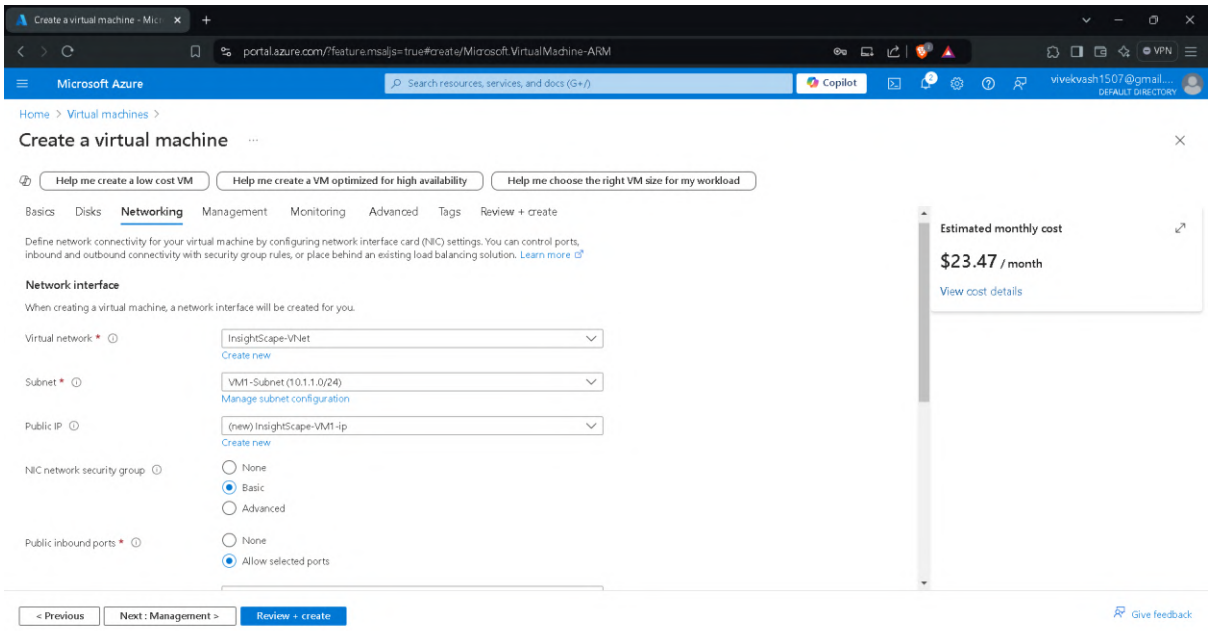
NSG Updates:

1. InsightScape-VM1-nsg:
    - Inbound Security Rule:
        - Source: Any
        - Source Port Ranges: *
        - Destination: Any
        - Service: HTTPS
        - Destination Port Ranges: 443
        - Protocol: TCP
        - Action: Allow
    - Saved the security rule.
2. InsightScape-VM2-nsg:
    - No changes were made, as the default settings were sufficient.

Screenshots



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DEFAULT DIRECTORY
Home > Virtual machines >
Create a virtual machine
Help me create a low cost VM
Help me create a VM optimized for high availability
Help me choose the right VM size for my workload
Basics Disks Networking Management Monitoring Advanced Tags Review + create
Define network connectivity for your virtual machine by configuring network interface card (NIC) settings. You can control ports, inbound and outbound connectivity with security group rules, or place behind an existing load balancing solution. Learn more
Network interface
When creating a virtual machine, a network interface will be created for you.
Virtual network * InsightScape-VNet
Create new
Subnet * VM1-Subnet (10.1.1.0/24)
Manage subnet configuration
Public IP (new) InsightScape-VM1-ip
Create new
NIC network security group None Basic Advanced
Public inbound ports * None Allow selected ports
Estimated monthly cost
$23.47 / month
View cost details
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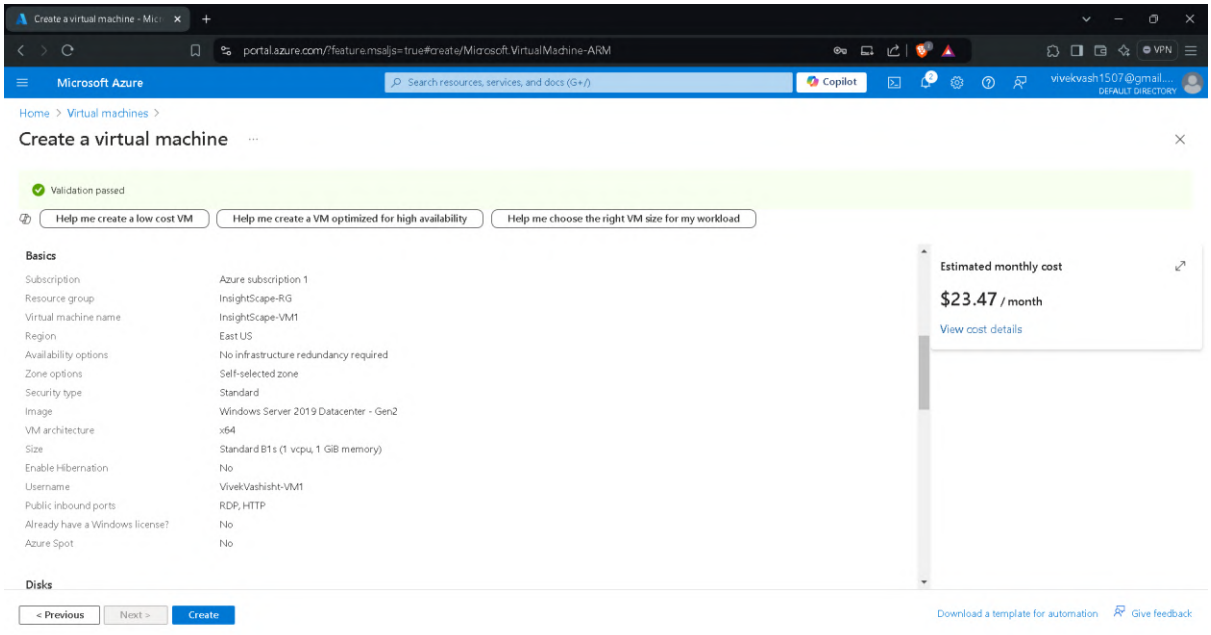
Review + create
Give feedback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DEFAULT DIRECTORY
Home > Virtual machines >
Create a virtual machine
Validation passed
Help me create a low cost VM
Help me create a VM optimized for high availability
Help me choose the right VM size for my workload
Basics
Subscription Azure subscription 1
Resource group InsightScape-RG
Virtual machine name InsightScape-VM1
Region East US
Availability options No infrastructure redundancy required
Zone options Self-selected zone
Security type Standard
Image Windows Server 2019 Datacenter - Gen2
VM architecture x64
Size Standard B1s (1 vcpu, 1 GiB memory)
Enable Hibernation No
Username VivekVashisht-VM1
Public inbound ports RDP, HTTP
Already have a Windows license? No
Azure Spot No
Disks
Estimated monthly cost
$23.47 / month
View cost details
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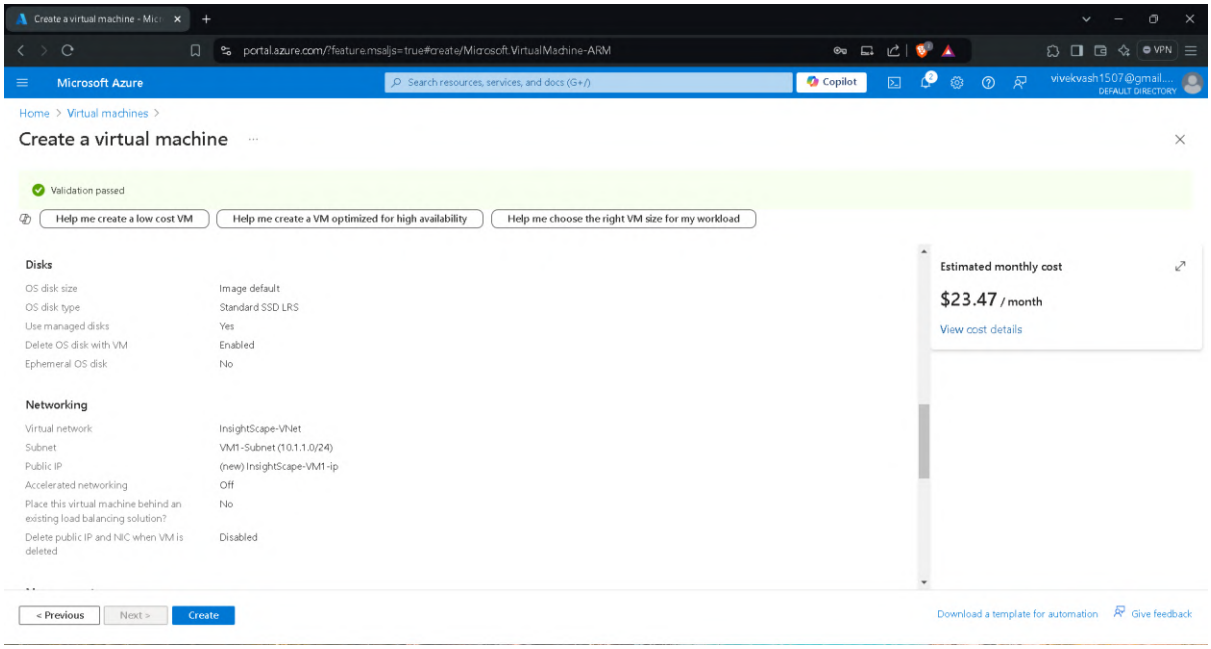
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DEFAULT DIRECTORY
Home > Virtual machines >
Create a virtual machine
Validation passed
Help me create a low cost VM
Help me create a VM optimized for high availability
Help me choose the right VM size for my workload
Disks
OS disk size Image default
OS disk type Standard SSD LRS
Use managed disks Yes
Delete OS disk with VM Enabled
Ephemeral OS disk No
Networking
Virtual network InsightScape-VNet
Subnet VM1-Subnet (10.1.1.0/24)
Public IP (new) InsightScape-VM1-ip
Accelerated networking Off
Place this virtual machine behind an existing load balancing solution? No
Delete public IP and NIC when VM is deleted Disabled
Estimated monthly cost
$23.47 / month
View cost details
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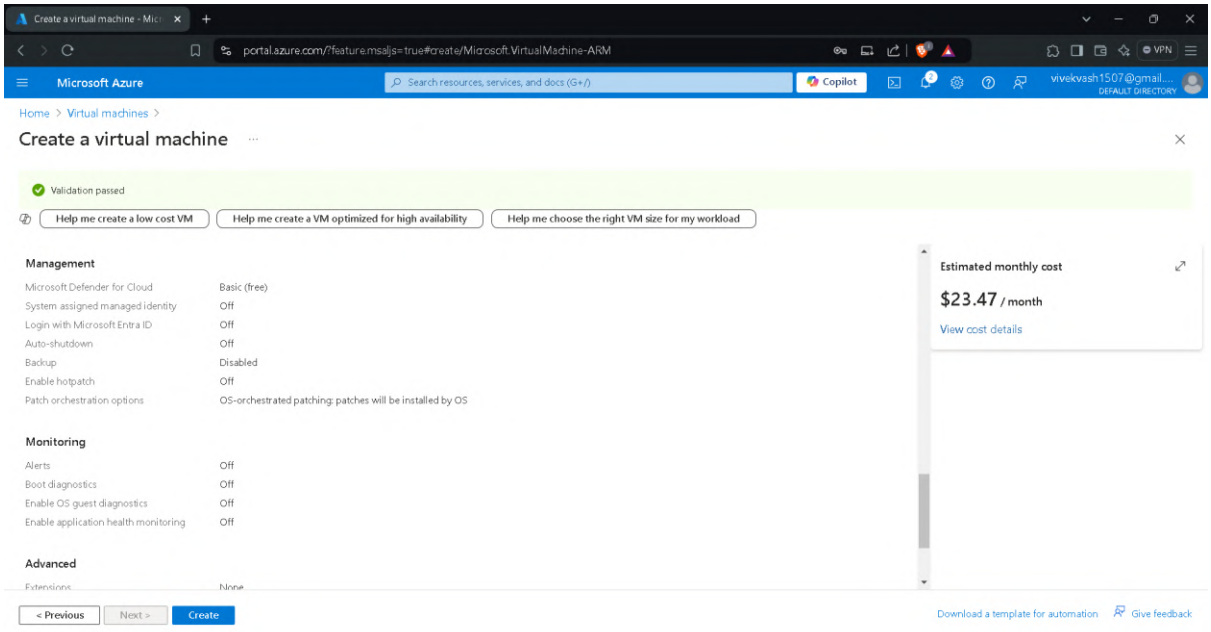
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DEFAULT DIRECTORY
Home > Virtual machines >
Create a virtual machine
Validation passed
Help me create a low cost VM
Help me create a VM optimized for high availability
Help me choose the right VM size for my workload
Management
Microsoft Defender for Cloud Basic (free)
System assigned managed identity Off
Login with Microsoft Entra ID Off
Auto-shutdown Off
Backup Disabled
Enable hotpatch Off
Patch orchestration options OS-orchestrated patching: patches will be installed by OS
Monitoring
Alerts Off
Boot diagnostics Off
Enable OS guest diagnostics Off
Enable application health monitoring Off
Advanced
Extensions None
Estimated monthly cost
$23.47 / month
View cost details
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Next >
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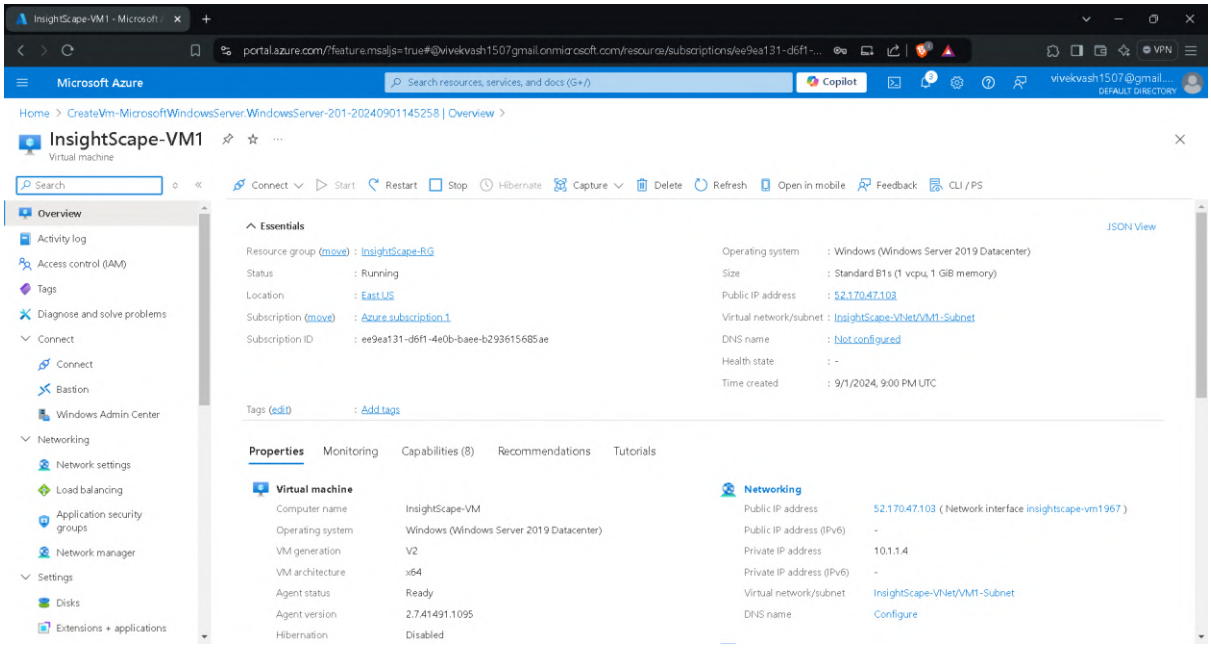
InsightScape-VM1 - Microsoft Azure
portal.azure.com/?feature.msaljs=true#@vivekvash1507gmail.onmicrosoft.com/resource/subscriptions/ee9ea131-d6f1-...
Microsoft Azure
Search resources, services, and docs (G+/)
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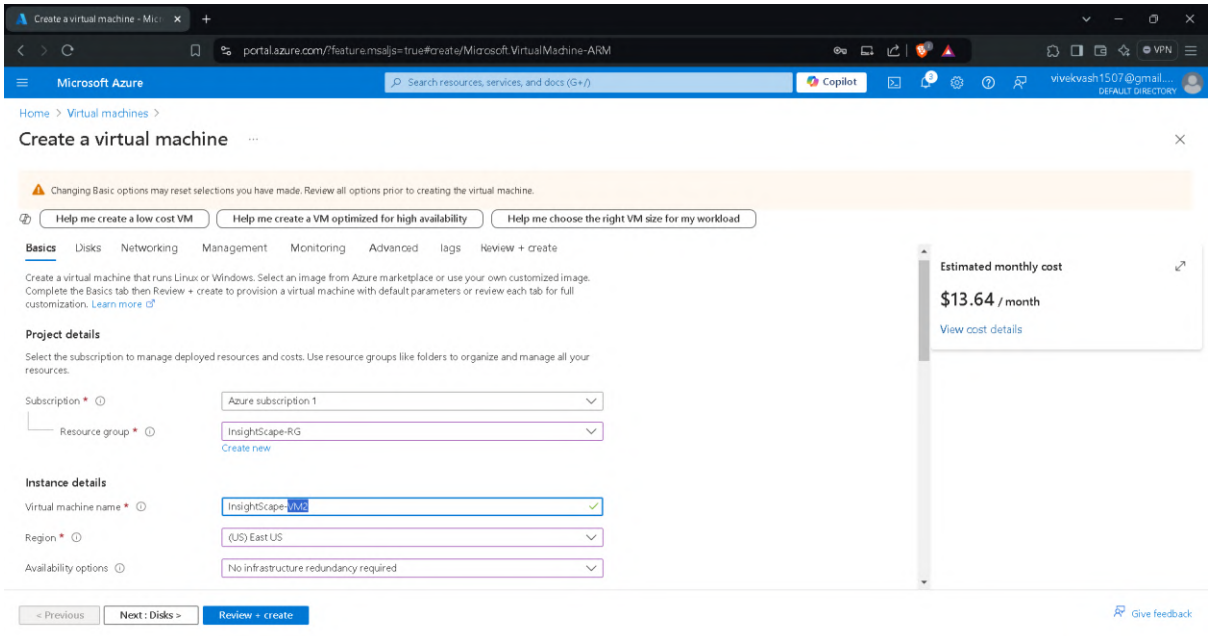
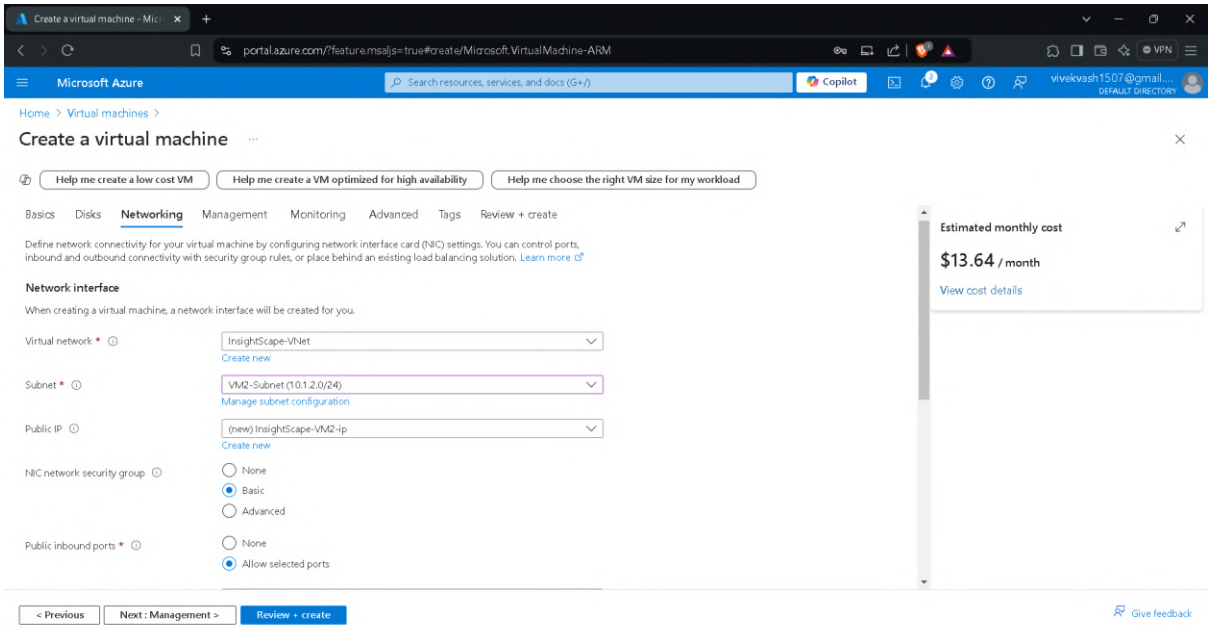
DEFAULT DIRECTORY
Home > CreateVm-MicrosoftWindowsServer.WindowsServer-201-20240901145258 | Overview >
InsightScape-VM1
Virtual machine
Search
Connect
Start
Restart
Stop
Hibernate
Capture
Delete
Refresh
Open in mobile
Feedback
CLI / PS
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Connect
Connect
Bastion
Windows Admin Center
Networking
Network settings
Load balancing
Application security groups
Network manager
Settings
Disks
Extensions + applications
Essentials
JSON View
Resource group (move) : InsightScape-RG
Status : Running
Location : East US
Subscription (move) : Azure subscription 1
Subscription ID : ee9ea131-d6f1-4e0b-baee-b293615685ae
Operating system : Windows (Windows Server 2019 Datacenter)
Size : Standard B1s (1 vcpu, 1 GiB memory)
Public IP address : 52.170.47.103
Virtual network/subnet : InsightScape-VNet/VM1-Subnet
DNS name : Not configured
Health state : -
Time created : 9/1/2024, 9:00 PM UTC
Tags (edit) : Add tags
Properties
Monitoring
Capabilities (8)
Recommendations
Tutorials
Virtual machine
Computer name InsightScape-VM
Operating system Windows (Windows Server 2019 Datacenter)
VM generation V2
VM architecture x64
Agent status Ready
Agent version 2.7.41491.1095
Hibernation Disabled
Networking
Public IP address 52.170.47.103 (Network interface insightscape-vm1967)
Public IP address (IPv6) -
Private IP address 10.1.1.4
Private IP address (IPv6) -
Virtual network/subnet InsightScape-VNet/VM1-Subnet
DNS name Configure


Create a virtual machine - Mic
portal.azure.com/?feature.msaljs=true#create/Microsoft.VirtualMachine-ARM
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY
Home > Virtual machines >
Create a virtual machine
Changing Basic options may reset selections you have made. Review all options prior to creating the virtual machine.
Help me create a low cost VM
Help me create a VM optimized for high availability
Help me choose the right VM size for my workload
Basics
Disks
Networking
Management
Monitoring
Advanced
Tags
Review + create
Create a virtual machine that runs Linux or Windows. Select an image from Azure marketplace or use your own customized image. Complete the Basics tab then Review + create to provision a virtual machine with default parameters or review each tab for full customization. Learn more
Project details
Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.
Subscription * Azure subscription 1
Resource group * InsightScape-RG
Create new
Instance details
Virtual machine name * InsightScape-VM2
Region * (US) East US
Availability options No infrastructure redundancy required
Estimated monthly cost
$13.64 / month
View cost details
< Previous
Next : Disks >
Review + create
Give feedback


Create a virtual machine - Micr
portal.azure.com/?feature.msaljs=true#create/Microsoft.VirtualMachine-ARM
Microsoft Azure
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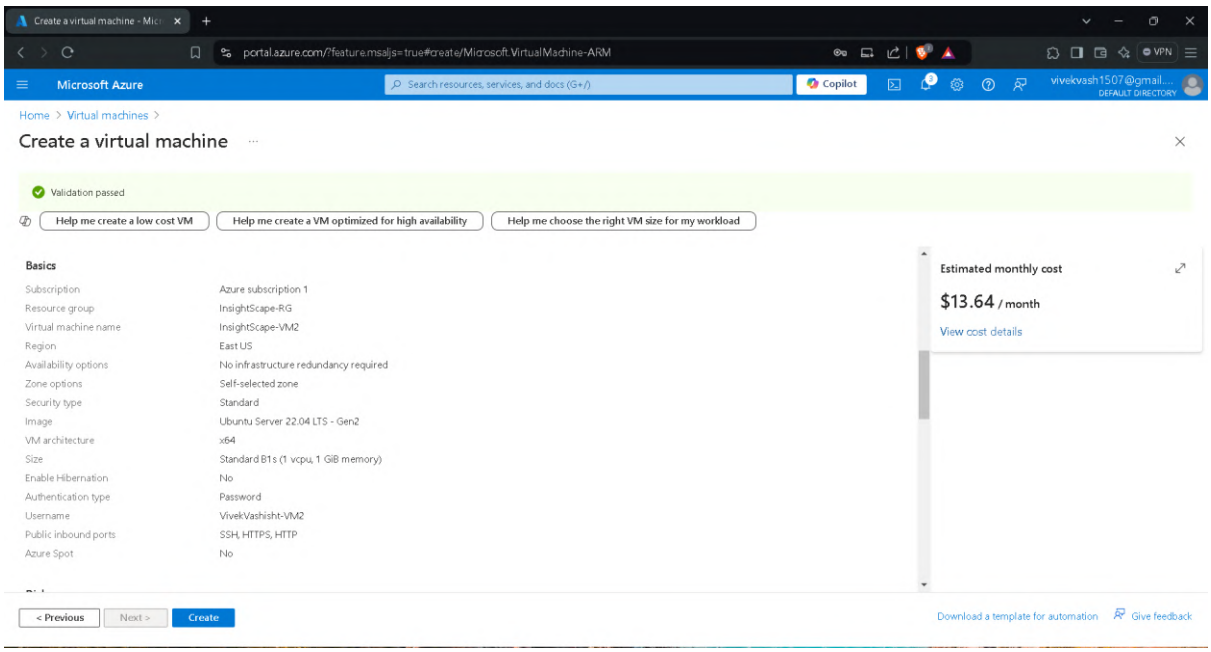
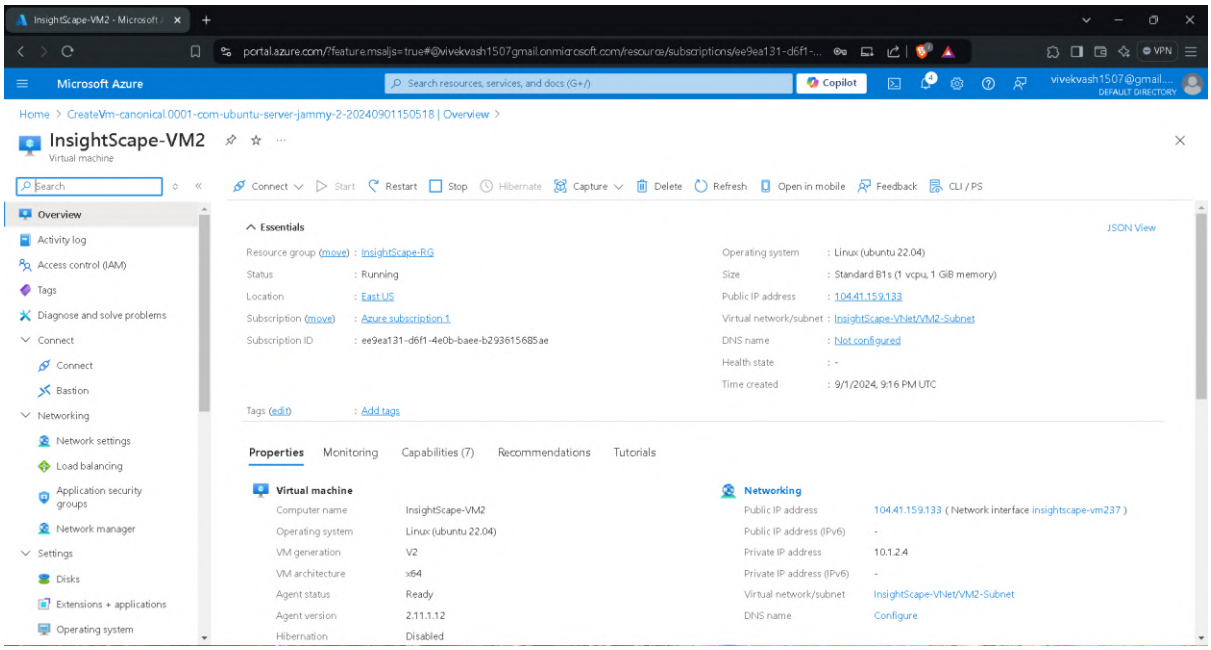
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY
Home > Virtual machines >
Create a virtual machine
Help me create a low cost VM
Help me create a VM optimized for high availability
Help me choose the right VM size for my workload
Basics Disks Networking Management Monitoring Advanced Tags Review + create
Define network connectivity for your virtual machine by configuring network interface card (NIC) settings. You can control ports, inbound and outbound connectivity with security group rules, or place behind an existing load balancing solution. Learn more
Network interface
When creating a virtual machine, a network interface will be created for you.
Virtual network * InsightScape-VNet
Create new
Subnet * VM2-Subnet (10.1.2.0/24)
Manage subnet configuration
Public IP (new) InsightScape-VM2-ip
Create new
NIC network security group None Basic Advanced
Public inbound ports * None Allow selected ports
Estimated monthly cost
$13.64 / month
View cost details
< Previous
Next : Management >
Review + create
Give feedback


Create a virtual machine - Micr
portal.azure.com/?feature.msaljs=true#create/Microsoft.VirtualMachine-ARM
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY
Home > Virtual machines >
Create a virtual machine
Validation passed
Help me create a low cost VM
Help me create a VM optimized for high availability
Help me choose the right VM size for my workload
Basics
Subscription Azure subscription 1
Resource group InsightScape-RG
Virtual machine name InsightScape-VM2
Region East US
Availability options No infrastructure redundancy required
Zone options Self-selected zone
Security type Standard
Image Ubuntu Server 22.04 LTS - Gen2
VM architecture x64
Size Standard B1s (1 vcpu, 1 GiB memory)
Enable Hibernation No
Authentication type Password
Username VivekVashisht-VM2
Public inbound ports SSH, HTTPS, HTTP
Azure Spot No
Estimated monthly cost
$13.64 / month
View cost details
< Previous
Next >
Create
Download a template for automation
Give feedback


InsightScape-VM2 - Microsoft
portal.azure.com/?feature.msaljs=true#@vivekvash1507gmail.onmicrosoft.com/resource/subscriptions/ee9ea131-d6f1-...
Microsoft Azure
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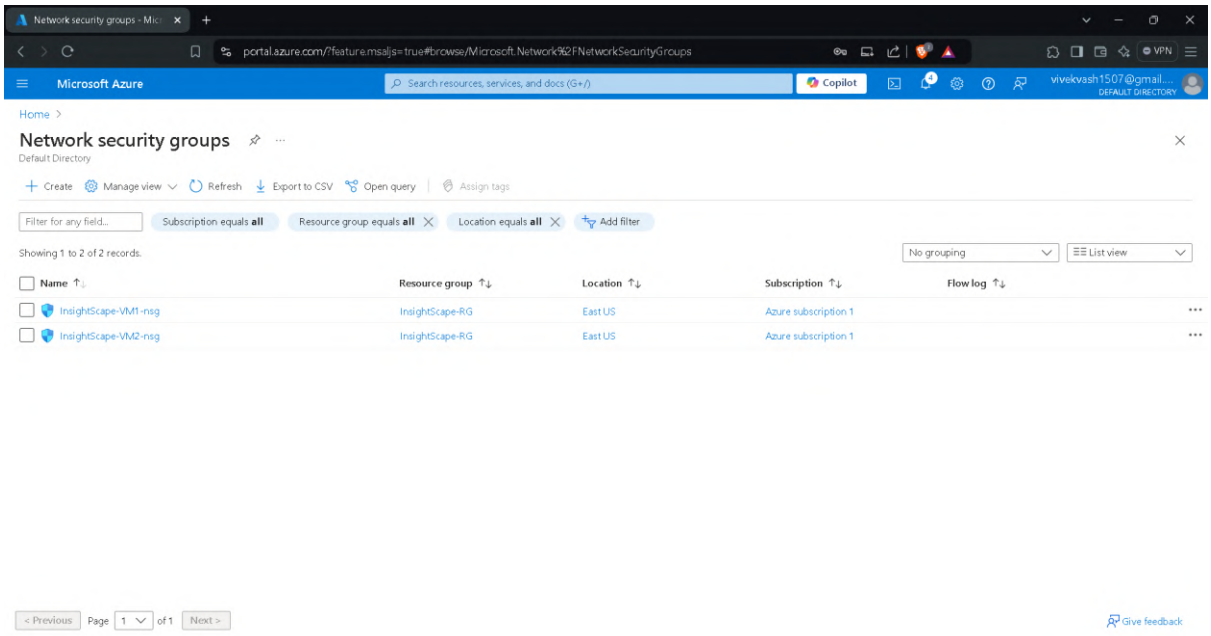
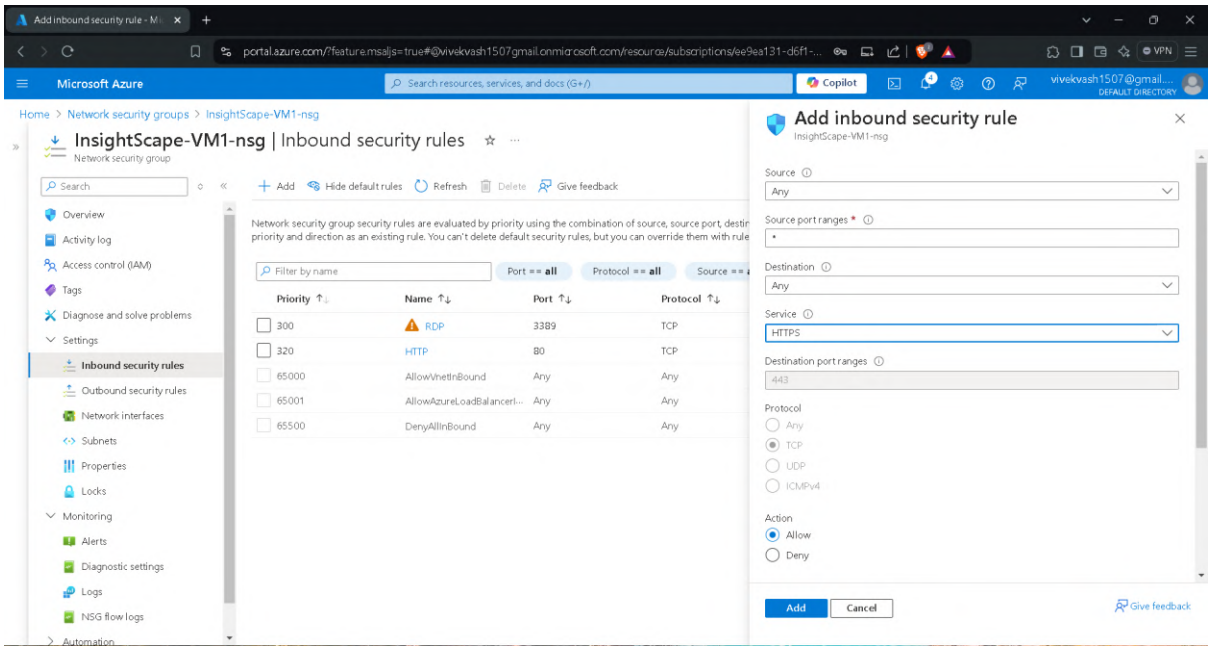
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY
Home > CreateVm-canonical.0001-com-ubuntu-server-jammy-2-20240901150518 | Overview >
InsightScape-VM2
Virtual machine
Connect
Start
Restart
Stop
Hibernate
Capture
Delete
Refresh
Open in mobile
Feedback
CLI / PS
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Connect
Connect
Bastion
Networking
Network settings
Load balancing
Application security groups
Network manager
Settings
Disks
Extensions + applications
Operating system
Essentials
JSON View
Resource group (move) : InsightScape-RG
Status : Running
Location : East US
Subscription (move) : Azure subscription 1
Subscription ID : ee9ea131-d6f1-4e0b-baee-b293615685ae
Operating system : Linux (ubuntu 22.04)
Size : Standard B1s (1 vcpu, 1 GiB memory)
Public IP address : 104.41.159.133
Virtual network/subnet : InsightScape-VNet/VM2-Subnet
DNS name : Not configured
Health state : -
Time created : 9/1/2024, 9:16 PM UTC
Tags (edit) : Add tags
Properties
Monitoring
Capabilities (7)
Recommendations
Tutorials
Virtual machine
Computer name InsightScape-VM2
Operating system Linux (ubuntu 22.04)
VM generation V2
VM architecture x64
Agent status Ready
Agent version 2.11.1.12
Hibernation Disabled
Networking
Public IP address 104.41.159.133 (Network interface insightscape-vm237)
Public IP address (IPv6) -
Private IP address 10.1.2.4
Private IP address (IPv6) -
Virtual network/subnet InsightScape-VNet/VM2-Subnet
DNS name Configure


Network security groups - Mic
portal.azure.com/?feature.msaljs=true#browse/Microsoft.Network%2FNetworkSecurityGroups
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY
Home >
Network security groups
Default Directory
Create
Manage view
Refresh
Export to CSV
Open query
Assign tags
Filter for any field...
Subscription equals all
Resource group equals all
Location equals all
Add filter
Showing 1 to 2 of 2 records.
No grouping
List view
Name
Resource group
Location
Subscription
Flow log
InsightScape-VM1-nsg InsightScape-RG East US Azure subscription 1
InsightScape-VM2-nsg InsightScape-RG East US Azure subscription 1
< Previous
Page 1 of 1
Next >
Give feedback


Add inbound security rule - Mi
portal.azure.com/?feature.msaljs=true#@vivekvash1507gmail.onmicrosoft.com/resource/subscriptions/ee9ea131-d6f1-...
Microsoft Azure
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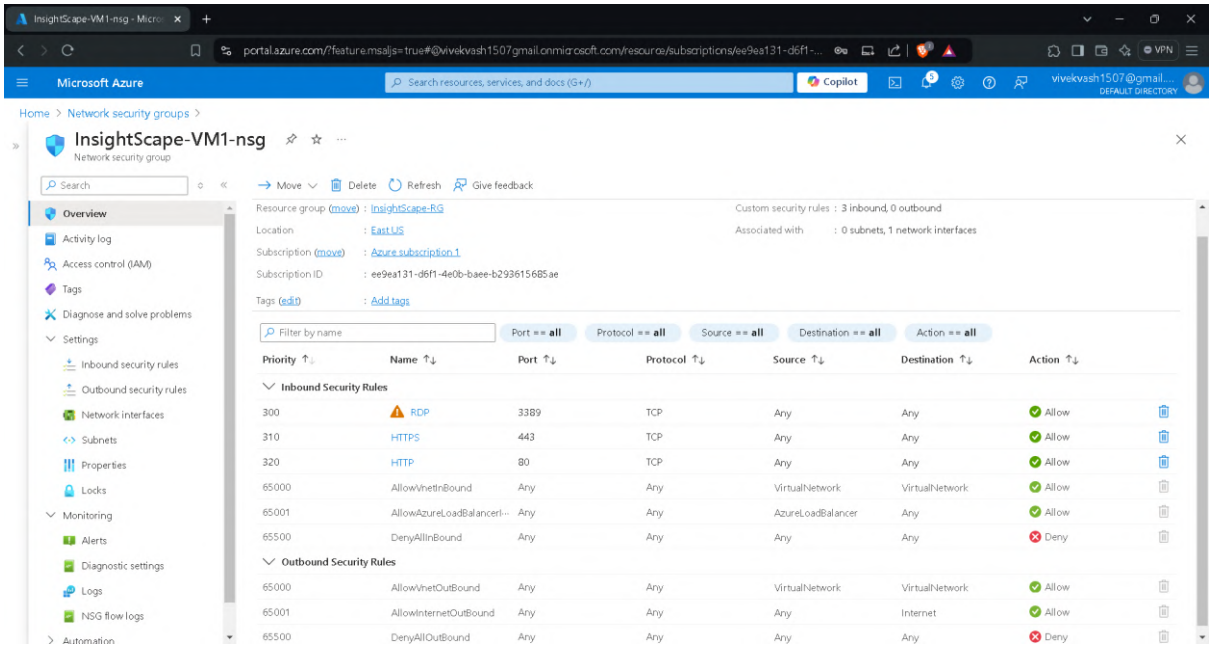
DEFAULT DIRECTORY
Home > Network security groups > InsightScape-VM1-nsg
InsightScape-VM1-nsg | Inbound security rules
Network security group
Search
Add
Hide default rules
Refresh
Delete
Give feedback
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Settings
Inbound security rules
Outbound security rules
Network interfaces
Subnets
Properties
Locks
Monitoring
Alerts
Diagnostic settings
Logs
NSG flow logs
Automation
Network security group security rules are evaluated by priority using the combination of source, source port, destin
priority and direction as an existing rule. You can't delete default security rules, but you can override them with rule
Filter by name
Port == all
Protocol == all
Source == a
Priority
Name
Port
Protocol
300
RDP
3389
TCP
320
HTTP
80
TCP
65000
AllowVnetInBound
Any
Any
65001
AllowAzureLoadBalancerI...
Any
Any
65500
DenyAllInBound
Any
Any
Add inbound security rule
InsightScape-VM1-nsg
Source
Any
Source port ranges *
*
Destination
Any
Service
HTTPS
Destination port ranges
443
Protocol
Any
TCP
UDP
ICMPv4
Action
Allow
Deny
Add
Cancel
Give feedback


InsightScape-VM1-nsg - Micro
portal.azure.com/?feature.msaljs=true#@vivekvash1507gmail.onmicrosoft.com/resource/subscriptions/ee9ea131-d6f1-...
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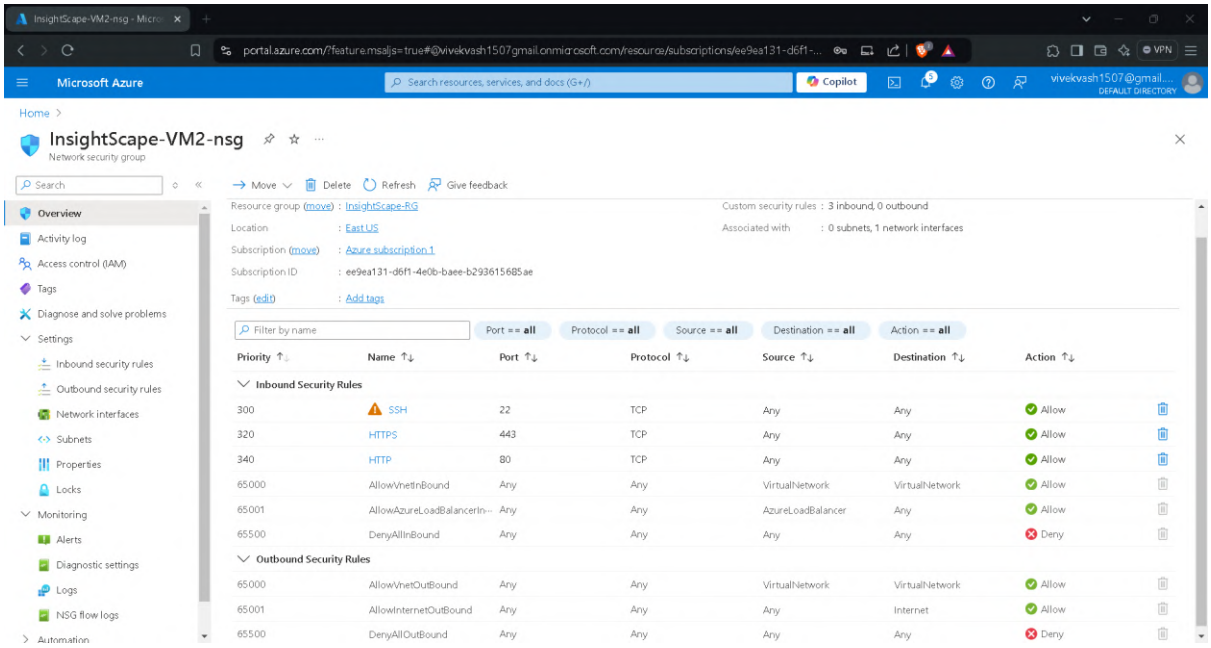
DEFAULT DIRECTORY
Home > Network security groups >
InsightScape-VM1-nsg
Network security group
Search
Move
Delete
Refresh
Give feedback
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Settings
Inbound security rules
Outbound security rules
Network interfaces
Subnets
Properties
Locks
Monitoring
Alerts
Diagnostic settings
Logs
NSG flow logs
Automation
Resource group (move) : InsightScape-RG
Location : East US
Subscription (move) : Azure subscription 1
Subscription ID : ee9ea131-d6f1-4e0b-baee-b293615685ae
Tags (edit) : Add tags
Custom security rules : 3 inbound, 0 outbound
Associated with : 0 subnets, 1 network interfaces
Filter by name
Port == all
Protocol == all
Source == all
Destination == all
Action == all
Priority
Name
Port
Protocol
Source
Destination
Action
Inbound Security Rules
300 RDP 3389 TCP Any Any Allow
310 HTTPS 443 TCP Any Any Allow
320 HTTP 80 TCP Any Any Allow
65000 AllowVnetInBound Any Any VirtualNetwork VirtualNetwork Allow
65001 AllowAzureLoadBalancerI... Any Any AzureLoadBalancer Any Allow
65500 DenyAllInBound Any Any Any Any Deny
Outbound Security Rules
65000 AllowVnetOutBound Any Any VirtualNetwork VirtualNetwork Allow
65001 AllowInternetOutBound Any Any Any Internet Allow
65500 DenyAllOutBound Any Any Any Any Deny

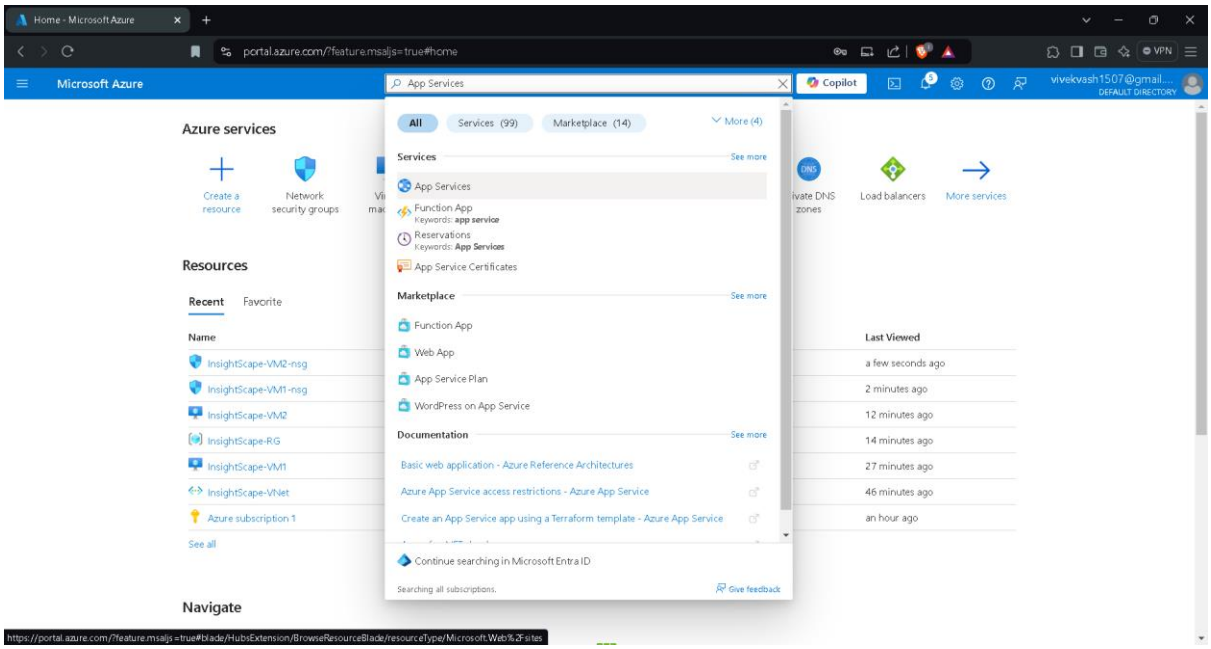


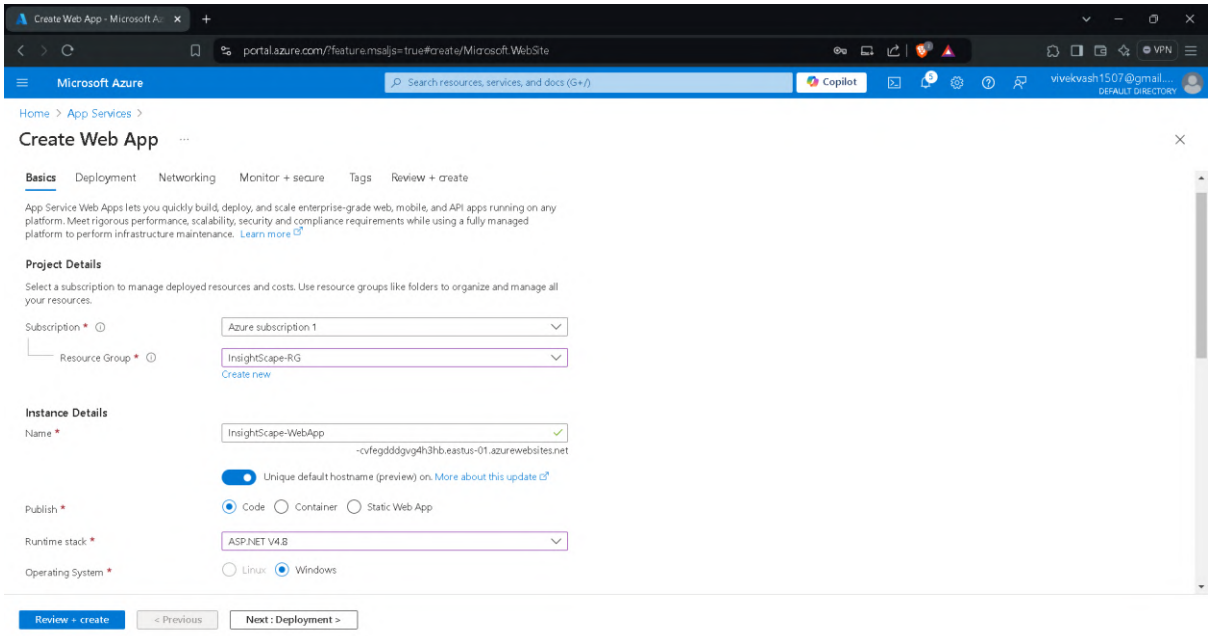
c) Web App

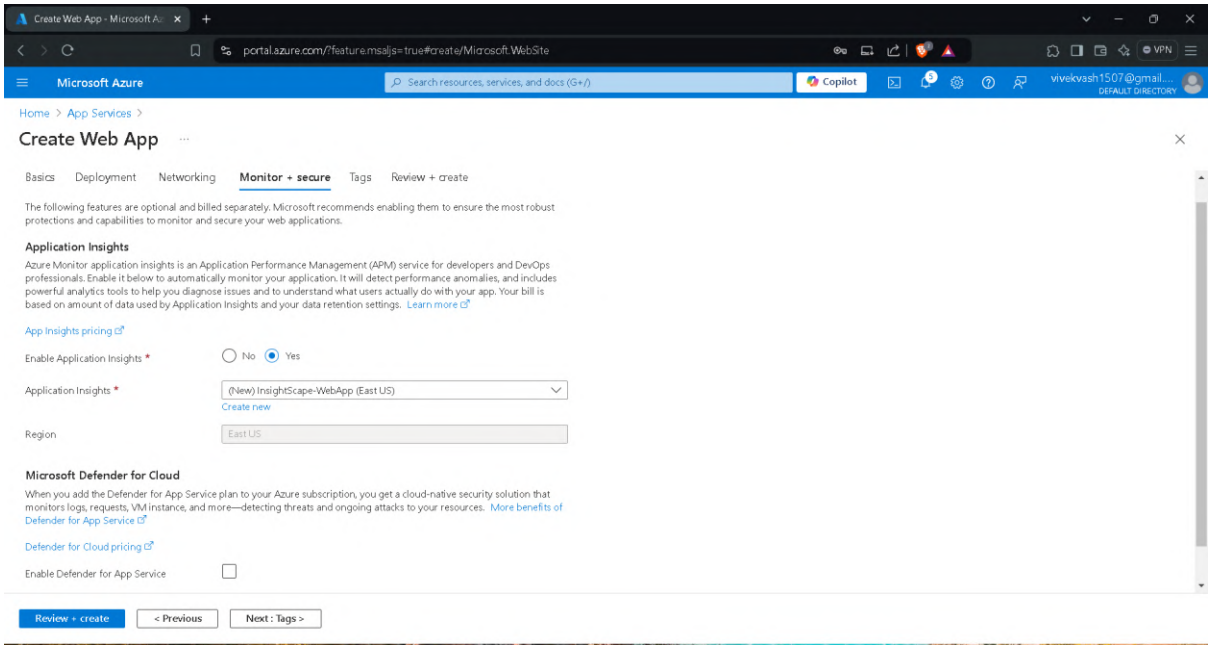
After the VM setup, it was time to create the Web App:

1. Web App Creation:
    - Resource Group: InsightScape-RG
    - Name: InsightScape-WebApp
    - Publish: Code
    - Runtime Stack: ASP.NET V4.8
    - Operating System: Windows
    - App Service Plan: InsightScape-Plan (B1:1)
2. Monitor + Secure Tab:
    - Enable Application Insights: Yes
    - Application Insights: Created a new instance named InsightScape-WebApp (East US)
3. Deployment of Sample App:
    - Forked an ASP.NET sample app from GitHub ("MySampleApp" repository).
    - Deployment:
        - Accessed the Deployment Center tab in the InsightScape-WebApp.
        - Selected GitHub as the source.
        - Signed in with GitHub credentials.
        - Selected "MySampleApp" as the repository and "main" as the branch.
        - Saved the configuration.
    - Verified successful deployment by checking the deployment logs and the default domain URL.

Screenshots






Create Web App - Microsoft A
portal.azure.com/?feature.msaljs=true#create/Microsoft.WebSite
Microsoft Azure
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Copilot
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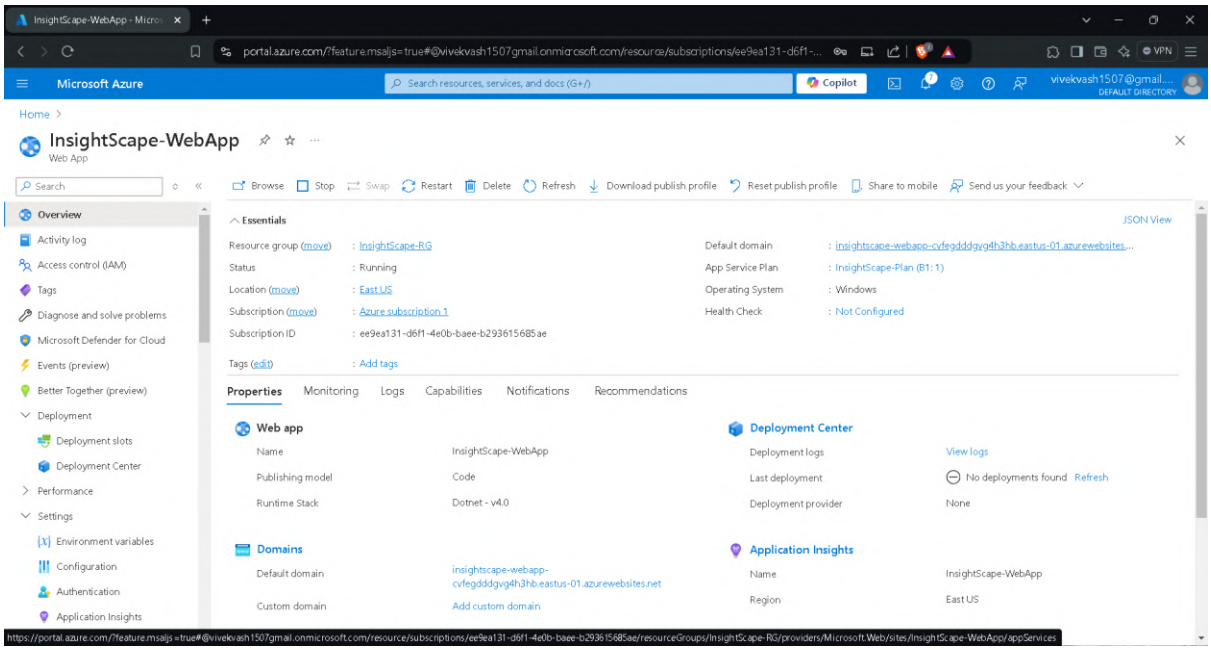
DEFAULT DIRECTORY
Home > App Services >
Create Web App
Basics Deployment Networking Monitor + secure Tags Review + create
The following features are optional and billed separately. Microsoft recommends enabling them to ensure the most robust protections and capabilities to monitor and secure your web applications.
Application Insights
Azure Monitor application insights is an Application Performance Management (APM) service for developers and DevOps professionals. Enable it below to automatically monitor your application. It will detect performance anomalies, and includes powerful analytics tools to help you diagnose issues and to understand what users actually do with your app. Your bill is based on amount of data used by Application Insights and your data retention settings. Learn more
App Insights pricing
Enable Application Insights *
No
Yes
Application Insights *
(New) InsightScape-WebApp (East US)
Create new
Region
East US
Microsoft Defender for Cloud
When you add the Defender for App Service plan to your Azure subscription, you get a cloud-native security solution that monitors logs, requests, VM instance, and more—detecting threats and ongoing attacks to your resources. More benefits of Defender for App Service
Defender for Cloud pricing
Enable Defender for App Service
Review + create
< Previous
Next : Tags >


InsightScape-WebApp - Micro
portal.azure.com/?feature.msaljs=true#@vivekvash1507gmail.onmicrosoft.com/resource/subscriptions/ee9ea131-d6f1-...
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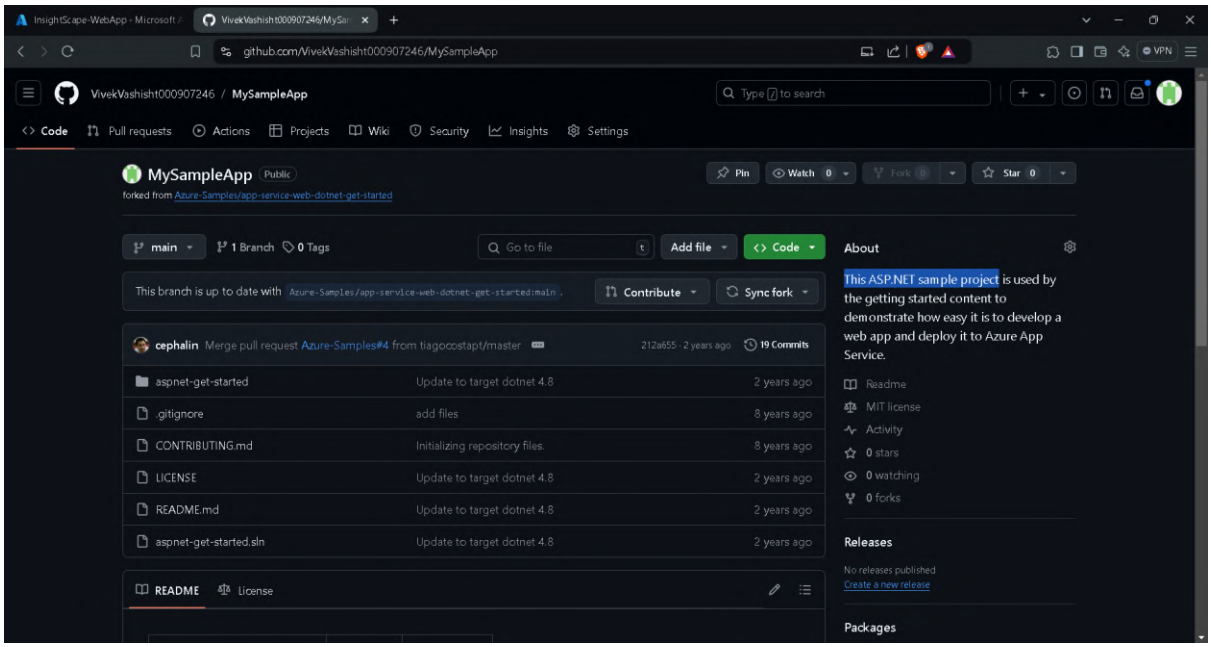
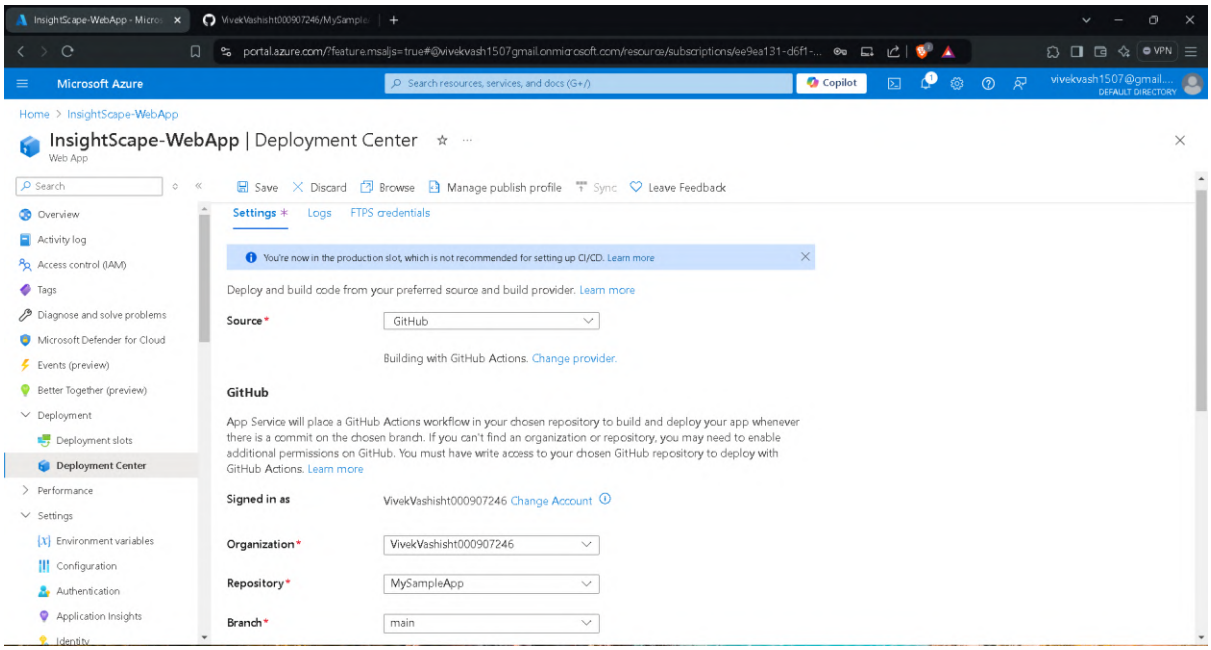
Home >
InsightScape-WebApp
Web App
Search
Browse Stop Swap Restart Delete Refresh Download publish profile Reset publish profile Share to mobile Send us your feedback
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Microsoft Defender for Cloud
Events (preview)
Better Together (preview)
Deployment
Deployment slots
Deployment Center
Performance
Settings
Environment variables
Configuration
Authentication
Application Insights
Essentials
JSON View
Resource group (move) : InsightScape-RG
Status : Running
Location (move) : East US
Subscription (move) : Azure subscription 1
Subscription ID : ee9ea131-d6f1-4e0b-baee-b293615685ae
Tags (edit) : Add tags
Default domain : insightscape-webapp-cvfegdddgvg4h3hb.eastus-01.azurewebsites...
App Service Plan : InsightScape-Plan (B1: 1)
Operating System : Windows
Health Check : Not Configured
Properties Monitoring Logs Capabilities Notifications Recommendations
Web app
Name InsightScape-WebApp
Publishing model Code
Runtime Stack Dotnet - v4.0
Deployment Center
Deployment logs View logs
Last deployment No deployments found Refresh
Deployment provider None
Domains
Default domain insightscape-webapp-cvfegdddgvg4h3hb.eastus-01.azurewebsites.net
Custom domain Add custom domain
Application Insights
Name InsightScape-WebApp
Region East US
https://portal.azure.com/?feature.msaljs=true#@vivekvash1507gmail.onmicrosoft.com/resource/subscriptions/ee9ea131-d6f1-4e0b-baee-b293615685ae/resourceGroups/InsightScape-RG/providers/Microsoft.Web/sites/InsightScape-WebApp/appServices


github.com/VivekVashisht000907246/MySampleApp
VivekVashisht000907246 / MySampleApp
Code
Pull requests
Actions
Projects
Wiki
Security
Insights
Settings
MySampleApp
Public
forked from Azure-Samples/app-service-web-dotnet-get-started
Pin
Watch 0
Star 0
main
1 Branch
0 Tags
Go to file
Add file
Code
This branch is up to date with Azure-Samples/app-service-web-dotnet-get-started:main.
Contribute
Sync fork
cephalin Merge pull request Azure-Samples#4 from tiagocostapt/master
212a655 · 2 years ago
19 Commits
aspnet-get-started
Update to target dotnet 4.8
2 years ago
.gitignore
add files
8 years ago
CONTRIBUTING.md
Initializing repository files.
8 years ago
LICENSE
Update to target dotnet 4.8
2 years ago
README.md
Update to target dotnet 4.8
2 years ago
aspnet-get-started.sln
Update to target dotnet 4.8
2 years ago
README
License
About
This ASP.NET sample project is used by the getting started content to demonstrate how easy it is to develop a web app and deploy it to Azure App Service.
Readme
MIT license
Activity
0 stars
0 watching
0 forks
Releases
No releases published
Create a new release
Packages


portal.azure.com/?feature.msaljs=true#@vivekvash1507gmail.onmicrosoft.com/resource/subscriptions/ee9ea131-d6f1-...
Microsoft Azure
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Copilot
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InsightScape-WebApp | Deployment Center
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Microsoft Defender for Cloud
Events (preview)
Better Together (preview)
Deployment
Deployment slots
Deployment Center
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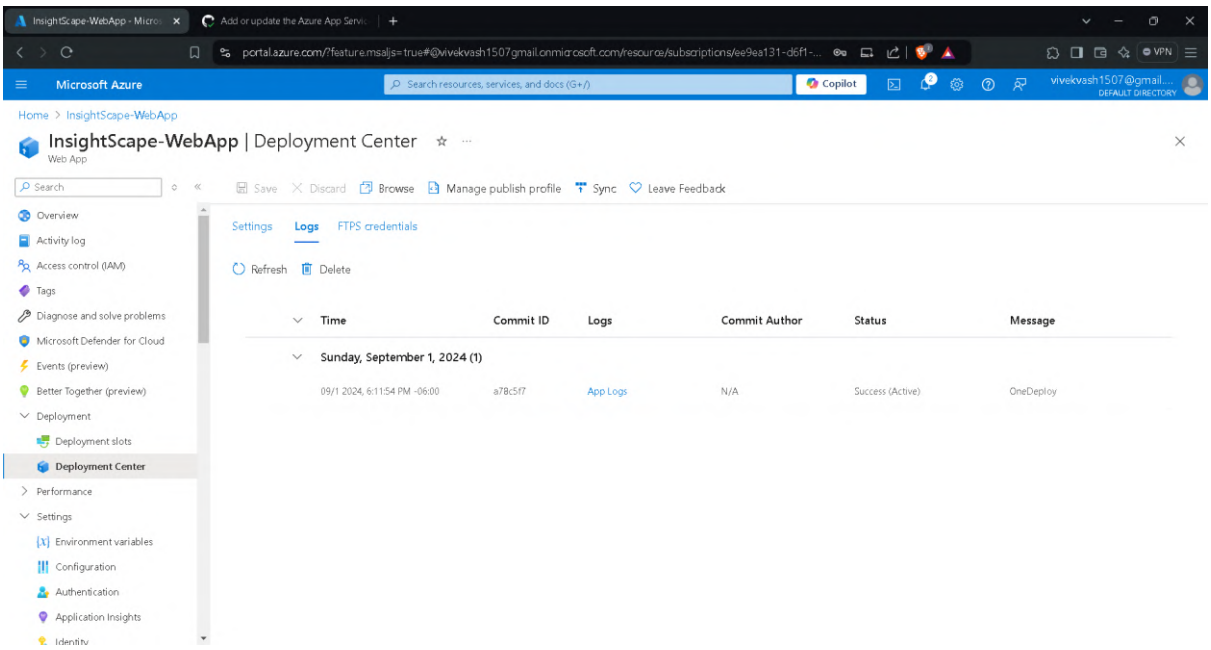
Configuration
Authentication
Application Insights
Identity
Save
Discard
Browse
Manage publish profile
Sync
Leave Feedback
Settings
Logs
FTPS credentials
You're now in the production slot, which is not recommended for setting up CI/CD. Learn more
Deploy and build code from your preferred source and build provider. Learn more
Source*
GitHub
Building with GitHub Actions. Change provider.
GitHub
App Service will place a GitHub Actions workflow in your chosen repository to build and deploy your app whenever there is a commit on the chosen branch. If you can't find an organization or repository, you may need to enable additional permissions on GitHub. You must have write access to your chosen GitHub repository to deploy with GitHub Actions. Learn more
Signed in as
VivekVashisht000907246 Change Account
Organization*
VivekVashisht000907246
Repository*
MySampleApp
Branch*
main


Microsoft Azure
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Copilot
Home > InsightScape-WebApp
InsightScape-WebApp | Deployment Center
Web App
Search
Save
Discard
Browse
Manage publish profile
Sync
Leave Feedback
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Microsoft Defender for Cloud
Events (preview)
Better Together (preview)
Deployment
Deployment slots
Deployment Center
Performance
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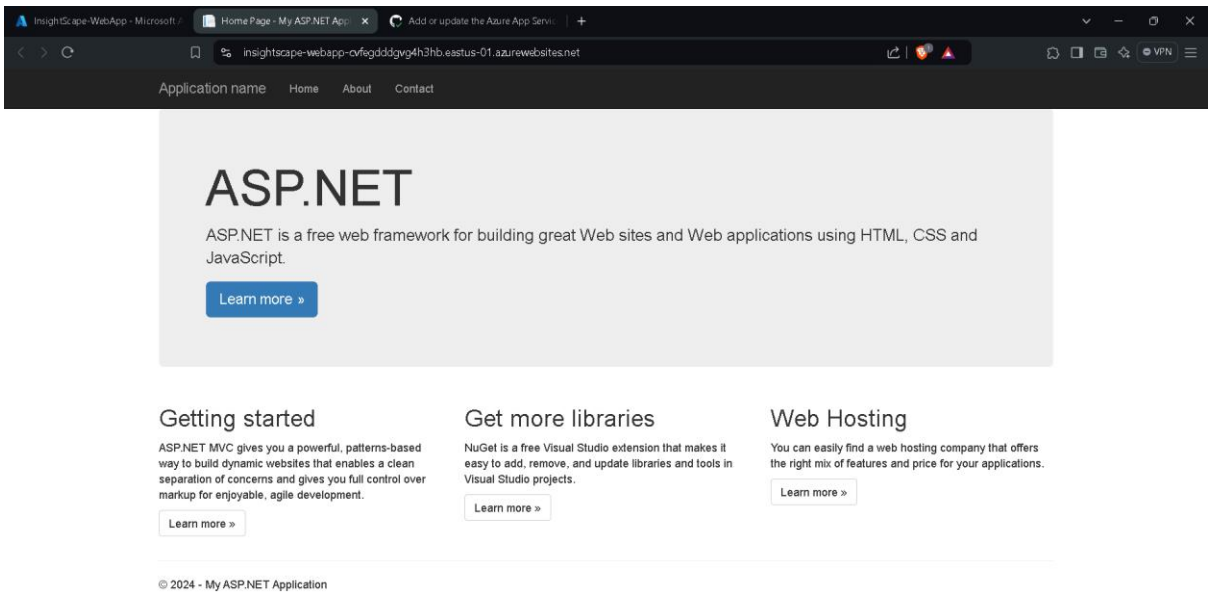
Environment variables
Configuration
Authentication
Application Insights
Settings
Logs
FTPS credentials
Refresh
Delete
Time
Commit ID
Logs
Commit Author
Status
Message
Sunday, September 1, 2024 (1)
09/1 2024, 6:11:54 PM -06:00
a78c5f7
App Logs
N/A
Success (Active)
OneDeploy


insightscape-webapp-cvfegdddgvg4h3hb.eastus-01.azurewebsites.net
Application name
Home
About
Contact
ASP.NET
ASP.NET is a free web framework for building great Web sites and Web applications using HTML, CSS and JavaScript.
Learn more »
Getting started
ASP.NET MVC gives you a powerful, patterns-based way to build dynamic websites that enables a clean separation of concerns and gives you full control over markup for enjoyable, agile development.
Learn more »
Get more libraries
NuGet is a free Visual Studio extension that makes it easy to add, remove, and update libraries and tools in Visual Studio projects.
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d) Blob Storage and Logic App

After setting up the Web App, it was time to create the Blob Storage and Logic App.

1. **Storage Account Creation:**
    - Name: insightscapeblob
    - Resource Group: InsightScape-RG
    - Region: East US
    - Primary Service: Azure Blob Storage or Azure Data Lake Storage Gen 2
    - Performance: Standard
    - Redundancy: Locally-redundant storage (LRS)
    - Account Kind: StorageV2 (general purpose v2)
    - Other Configurations: Used default settings for remaining configurations.

    After setting these configurations, I clicked "Create" to deploy the storage account.

    Once the deployment was successful, I proceeded to:

    - Navigate to the Containers tab under Data Storage in the insightscapeblob storage account.
    - Create a container named "files".
2. **Logic App Setup:**
    - Hosting Option: Consumption (Multi-tenant)
    - Resource Group: InsightScape-RG
    - Name: InsightScape-LogicApp
    - Region: East US
    - Enable Log Analytics: No

    After setting the configurations above, I clicked on "Review + Create". Once the Logic App was successfully deployed, I followed these steps:

    - Trigger Setup in Logic App Designer:
        - I accessed the Logic App Designer under the Development Tools in the InsightScape-LogicApp.
        - For the trigger, I selected "When a blob is added or modified (properties only) (V2)".
        - To authenticate the Logic App connection, I went to the Access keys of the insightscapeblob storage account and copied the access keys.
        - Create Connection in Trigger:
            - Connection Name: InsightScapeBlobConnection
            - Authentication Type: Access Key
            - Azure Storage Account Name or Blob Endpoint: insightscapeblob
            - Azure Storage Account Access Key: (The access key from the storage account)

            After providing these details, I clicked on "Create new".

    - Trigger Configurations:

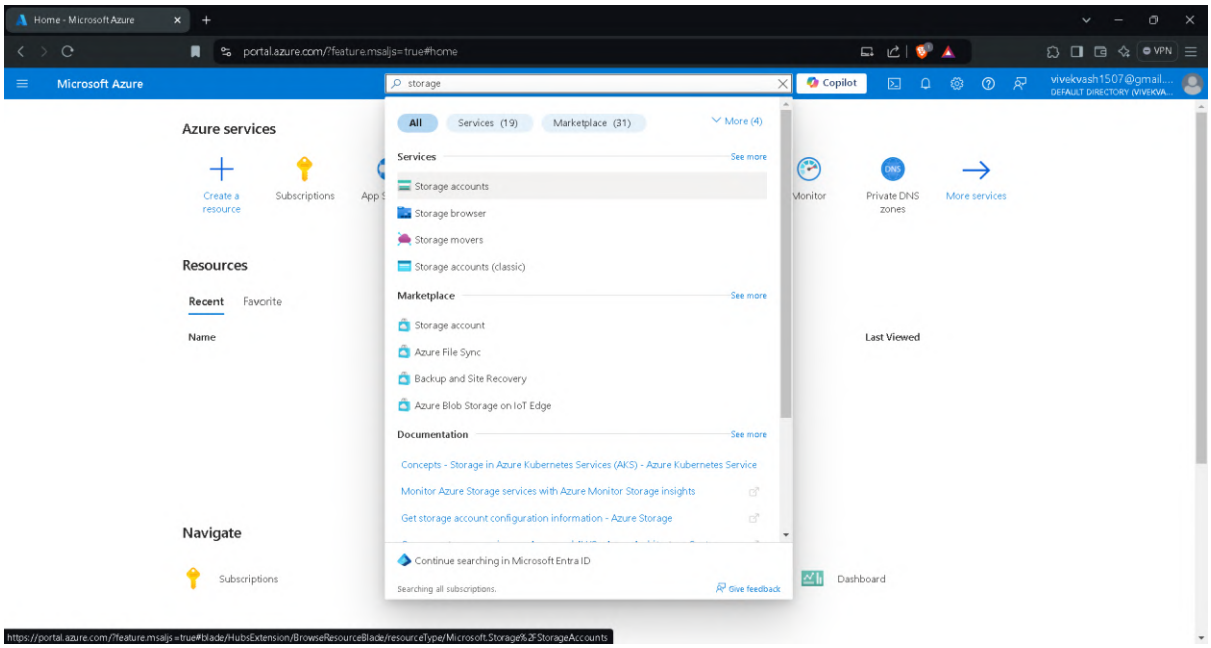
        - Storage Account Name or Blob Endpoint: Use connection settings (insightscapeblob)
        - Container: /files
        - Number Of Blobs To Return: 10
    - Action Setup After Trigger:
        - I created the same connection again with:
            - Connection Name: InsightScapeBlobConnection
            - Authentication Type: Access Key
            - Azure Storage Account Name or Blob Endpoint: insightscapeblob
            - Azure Storage Account Access Key: (The access key from the storage account)
        - Action: I chose "Get blob content (V2)".
    - Action Parameters:
        - Storage Account Name or Blob Endpoint: Use connection settings (insightscapeblob)
        - Blob: List of Files Path (Dynamic Content)

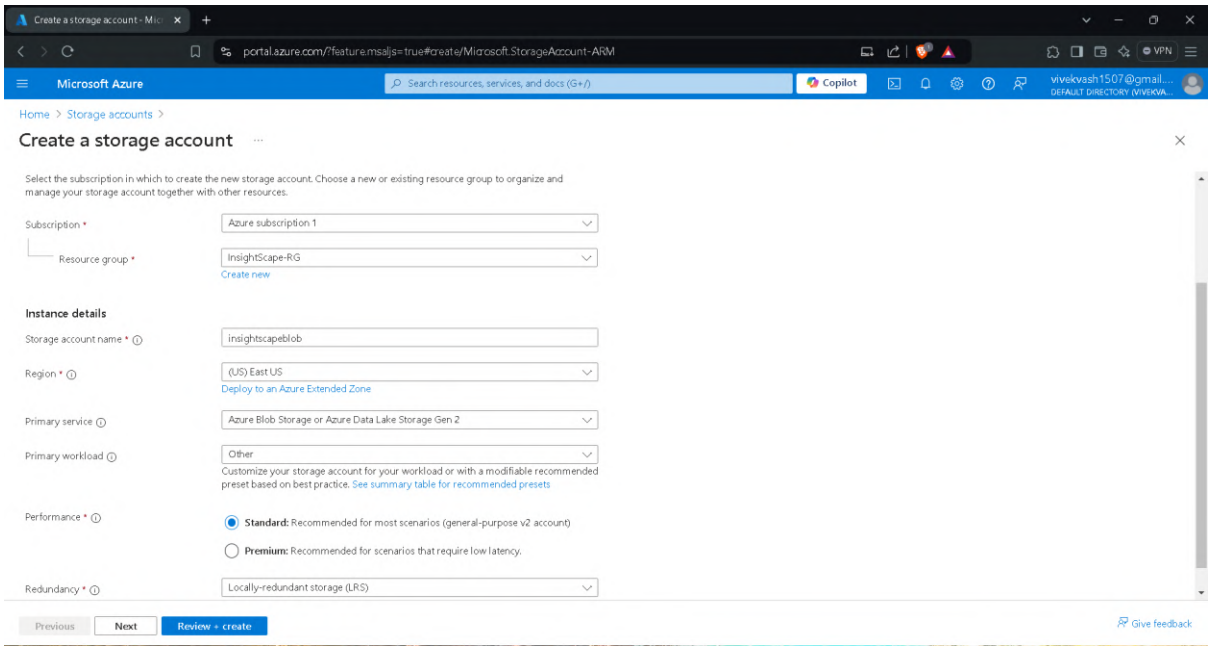
With this setup, the logic for the Logic App was ready.

- Verification:
    - To verify that the Logic App was working perfectly, I uploaded two documents named "Github Profile pic" and "Sait Profile" to the "files" container.
    - Immediately after, I went to the Run History tab in the InsightScape-LogicApp.
    - In the run history, I saw two successful runs. I clicked on one of the runs, and in the outputs, I could see the raw outputs of the blob content.

This entire process and its results confirmed that the Logic App was working successfully.

Screenshots

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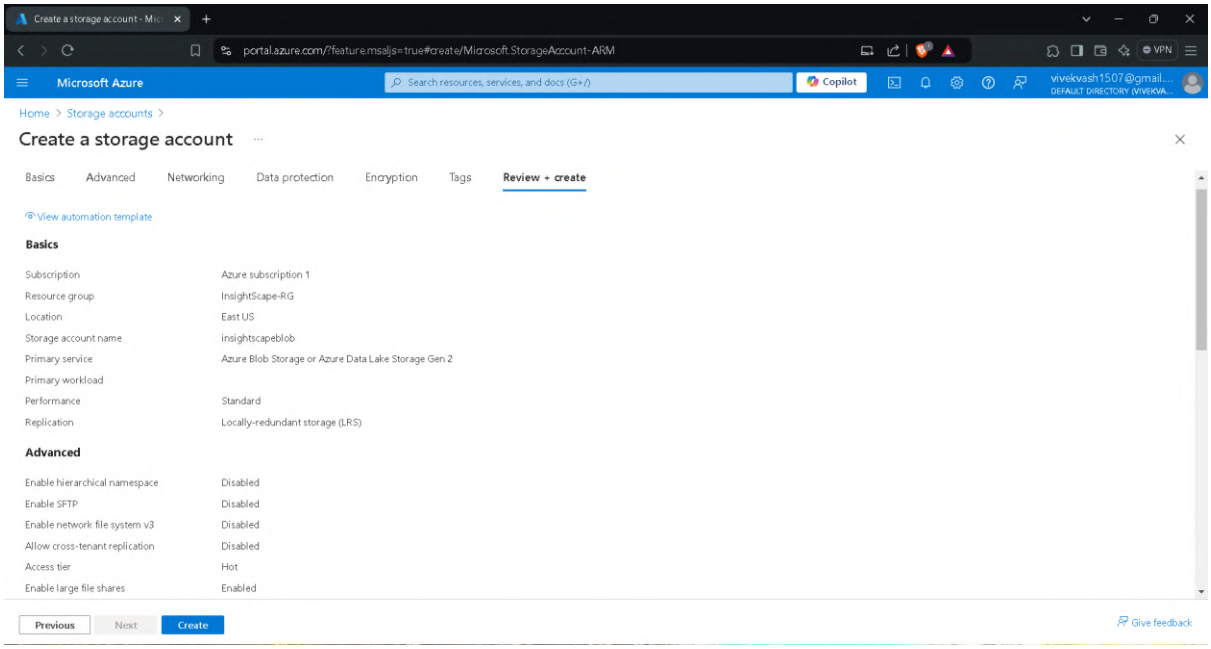
Home > Storage accounts >
Create a storage account
Select the subscription in which to create the new storage account. Choose a new or existing resource group to organize and manage your storage account together with other resources.
Subscription *
Azure subscription 1
Resource group *
InsightScape-RG
Create new
Instance details
Storage account name *
insightscapeblob
Region *
(US) East US
Deploy to an Azure Extended Zone
Primary service
Azure Blob Storage or Azure Data Lake Storage Gen 2
Primary workload
Other
Customize your storage account for your workload or with a modifiable recommended preset based on best practice. See summary table for recommended presets
Performance *
Standard: Recommended for most scenarios (general-purpose v2 account)
Premium: Recommended for scenarios that require low latency.
Redundancy *
Locally-redundant storage (LRS)
Previous
Next
Review + create
Give feedback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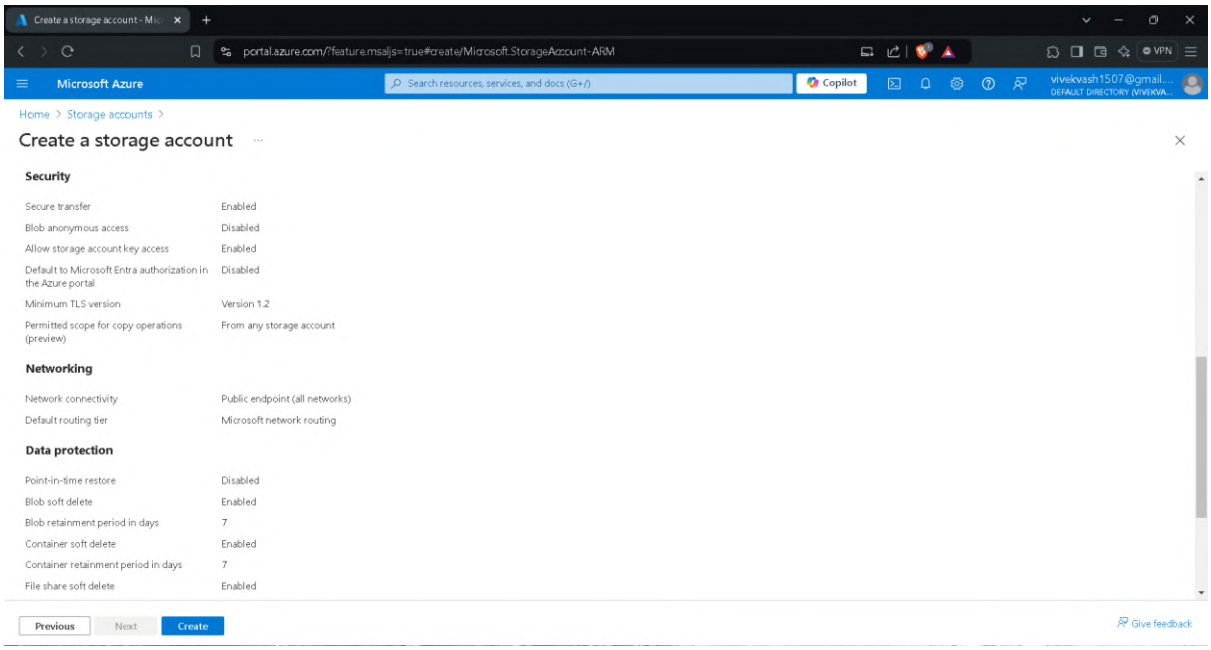
Home > Storage accounts >
Create a storage account
Basics
Advanced
Networking
Data protection
Encryption
Tags
Review + create
View automation template
Basics
Subscription
Azure subscription 1
Resource group
InsightScape-RG
Location
East US
Storage account name
insightscapeblob
Primary service
Azure Blob Storage or Azure Data Lake Storage Gen 2
Primary workload
Performance
Standard
Replication
Locally-redundant storage (LRS)
Advanced
Enable hierarchical namespace
Disabled
Enable SFTP
Disabled
Enable network file system v3
Disabled
Allow cross-tenant replication
Disabled
Access tier
Hot
Enable large file shares
Enabled
Previous
Next
Create
Give feedback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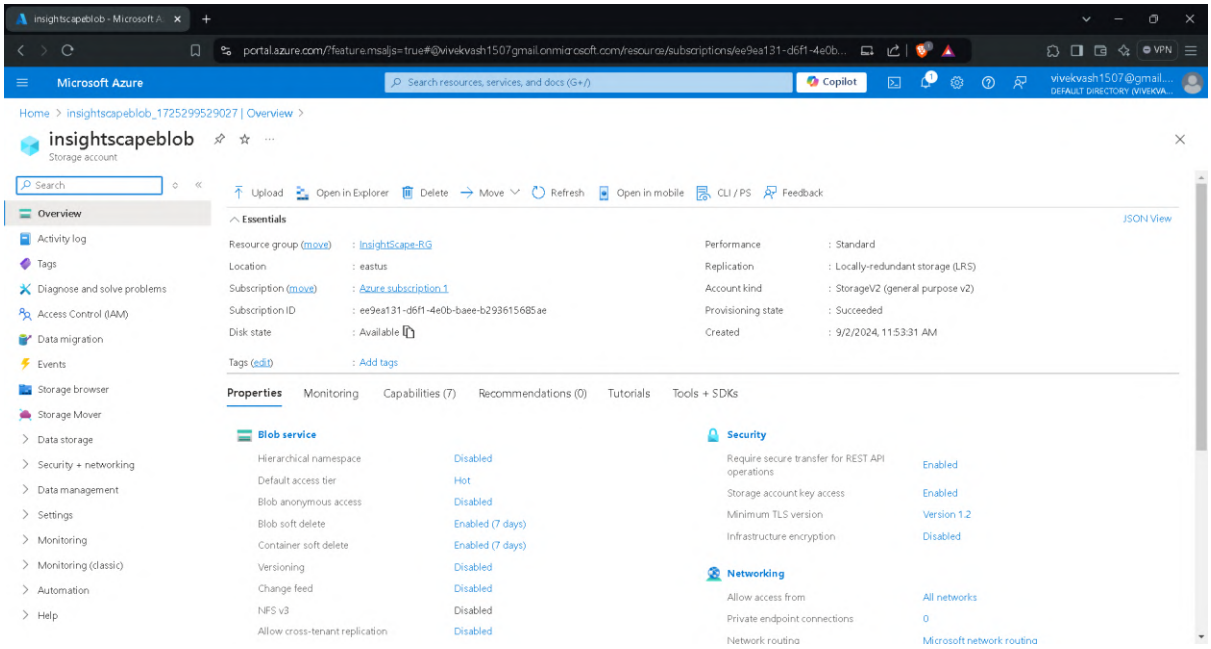
Home > Storage accounts >
Create a storage account
Security
Secure transfer
Enabled
Blob anonymous access
Disabled
Allow storage account key access
Enabled
Default to Microsoft Entra authorization in the Azure portal
Disabled
Minimum TLS version
Version 1.2
Permitted scope for copy operations (preview)
From any storage account
Networking
Network connectivity
Public endpoint (all networks)
Default routing tier
Microsoft network routing
Data protection
Point-in-time restore
Disabled
Blob soft delete
Enabled
Blob retainment period in days
7
Container soft delete
Enabled
Container retainment period in days
7
File share soft delete
Enabled
Previous
Next
Create
Give feedback


insightscapeblob - Microsoft A
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Home > insightscapeblob_1725299529027 | Overview >
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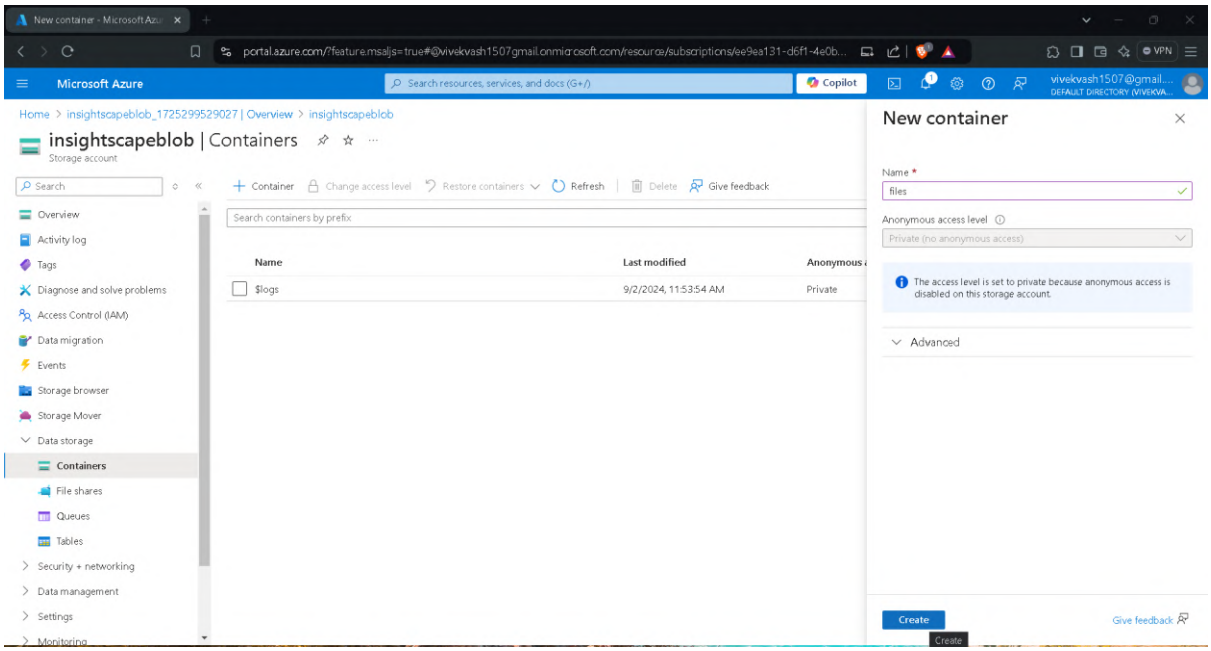
Storage account
Search
Overview
Activity log
Tags
Diagnose and solve problems
Access Control (IAM)
Data migration
Events
Storage browser
Storage Mover
Data storage
Security + networking
Data management
Settings
Monitoring
Monitoring (classic)
Automation
Help
Upload
Open in Explorer
Delete
Move
Refresh
Open in mobile
CLI / PS
Feedback
Essentials
JSON View
Resource group (move) : InsightScape-RG
Location : eastus
Subscription (move) : Azure subscription 1
Subscription ID : ee9ea131-d6f1-4e0b-baee-b293615685ae
Disk state : Available
Performance : Standard
Replication : Locally-redundant storage (LRS)
Account kind : StorageV2 (general purpose v2)
Provisioning state : Succeeded
Created : 9/2/2024, 11:53:31 AM
Tags (edit) : Add tags
Properties
Monitoring
Capabilities (7)
Recommendations (0)
Tutorials
Tools + SDKs
Blob service
Hierarchical namespace Disabled
Default access tier Hot
Blob anonymous access Disabled
Blob soft delete Enabled (7 days)
Container soft delete Enabled (7 days)
Versioning Disabled
Change feed Disabled
NFS v3 Disabled
Allow cross-tenant replication Disabled
Security
Require secure transfer for REST API operations Enabled
Storage account key access Enabled
Minimum TLS version Version 1.2
Infrastructure encryption Disabled
Networking
Allow access from All networks
Private endpoint connections 0
Network routing Microsoft network routing


New container - Microsoft Azu
portal.azure.com/?feature.msaljs=true#@vivekvash1507gmail.onmicrosoft.com/resource/subscriptions/ee9ea131-d6f1-4e0b...
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Storage account
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Tags
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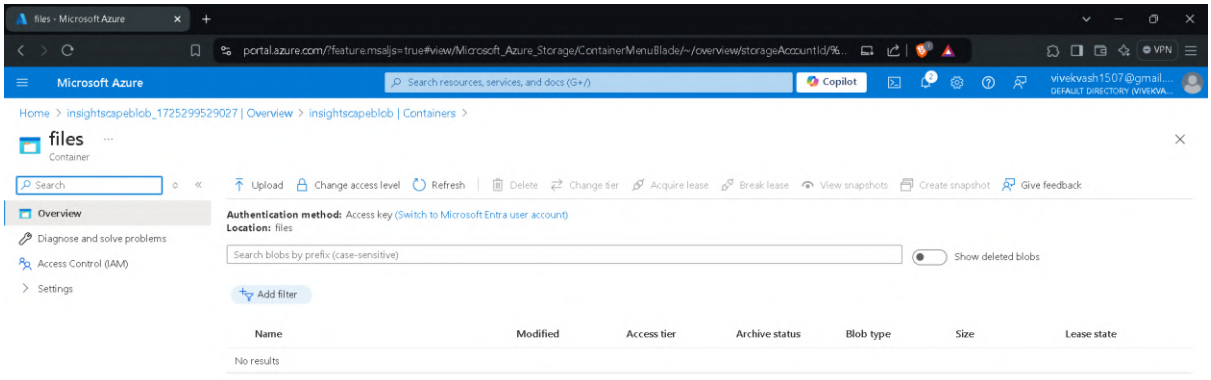
Access Control (IAM)
Data migration
Events
Storage browser
Storage Mover
Data storage
Containers
File shares
Queues
Tables
Security + networking
Data management
Settings
Monitoring
Container
Change access level
Restore containers
Refresh
Delete
Give feedback
Search containers by prefix
Name
Last modified
Anonymous
$logs
9/2/2024, 11:53:54 AM
Private
New container
Name *
files
Anonymous access level
Private (no anonymous access)
The access level is set to private because anonymous access is disabled on this storage account.
Advanced
Create
Give feedback
Create


files - Microsoft Azure
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Storage/ContainerMenuBlade/~/overview/storageAccountId/%...
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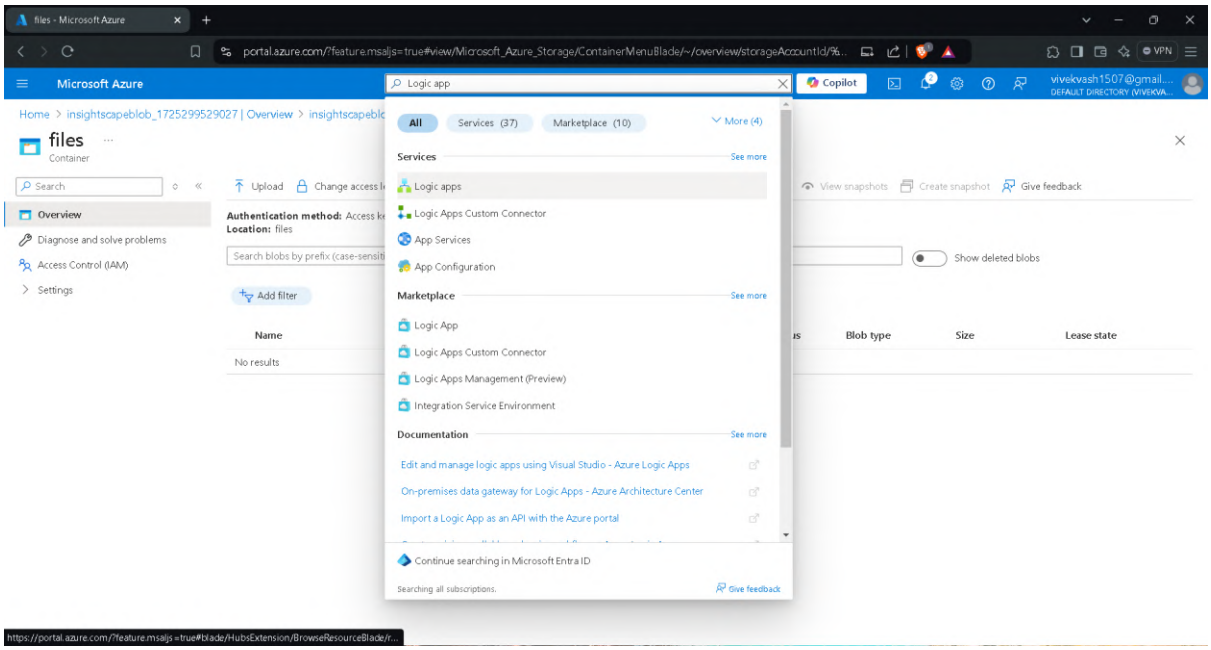
Home > insightscapeblob_1725299529027 | Overview > insightscapeblob | Containers >
files
Container
Search
Overview
Diagnose and solve problems
Access Control (IAM)
Settings
Upload
Change access level
Refresh
Delete
Change tier
Acquire lease
Break lease
View snapshots
Create snapshot
Give feedback
Authentication method: Access key (Switch to Microsoft Entra user account)
Location: files
Search blobs by prefix (case-sensitive)
Show deleted blobs
Add filter
Name
Modified
Access tier
Archive status
Blob type
Size
Lease state
No results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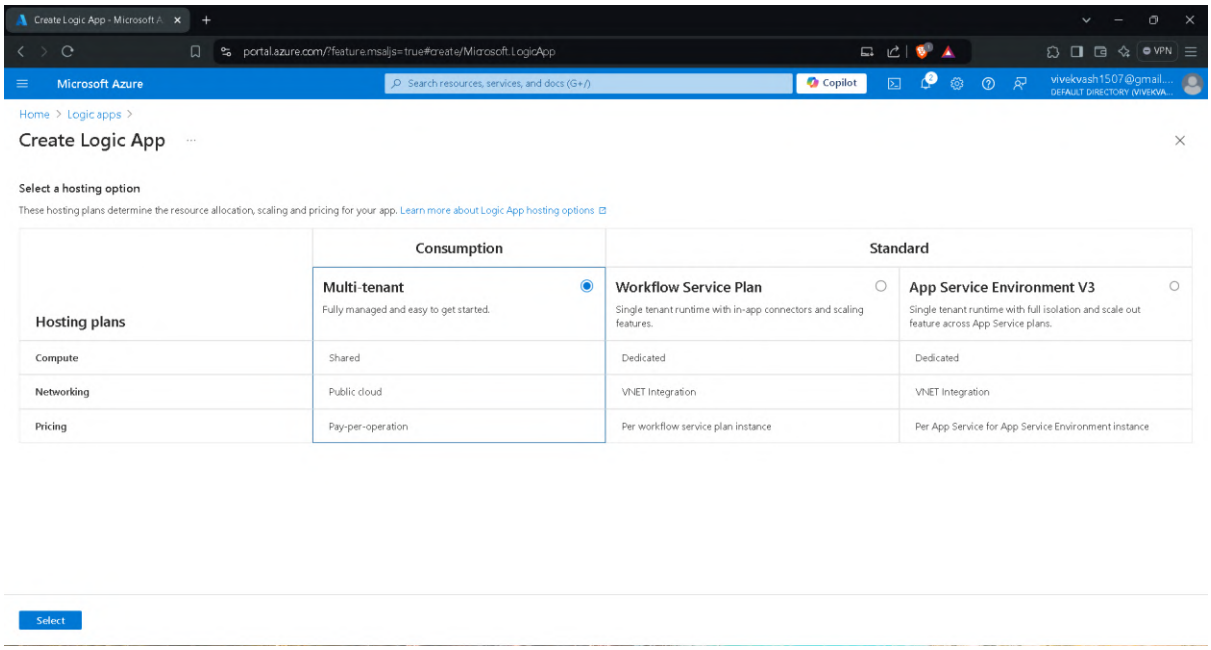
files
Container
Search
Overview
Diagnose and solve problems
Access Control (IAM)
Settings
Upload
Change access l
View snapshots
Create snapshot
Give feedback
Authentication method: Access k
Location: files
Search blobs by prefix (case-sensiti
Show deleted blobs
Add filter
Name
Blob type
Size
Lease state
No results
All
Services (37)
Marketplace (10)
More (4)
Services
See more
Logic apps
Logic Apps Custom Connector
App Services
App Configuration
Marketplace
See more
Logic App
Logic Apps Custom Connector
Logic Apps Management (Preview)
Integration Service Environment
Documentation
See more
Edit and manage logic apps using Visual Studio - Azure Logic Apps
On-premises data gateway for Logic Apps - Azure Architecture Center
Import a Logic App as an API with the Azure portal
Continue searching in Microsoft Entra ID
Searching all subscriptions.
Give feedback
https://portal.azure.com/?feature.msaljs=true#blade/HubsExtension/BrowseResourceBlade/r...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Microsoft Azure
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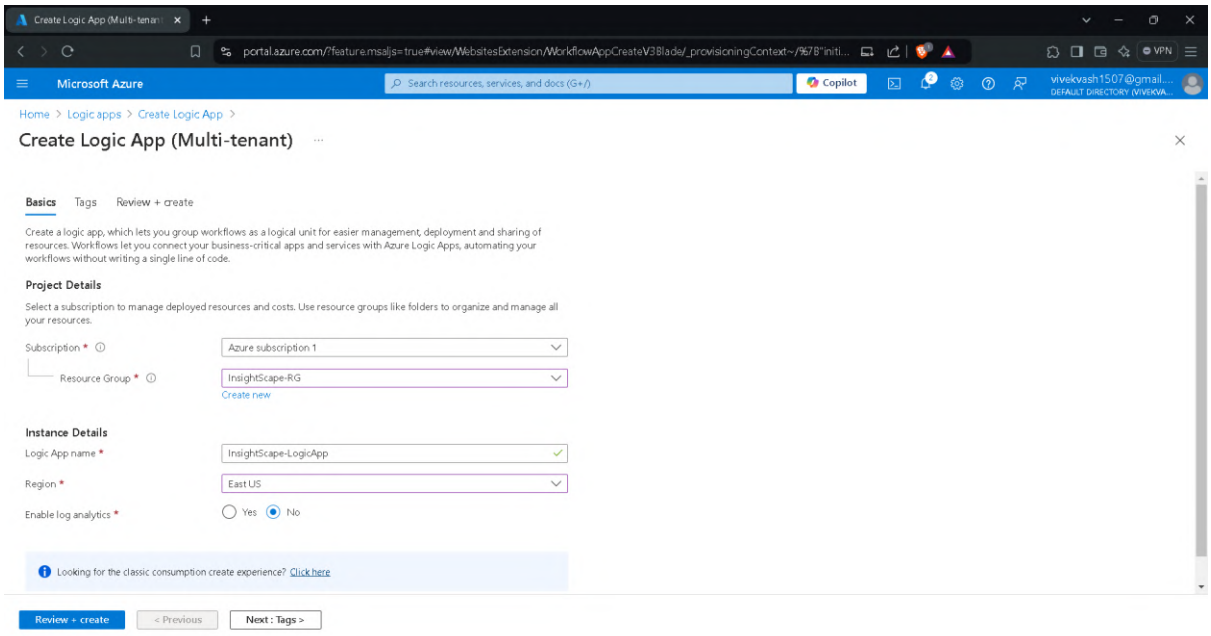
Home > Logic apps >
Create Logic App
Select a hosting option
These hosting plans determine the resource allocation, scaling and pricing for your app. Learn more about Logic App hosting options
Hosting plans
Consumption
Standard
Multi-tenant
Fully managed and easy to get started.
Workflow Service Plan
Single tenant runtime with in-app connectors and scaling features.
App Service Environment V3
Single tenant runtime with full isolation and scale out feature across App Service plans.
Compute
Shared
Dedicated
Dedicated
Networking
Public cloud
VNET Integration
VNET Integration
Pricing
Pay-per-operation
Per workflow service plan instance
Per App Service for App Service Environment instance
Select


Create Logic App (Multi-tenant
portal.azure.com/?feature.msaljs=true#view/WebsitesExtension/WorkflowAppCreateV3Blade/_provisioningContext~/%7B"initi...
Microsoft Azure
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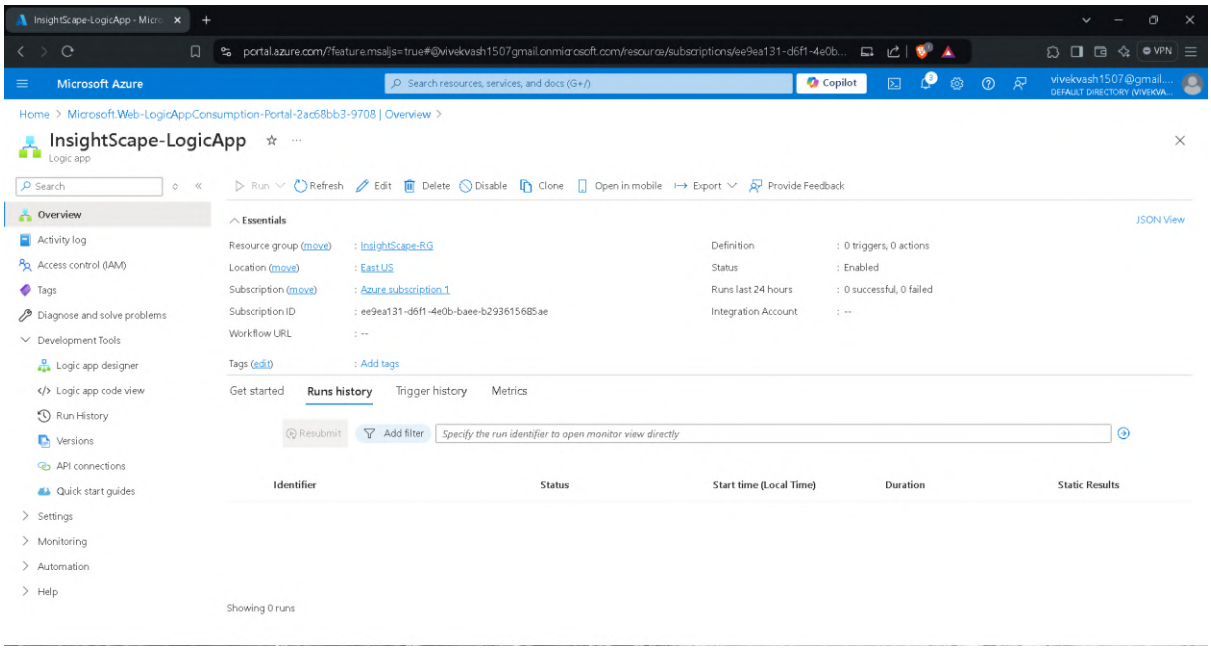
Copilot
Home > Logic apps > Create Logic App >
Create Logic App (Multi-tenant)
Basics
Tags
Review + create
Create a logic app, which lets you group workflows as a logical unit for easier management, deployment and sharing of resources. Workflows let you connect your business-critical apps and services with Azure Logic Apps, automating your workflows without writing a single line of code.
Project Details
Select a subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.
Subscription *
Azure subscription 1
Resource Group *
InsightScape-RG
Create new
Instance Details
Logic App name *
InsightScape-LogicApp
Region *
East US
Enable log analytics *
Yes
No
Looking for the classic consumption create experience? Click here
Review + create
< Previous
Next : Tags >


InsightScape-LogicApp - Micro
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Home > Microsoft.Web-LogicAppConsumption-Portal-2ac68bb3-9708 | Overview >
InsightScape-LogicApp
Logic app
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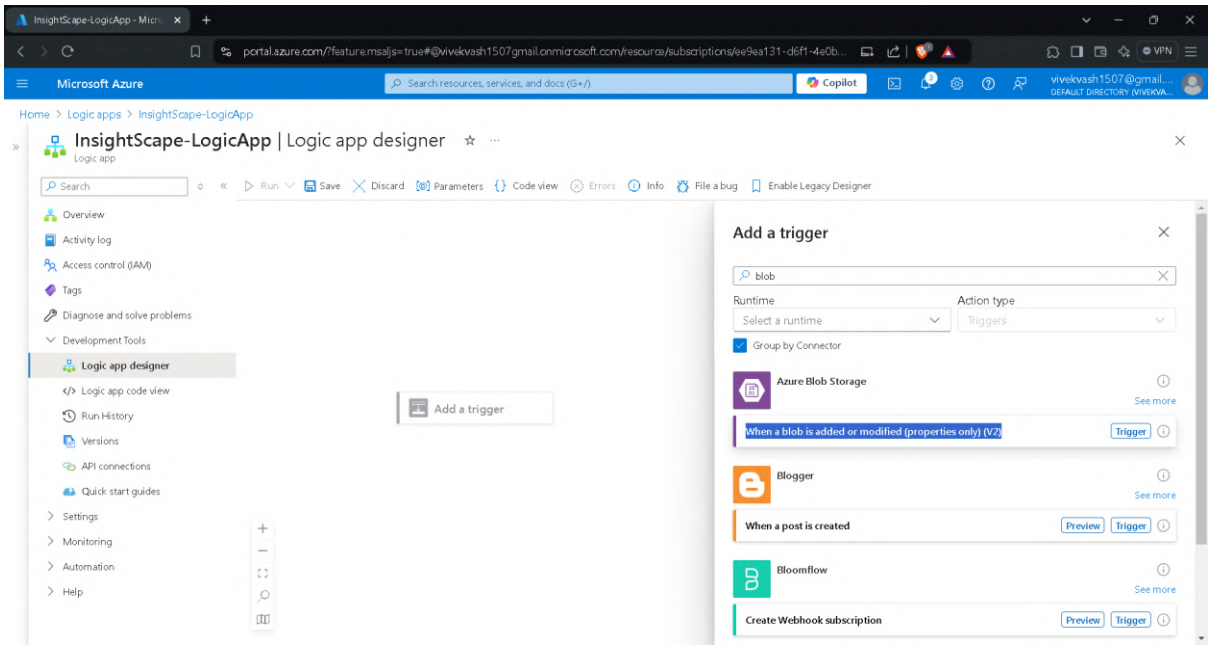
Access control (IAM)
Tags
Diagnose and solve problems
Development Tools
Logic app designer
Logic app code view
Run History
Versions
API connections
Quick start guides
Settings
Monitoring
Automation
Help
Run
Refresh
Edit
Delete
Disable
Clone
Open in mobile
Export
Provide Feedback
Essentials
JSON View
Resource group (move) : InsightScape-RG
Location (move) : East US
Subscription (move) : Azure subscription 1
Subscription ID : ee9ea131-d6f1-4e0b-baee-b293615685ae
Workflow URL : --
Tags (edit) : Add tags
Definition : 0 triggers, 0 actions
Status : Enabled
Runs last 24 hours : 0 successful, 0 failed
Integration Account : --
Get started
Runs history
Trigger history
Metrics
Resubmit
Add filter
Specify the run identifier to open monitor view directly
Identifier
Status
Start time (Local Time)
Duration
Static Results
Showing 0 runs


InsightScape-LogicApp - Micro
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InsightScape-LogicApp | Logic app designer
Logic app
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Overview
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Access control (IAM)
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Diagnose and solve problems
Development Tools
Logic app designer
Logic app code view
Run History
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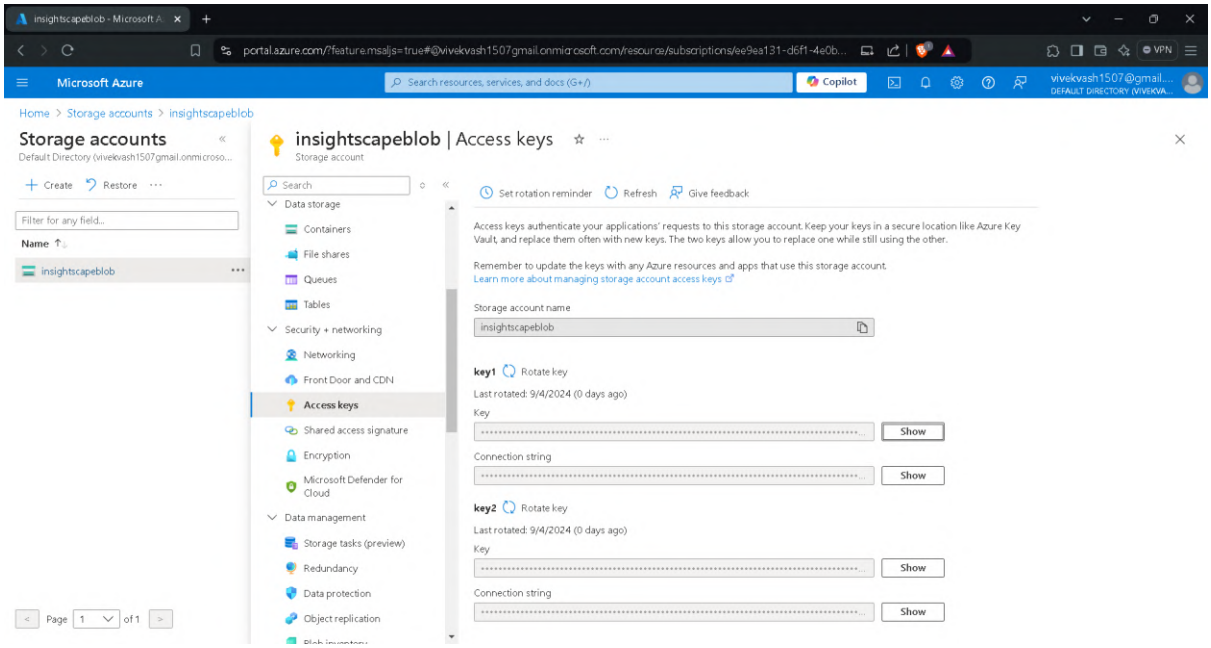
Save
Discard
Parameters
Code view
Errors
Info
File a bug
Enable Legacy Designer
Add a trigger
Add a trigger
blob
Runtime
Select a runtime
Action type
Triggers
Group by Connector
Azure Blob Storage
See more
When a blob is added or modified (properties only) (V2)
Trigger
Blogger
See more
When a post is created
Preview
Trigger
Bloomflow
See more
Create Webhook subscription
Preview
Trigger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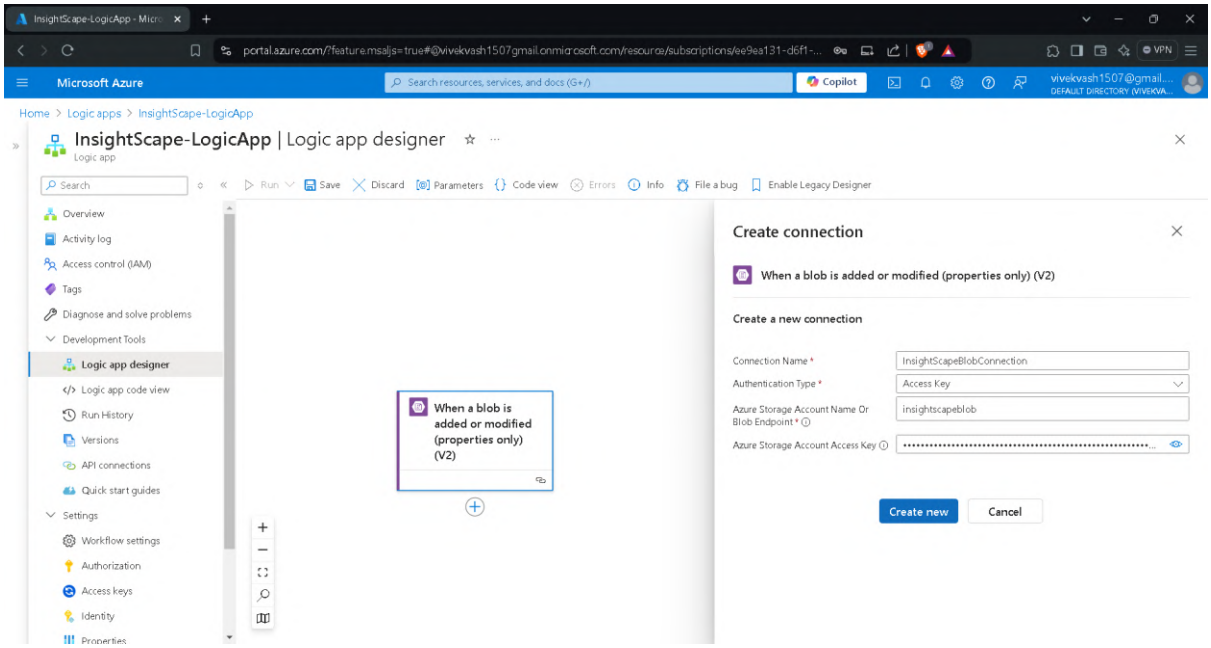
Home > Storage accounts > insightscapeblob
Storage accounts
Default Directory (vivekvash1507gmail.onmicroso...
Create
Restore
Filter for any field...
Name
insightscapeblob
Page 1 of 1
insightscapeblob | Access keys
Storage account
Search
Data storage
Containers
File shares
Queues
Tables
Security + networking
Networking
Front Door and CDN
Access keys
Shared access signature
Encryption
Microsoft Defender for Cloud
Data management
Storage tasks (preview)
Redundancy
Data protection
Object replication
Set rotation reminder
Refresh
Give feedback
Access keys authenticate your applications' requests to this storage account. Keep your keys in a secure location like Azure Key Vault, and replace them often with new keys. The two keys allow you to replace one while still using the other.
Remember to update the keys with any Azure resources and apps that use this storage account.
Learn more about managing storage account access keys
Storage account name
insightscapeblob
key1
Rotate key
Last rotated: 9/4/2024 (0 days ago)
Key
Show
Connection string
Show
key2
Rotate key
Last rotated: 9/4/2024 (0 days ago)
Key
Show
Connection string
Show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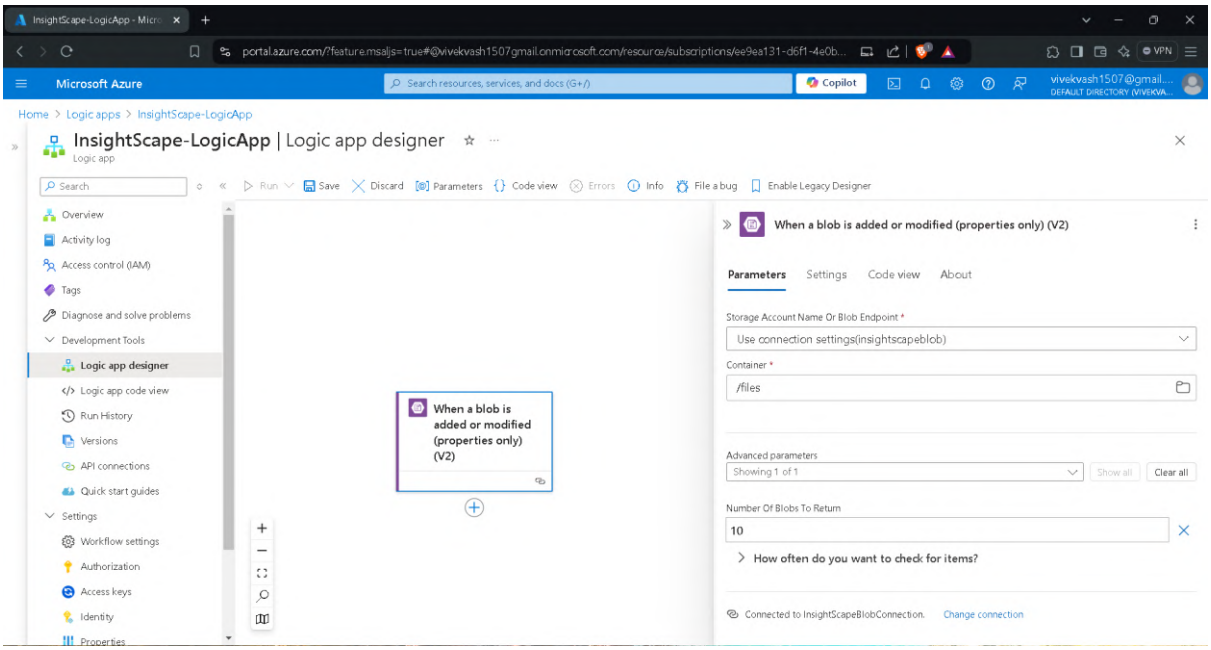
Home > Logic apps > InsightScape-LogicApp
InsightScape-LogicApp | Logic app designer
Logic app
Search
Run
Save
Discard
Parameters
Code view
Errors
Info
File a bug
Enable Legacy Designer
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Development Tools
Logic app designer
Logic app code view
Run History
Versions
API connections
Quick start guides
Settings
Workflow settings
Authorization
Access keys
Identity
Properties
When a blob is added or modified (properties only) (V2)
Create connection
When a blob is added or modified (properties only) (V2)
Create a new connection
Connection Name *
InsightScapeBlobConnection
Authentication Type *
Access Key
Azure Storage Account Name Or Blob Endpoint *
insightscapeblob
Azure Storage Account Access Key
Create new
Cancel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Logic app
Search
Run
Save
Discard
Parameters
Code view
Errors
Info
File a bug
Enable Legacy Designer
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Workflow settings
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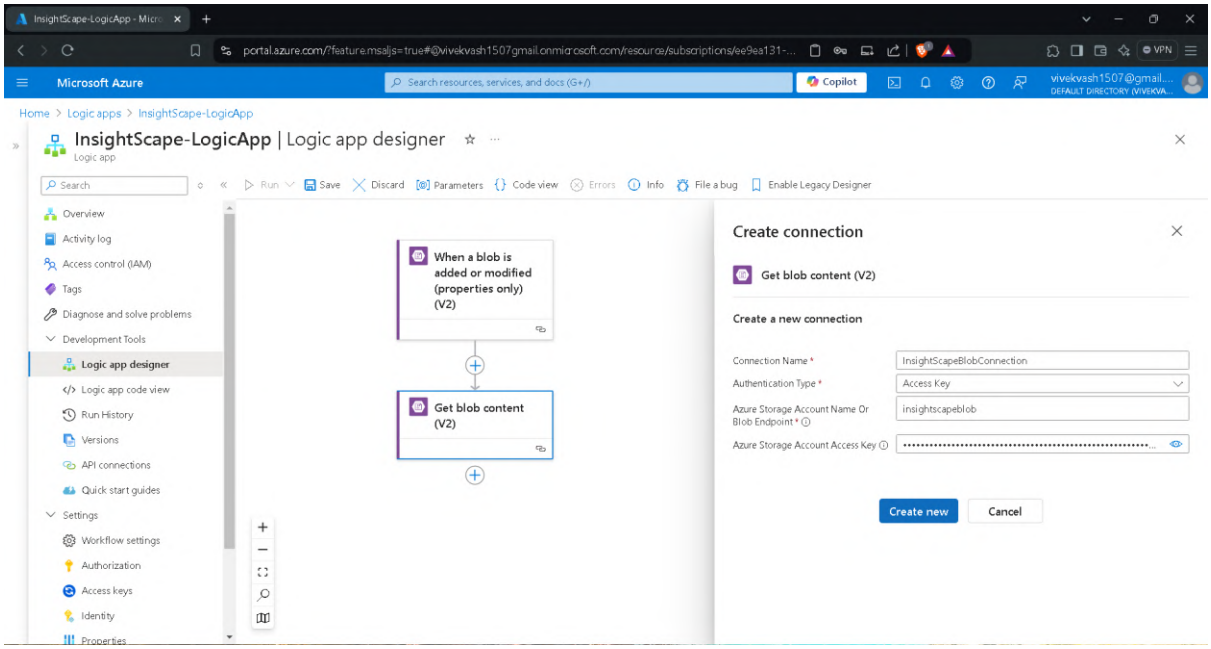
Access keys
Identity
Properties
When a blob is added or modified (properties only) (V2)
When a blob is added or modified (properties only) (V2)
Parameters
Settings
Code view
About
Storage Account Name Or Blob Endpoint *
Use connection settings(insightscapeblob)
Container *
/files
Advanced parameters
Showing 1 of 1
Show all
Clear all
Number Of Blobs To Return
10
How often do you want to check for items?
Connected to InsightScapeBlobConnection.
Change connection


InsightScape-LogicApp - Micro
portal.azure.com/?feature.msaljs=true#@vivekvash1507gmail.onmicrosoft.com/resource/subscriptions/ee9ea131-...
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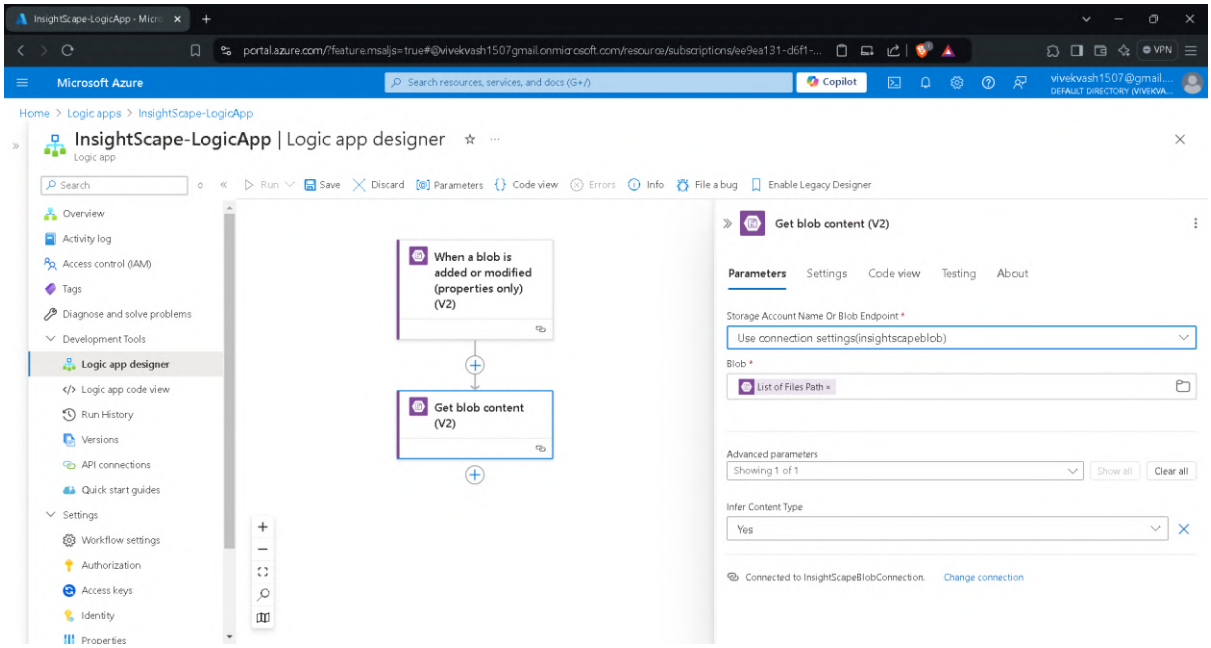
DEFAULT DIRECTORY (VIVEKVA...
Home > Logic apps > InsightScape-LogicApp
InsightScape-LogicApp | Logic app designer
Logic app
Search
Run
Save
Discard
Parameters
Code view
Errors
Info
File a bug
Enable Legacy Designer
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Development Tools
Logic app designer
Logic app code view
Run History
Versions
API connections
Quick start guides
Settings
Workflow settings
Authorization
Access keys
Identity
Properties
When a blob is added or modified (properties only) (V2)
Get blob content (V2)
Create connection
Get blob content (V2)
Create a new connection
Connection Name *
InsightScapeBlobConnection
Authentication Type *
Access Key
Azure Storage Account Name Or Blob Endpoint *
insightscapeblob
Azure Storage Account Access Key
Create new
Cancel


InsightScape-LogicApp - Micro
portal.azure.com/?feature.msaljs=true#@vivekvash1507gmail.onmicrosoft.com/resource/subscriptions/ee9ea131-d6f1-...
Microsoft Azure
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DEFAULT DIRECTORY (VIVEKVA...
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Logic app
Search
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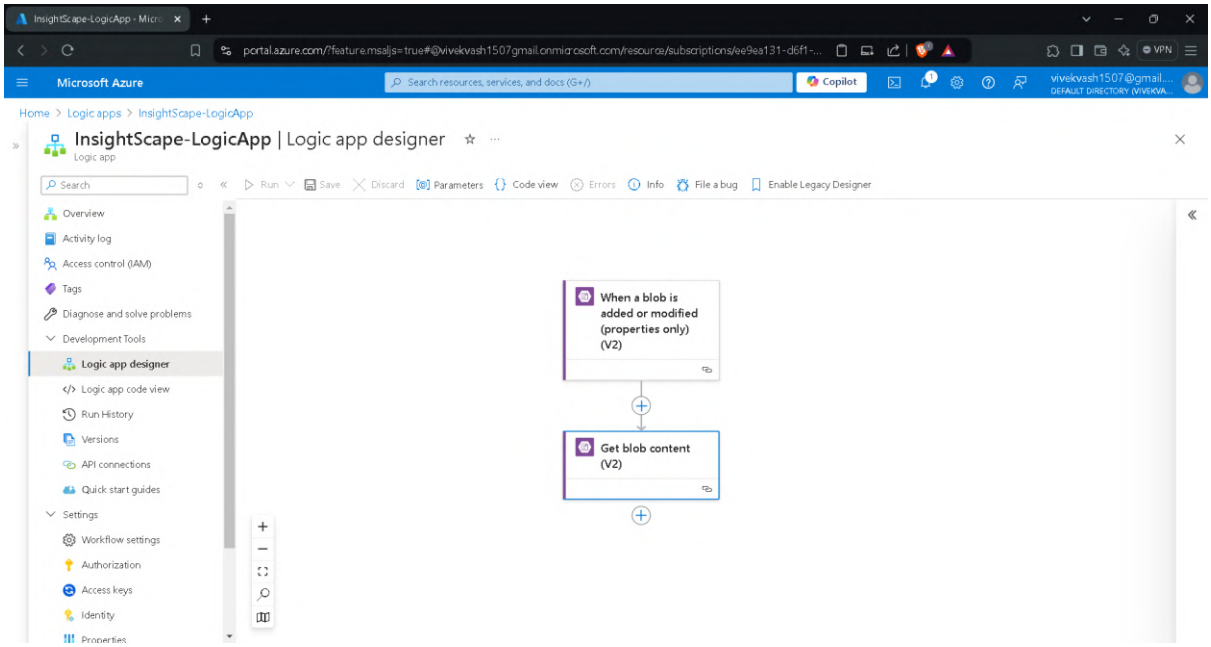
Parameters
Code view
Errors
Info
File a bug
Enable Legacy Designer
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Development Tools
Logic app designer
Logic app code view
Run History
Versions
API connections
Quick start guides
Settings
Workflow settings
Authorization
Access keys
Identity
Properties
When a blob is added or modified (properties only) (V2)
Get blob content (V2)
Get blob content (V2)
Parameters
Settings
Code view
Testing
About
Storage Account Name Or Blob Endpoint *
Use connection settings(insightscapeblob)
Blob *
List of Files Path
Advanced parameters
Showing 1 of 1
Show all
Clear all
Infer Content Type
Yes
Connected to InsightScapeBlobConnection.
Change connection


InsightScape-LogicApp - Micro
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Save
Discard
Parameters
Code view
Errors
Info
File a bug
Enable Legacy Designer
Overview
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Tags
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Logic app code view
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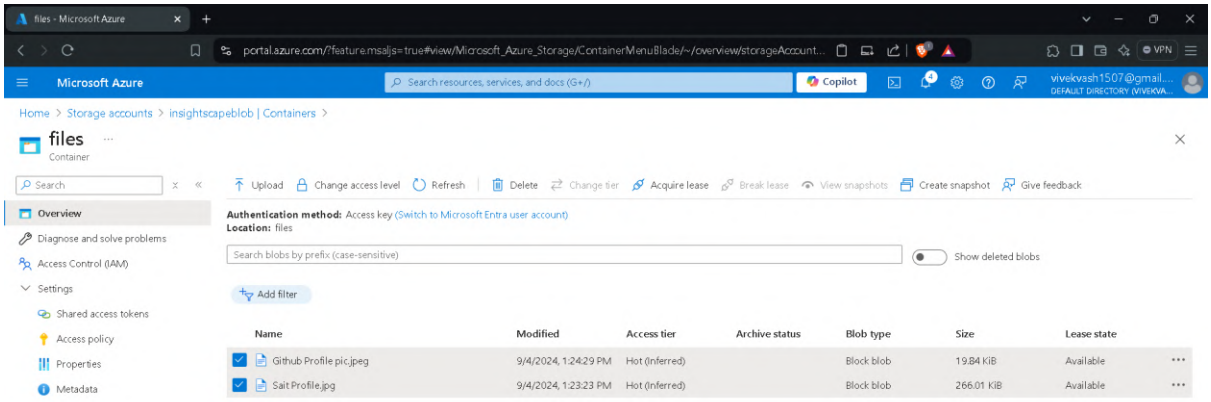
API connections
Quick start guides
Settings
Workflow settings
Authorization
Access keys
Identity
Properties
When a blob is added or modified (properties only) (V2)
Get blob content (V2)


files - Microsoft Azure
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Storage/ContainerMenuBlade/~/overview/storageAccount...
Microsoft Azure
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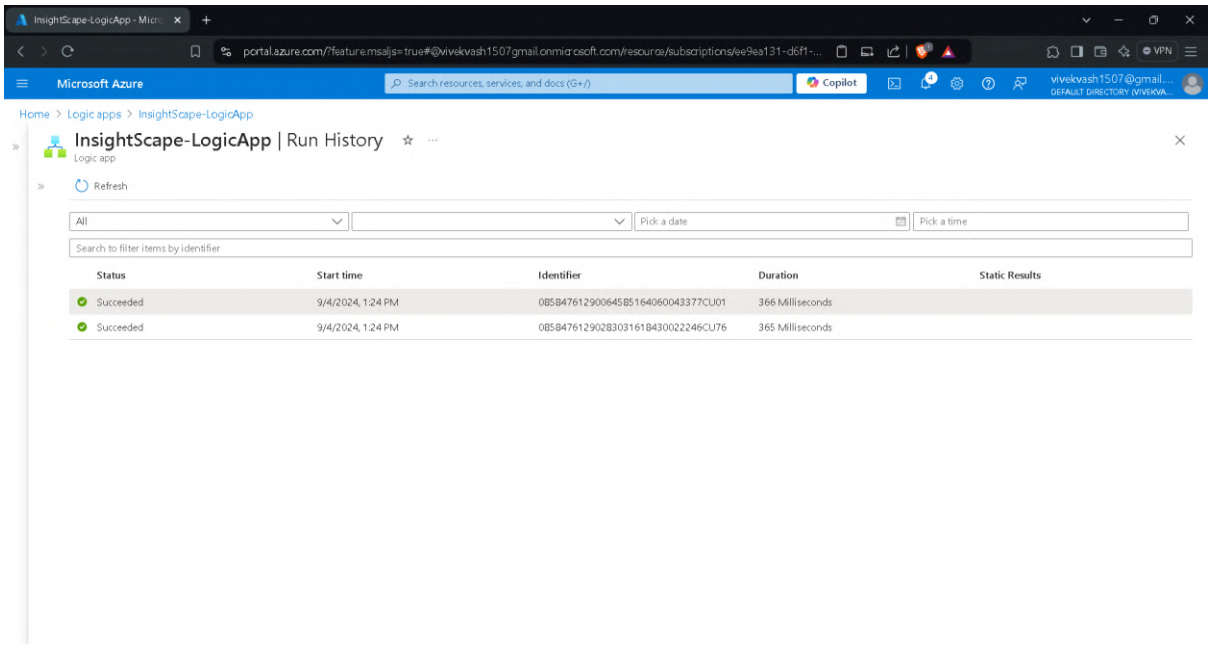
DEFAULT DIRECTORY (VIVEKVA...
Home > Storage accounts > insightscapeblob | Containers >
files
Container
Search
Overview
Diagnose and solve problems
Access Control (IAM)
Settings
Shared access tokens
Access policy
Properties
Metadata
Upload
Change access level
Refresh
Delete
Change tier
Acquire lease
Break lease
View snapshots
Create snapshot
Give feedback
Authentication method: Access key (Switch to Microsoft Entra user account)
Location: files
Search blobs by prefix (case-sensitive)
Show deleted blobs
Add filter
Name
Modified
Access tier
Archive status
Blob type
Size
Lease state
Github Profile pic.jpeg
9/4/2024, 1:24:29 PM
Hot (Inferred)
Block blob
19.84 KiB
Available
Sait Profile.jpg
9/4/2024, 1:23:23 PM
Hot (Inferred)
Block blob
266.01 KiB
Available


InsightScape-LogicApp - Micro
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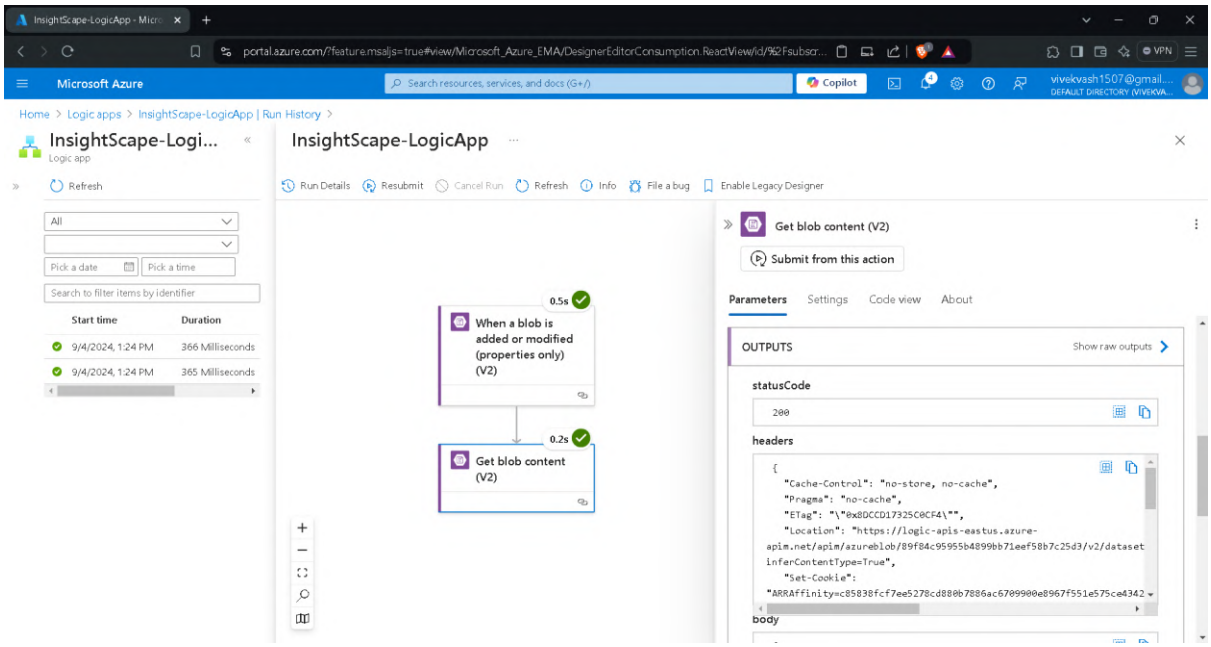
DEFAULT DIRECTORY (VIVEKVA...
Home > Logic apps > InsightScape-LogicApp
InsightScape-LogicApp | Run History
Logic app
Refresh
All
Pick a date
Pick a time
Search to filter items by identifier
Status
Start time
Identifier
Duration
Static Results
Succeeded
9/4/2024, 1:24 PM
08584761290064585164060043377CU01
366 Milliseconds
Succeeded
9/4/2024, 1:24 PM
08584761290283031618430022246CU76
365 Milliseconds


InsightScape-LogicApp - Micro
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DEFAULT DIRECTORY (VIVEKVA...
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InsightScape-Logi...
Logic app
InsightScape-LogicApp
Refresh
Run Details
Resubmit
Cancel Run
Refresh
Info
File a bug
Enable Legacy Designer
All
Pick a date
Pick a time
Search to filter items by identifier
Start time
Duration
9/4/2024, 1:24 PM
366 Milliseconds
9/4/2024, 1:24 PM
365 Milliseconds
0.5s
When a blob is added or modified (properties only) (V2)
0.2s
Get blob content (V2)
Get blob content (V2)
Submit from this action
Parameters
Settings
Code view
About
OUTPUTS
Show raw outputs
statusCode
200
headers
{
"Cache-Control": "no-store, no-cache",
"Pragma": "no-cache",
"ETag": "\"0x8DCCD17325C0CF4\"",
"Location": "https://logic-apis-eastus.azure-apim.net/apim/azureblob/89f84c95955b4899bb71eef58b7c25d3/v2/dataset
inferContentType=True",
"Set-Cookie":
"ARRAffinity=c85838fcf7ee5278cd880b7886ac6709900e8967f551e575ce4342
body

e) Networking Resources

For setting up Networking Resources, I followed these steps:

1. **Network Watcher Installation:**
    - I ensured that Network Watcher was installed and available for the East US region.
2. **Packet Capture Configuration:**
    - I navigated to the Packet Capture tab under Network Diagnostic Tools in the Network Watcher.
    - Clicked on "Add" to set up the packet capture.

    Packet Capture Configurations:

    - Resource Group: InsightScape-RG
    - Target Type: Virtual Machine
    - Target Instance: InsightScape-VM1
    - Packet Capture Name: InsightScape-VM1_Capture1
    - Capture Location: Storage Account (insightscapeblob)
    - Time Limit (seconds): 180
    - Default settings were used for the remaining configurations.

    After completing these configurations, I clicked on "Start packet capture".

    - Verification:
        - To verify that the packet capture was successful, I navigated to the Containers tab in the insightscapeblob storage account and clicked on the "network-watcher-logs" container.
        - I was able to see the file named "packetcapture_18_44_15_686.cap".
        - I downloaded the packetcapture_18_44_15_686.cap file and opened it in Wireshark to view the captured packet details.
3. **Connection Monitor Setup:**
    - After the packet capture, it was time to set up the Connection Monitor.
    - I navigated to the Connection Monitor under the Monitoring tab in the Network Watcher and clicked on "+ Create".

    Connection Monitor Configurations:

    - Basics Tab:
        - Connection Monitor Name: VM1-to-VM2-Monitor
        - Region: East US
    - Test Groups Tab:
        - Test Group Name: VM1-to-VM2-Tgrp

        Sources:

        - Azure Endpoints: VM1-Subnet
        - Extension Status: Enabled

        Test Configuration:

- Configuration Name: VM1-to-VM2-TConfig
- Protocol: ICMP
- Test Frequency: Every 30 seconds

Success Threshold:

- Checks Failed (%): 50
- Round Trip Time (ms): 300

Destinations:

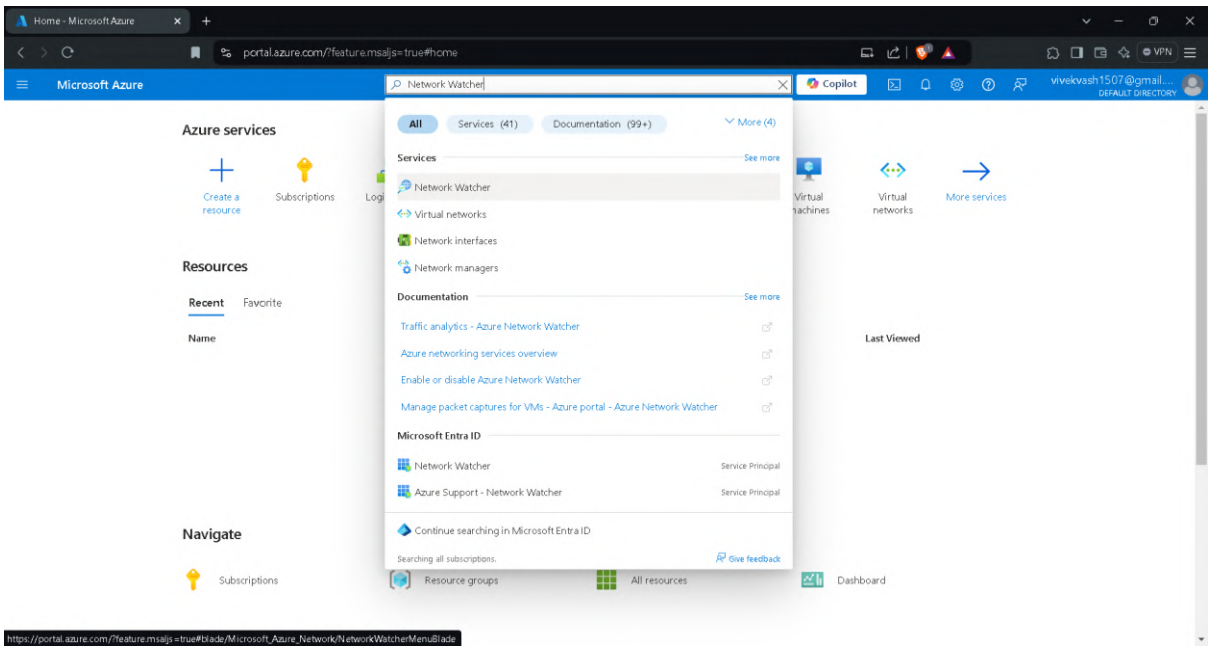
- Azure Endpoints: VM2-Subnet
- Extension Status: Enabled

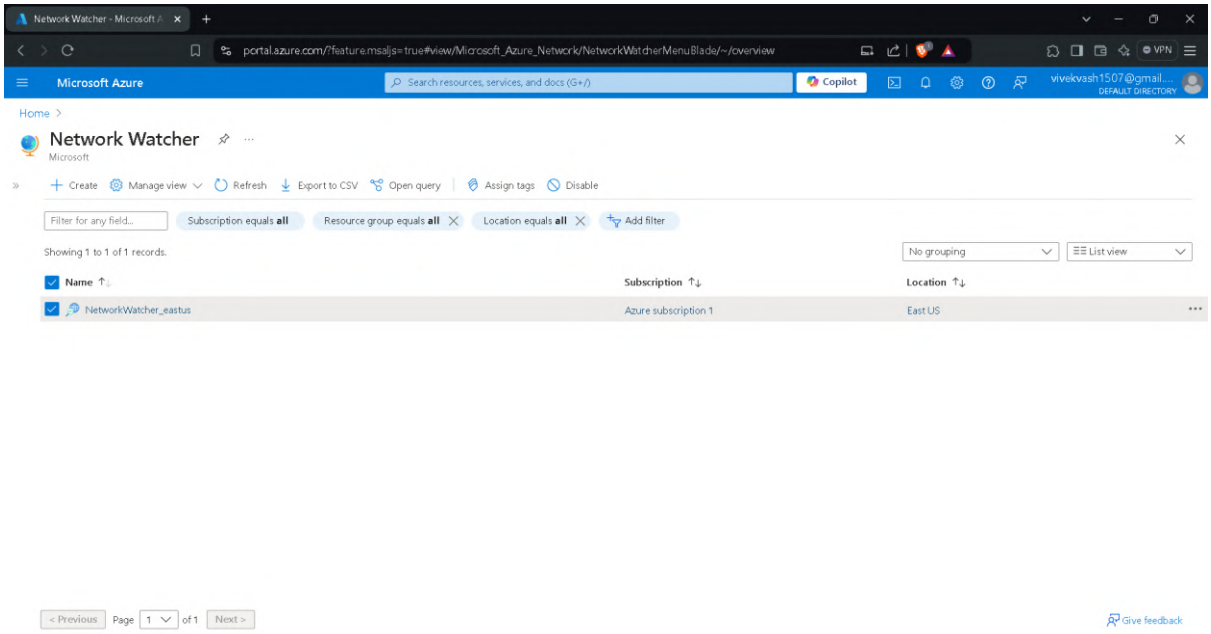
o After completing the test group details, I clicked on "Review + Create".

Verification:

o In the Overview tab of the Connection Monitor, I was able to see "VM1-to-VM2-Monitor" with the status showing a Green Tick.
o The Pass section indicated: 1 out of 1 (Green Tick).
o I clicked on the VM1-to-VM2-Monitor to see the aggregated performance metrics, including:
- Checks failed (%)
- Round trip time (ms)
- Top failing tests
- Test groups
- Test Configurations
- Sources and Destinations

Screenshots




Network Watcher - Microsoft A
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Network/NetworkWatcherMenuBlade/~/overview
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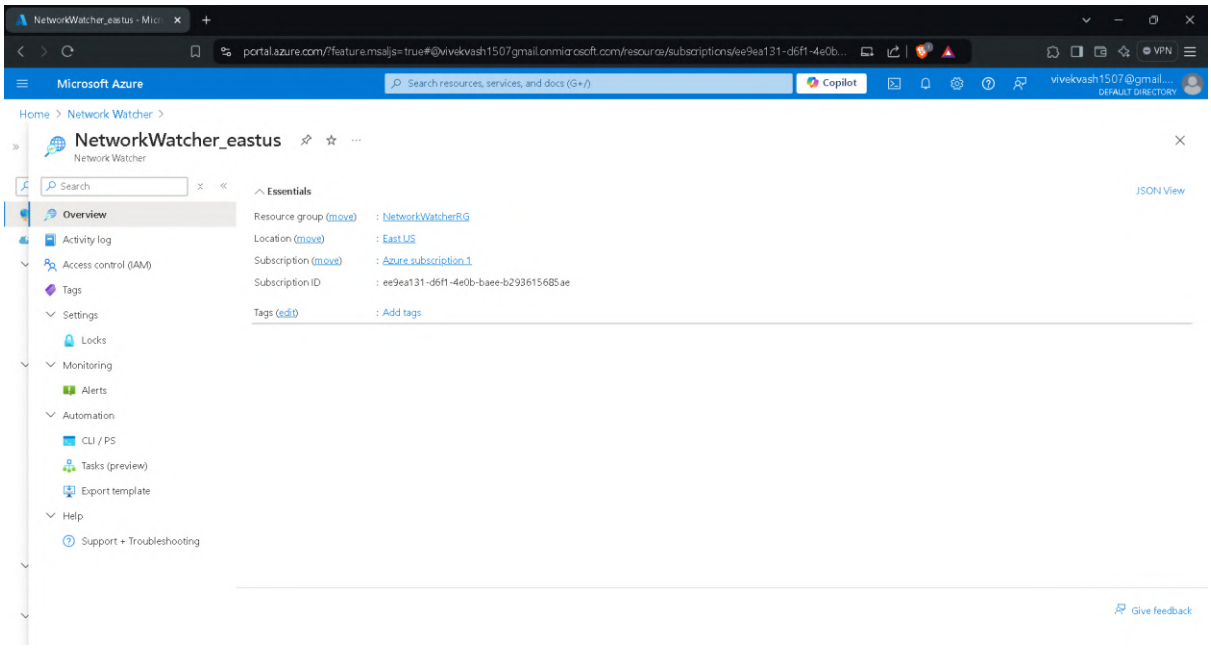
DEFAULT DIRECTORY
Home
Network Watcher
Microsoft
Create
Manage view
Refresh
Export to CSV
Open query
Assign tags
Disable
Filter for any field...
Subscription equals all
Resource group equals all
Location equals all
Add filter
Showing 1 to 1 of 1 records.
No grouping
List view
Name
Subscription
Location
NetworkWatcher_eastus
Azure subscription 1
East US
< Previous
Page 1 of 1
Next >
Give feedback


NetworkWatcher_eastus - Micr
portal.azure.com/?feature.msaljs=true#@vivekvash1507gmail.onmicrosoft.com/resource/subscriptions/ee9ea131-d6f1-4e0b...
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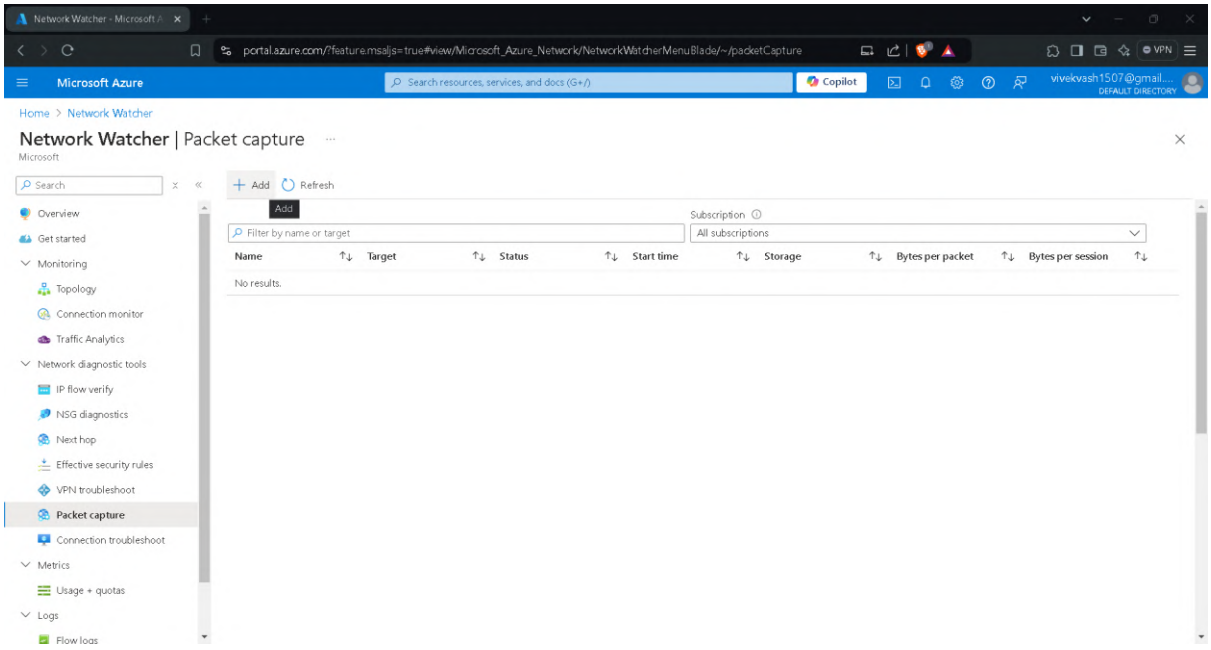
DEFAULT DIRECTORY
Home > Network Watcher >
NetworkWatcher_eastus
Network Watcher
Search
Overview
Activity log
Access control (IAM)
Tags
Settings
Locks
Monitoring
Alerts
Automation
CLI / PS
Tasks (preview)
Export template
Help
Support + Troubleshooting
Essentials
JSON View
Resource group (move) : NetworkWatcherRG
Location (move) : East US
Subscription (move) : Azure subscription 1
Subscription ID : ee9ea131-d6f1-4e0b-baee-b293615685ae
Tags (edit) : Add tags
Give feedback


Network Watcher - Microsoft A
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Network/NetworkWatcherMenuBlade/~/packetCapture
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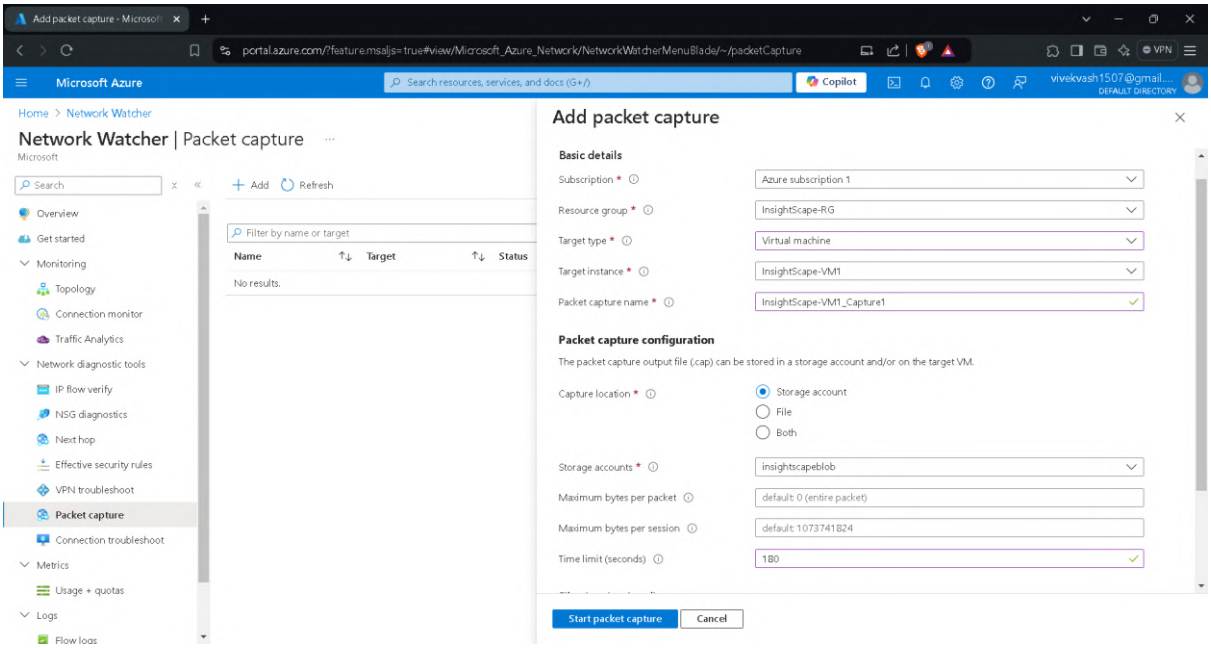
DEFAULT DIRECTORY
Home > Network Watcher
Network Watcher | Packet capture
Microsoft
Search
Overview
Get started
Monitoring
Topology
Connection monitor
Traffic Analytics
Network diagnostic tools
IP flow verify
NSG diagnostics
Next hop
Effective security rules
VPN troubleshoot
Packet capture
Connection troubleshoot
Metrics
Usage + quotas
Logs
Flow logs
Add
Refresh
Add
Subscription
Filter by name or target
All subscriptions
Name
Target
Status
Start time
Storage
Bytes per packet
Bytes per session
No results.


Add packet capture - Microsoft
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Network/NetworkWatcherMenuBlade/~/packetCapture
Microsoft Azure
Search resources, services, and docs (G+/)
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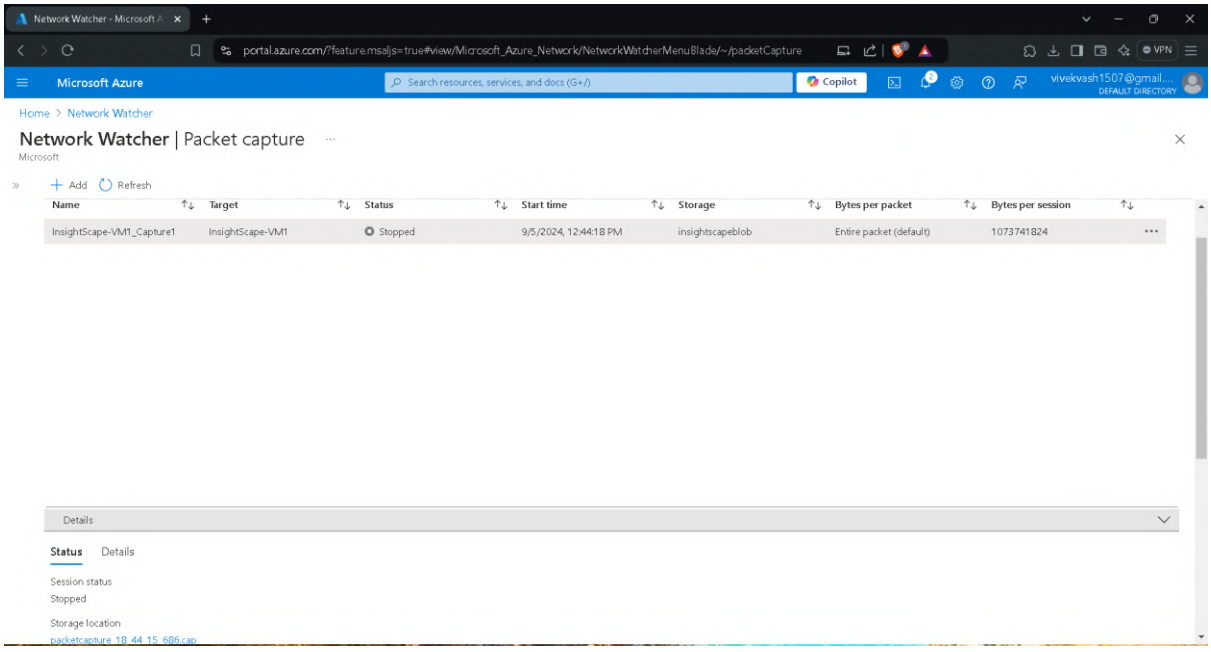
vivekvash1507@gmail....
DEFAULT DIRECTORY
Home > Network Watcher
Network Watcher | Packet capture
Microsoft
Search
Add
Refresh
Overview
Get started
Monitoring
Topology
Connection monitor
Traffic Analytics
Network diagnostic tools
IP flow verify
NSG diagnostics
Next hop
Effective security rules
VPN troubleshoot
Packet capture
Connection troubleshoot
Metrics
Usage + quotas
Logs
Flow logs
Filter by name or target
Name
Target
Status
No results.
Add packet capture
Basic details
Subscription *
Azure subscription 1
Resource group *
InsightScape-RG
Target type *
Virtual machine
Target instance *
InsightScape-VM1
Packet capture name *
InsightScape-VM1_Capture1
Packet capture configuration
The packet capture output file (.cap) can be stored in a storage account and/or on the target VM.
Capture location *
Storage account
File
Both
Storage accounts *
insightscapeblob
Maximum bytes per packet
default: 0 (entire packet)
Maximum bytes per session
default: 1073741824
Time limit (seconds)
180
Start packet capture
Cancel


Network Watcher - Microsoft A
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Microsoft Azure
Search resources, services, and docs (G+/)
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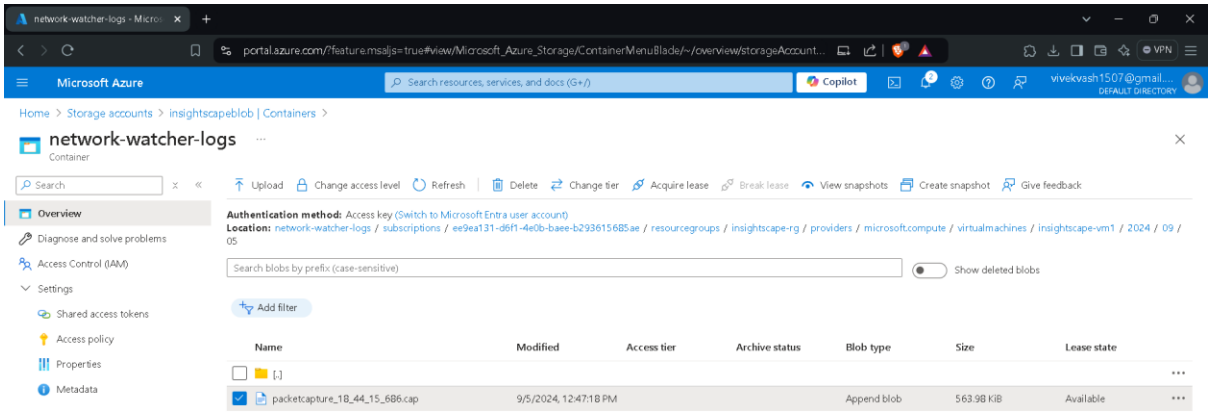
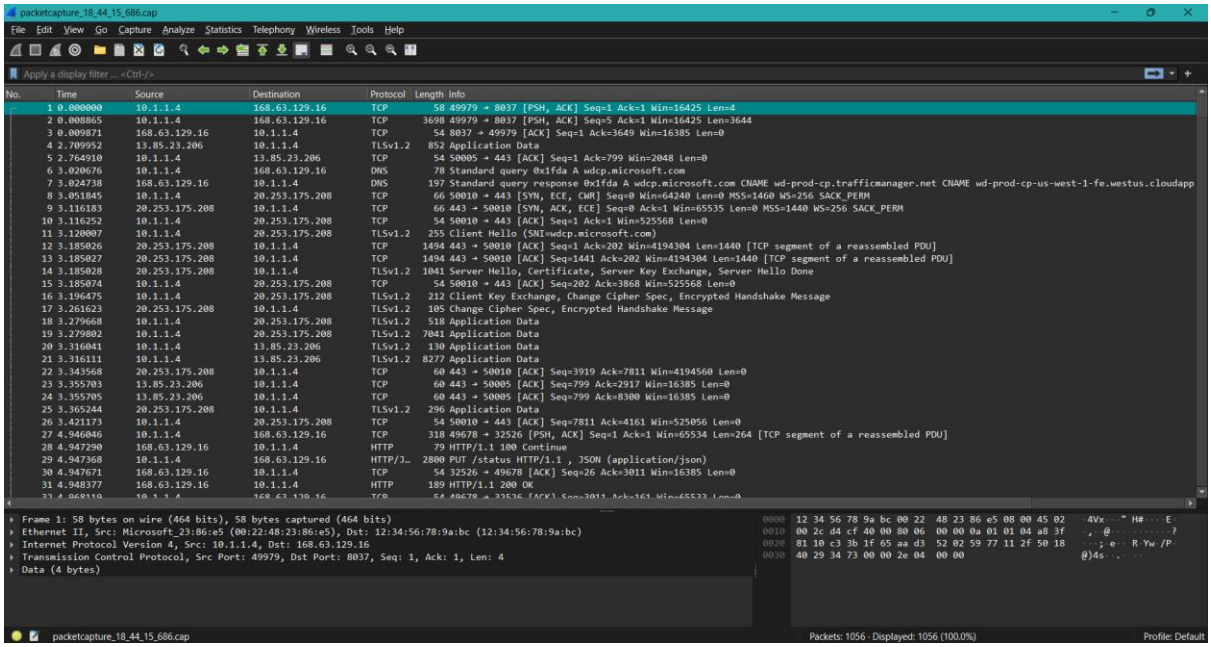
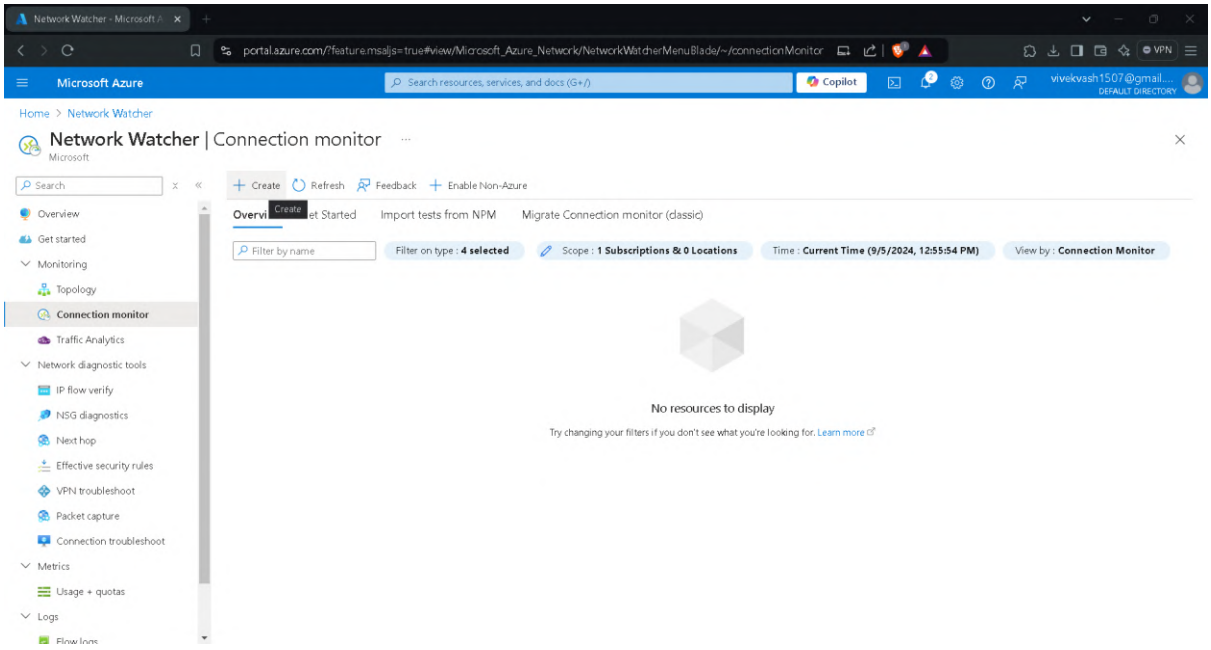
DEFAULT DIRECTORY
Home > Network Watcher
Network Watcher | Packet capture
Microsoft
Add
Refresh
Name
Target
Status
Start time
Storage
Bytes per packet
Bytes per session
InsightScape-VM1_Capture1
InsightScape-VM1
Stopped
9/5/2024, 12:44:18 PM
insightscapeblob
Entire packet (default)
1073741824
Details
Status
Details
Session status
Stopped
Storage location
packetcapture_18_44_15_686.cap


network-watcher-logs - Micros
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Storage/ContainerMenuBlade/~/overview/storageAccount...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY
Home > Storage accounts > insightscapeblob | Containers >
network-watcher-logs
Container
Search
Overview
Diagnose and solve problems
Access Control (IAM)
Settings
Shared access tokens
Access policy
Properties
Metadata
Upload
Change access level
Refresh
Delete
Change tier
Acquire lease
Break lease
View snapshots
Create snapshot
Give feedback
Authentication method: Access key (Switch to Microsoft Entra user account)
Location: network-watcher-logs / subscriptions / ee9ea131-d6f1-4e0b-baee-b293615685ae / resourcegroups / insightscape-rg / providers / microsoft.compute / virtualmachines / insightscape-vm1 / 2024 / 09 / 05
Search blobs by prefix (case-sensitive)
Show deleted blobs
Add filter
Name
Modified
Access tier
Archive status
Blob type
Size
Lease state
[..]
packetcapture_18_44_15_686.cap
9/5/2024, 12:47:18 PM
Append blob
563.98 KiB
Available


packetcapture_18_44_15_686.cap
File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help
Apply a display filter ... <Ctrl-/>
No. Time Source Destination Protocol Length Info
1 0.000000 10.1.1.4 168.63.129.16 TCP 58 49979 → 8037 [PSH, ACK] Seq=1 Ack=1 Win=16425 Len=4
2 0.000865 10.1.1.4 168.63.129.16 TCP 3698 49979 → 8037 [PSH, ACK] Seq=5 Ack=1 Win=16425 Len=3644
3 0.009871 168.63.129.16 10.1.1.4 TCP 54 8037 → 49979 [ACK] Seq=1 Ack=3649 Win=16385 Len=0
4 2.709952 13.85.23.206 10.1.1.4 TLSv1.2 852 Application Data
5 2.764910 10.1.1.4 13.85.23.206 TCP 54 50005 → 443 [ACK] Seq=1 Ack=799 Win=2048 Len=0
6 3.020676 10.1.1.4 168.63.129.16 DNS 78 Standard query 0x1fda A wdcp.microsoft.com
7 3.024738 168.63.129.16 10.1.1.4 DNS 197 Standard query response 0x1fda A wdcp.microsoft.com CNAME wd-prod-cp.trafficmanager.net CNAME wd-prod-cp-us-west-1-fe.westus.cloudapp
8 3.051845 10.1.1.4 20.253.175.208 TCP 66 50010 → 443 [SYN, ECE, CWR] Seq=0 Win=64240 Len=0 MSS=1460 WS=256 SACK_PERM
9 3.116183 20.253.175.208 10.1.1.4 TCP 66 443 → 50010 [SYN, ACK, ECE] Seq=0 Ack=1 Win=65535 Len=0 MSS=1440 WS=256 SACK_PERM
10 3.116252 10.1.1.4 20.253.175.208 TCP 54 50010 → 443 [ACK] Seq=1 Ack=1 Win=525568 Len=0
11 3.120007 10.1.1.4 20.253.175.208 TLSv1.2 255 Client Hello (SNI=wdcp.microsoft.com)
12 3.185026 20.253.175.208 10.1.1.4 TCP 1494 443 → 50010 [ACK] Seq=1 Ack=202 Win=4194304 Len=1440 [TCP segment of a reassembled PDU]
13 3.185027 20.253.175.208 10.1.1.4 TCP 1494 443 → 50010 [ACK] Seq=1441 Ack=202 Win=4194304 Len=1440 [TCP segment of a reassembled PDU]
14 3.185028 20.253.175.208 10.1.1.4 TLSv1.2 1041 Server Hello, Certificate, Server Key Exchange, Server Hello Done
15 3.185074 10.1.1.4 20.253.175.208 TCP 54 50010 → 443 [ACK] Seq=202 Ack=3868 Win=525568 Len=0
16 3.196475 10.1.1.4 20.253.175.208 TLSv1.2 212 Client Key Exchange, Change Cipher Spec, Encrypted Handshake Message
17 3.261623 20.253.175.208 10.1.1.4 TLSv1.2 105 Change Cipher Spec, Encrypted Handshake Message
18 3.279668 10.1.1.4 20.253.175.208 TLSv1.2 518 Application Data
19 3.279802 10.1.1.4 20.253.175.208 TLSv1.2 7041 Application Data
20 3.316041 10.1.1.4 13.85.23.206 TLSv1.2 130 Application Data
21 3.316111 10.1.1.4 13.85.23.206 TLSv1.2 8277 Application Data
22 3.343568 20.253.175.208 10.1.1.4 TCP 60 443 → 50010 [ACK] Seq=3919 Ack=7811 Win=4194560 Len=0
23 3.355703 13.85.23.206 10.1.1.4 TCP 60 443 → 50005 [ACK] Seq=799 Ack=2917 Win=16385 Len=0
24 3.355705 13.85.23.206 10.1.1.4 TCP 60 443 → 50005 [ACK] Seq=799 Ack=8300 Win=16385 Len=0
25 3.365244 20.253.175.208 10.1.1.4 TLSv1.2 296 Application Data
26 3.421173 10.1.1.4 20.253.175.208 TCP 54 50010 → 443 [ACK] Seq=7811 Ack=4161 Win=525056 Len=0
27 4.946046 10.1.1.4 168.63.129.16 TCP 318 49678 → 32526 [PSH, ACK] Seq=1 Ack=1 Win=65534 Len=264 [TCP segment of a reassembled PDU]
28 4.947290 168.63.129.16 10.1.1.4 HTTP 79 HTTP/1.1 100 Continue
29 4.947368 10.1.1.4 168.63.129.16 HTTP/J… 2800 PUT /status HTTP/1.1 , JSON (application/json)
30 4.947671 168.63.129.16 10.1.1.4 TCP 54 32526 → 49678 [ACK] Seq=26 Ack=3011 Win=16385 Len=0
31 4.948377 168.63.129.16 10.1.1.4 HTTP 189 HTTP/1.1 200 OK
Frame 1: 58 bytes on wire (464 bits), 58 bytes captured (464 bits)
Ethernet II, Src: Microsoft_23:86:e5 (00:22:48:23:86:e5), Dst: 12:34:56:78:9a:bc (12:34:56:78:9a:bc)
Internet Protocol Version 4, Src: 10.1.1.4, Dst: 168.63.129.16
Transmission Control Protocol, Src Port: 49979, Dst Port: 8037, Seq: 1, Ack: 1, Len: 4
Data (4 bytes)
0000 12 34 56 78 9a bc 00 22 48 23 86 e5 08 00 45 02
0010 00 2c d4 cf 40 00 80 06 00 00 0a 01 01 04 a8 3f
0020 81 10 c3 3b 1f 65 aa d3 52 02 59 77 11 2f 50 18
0030 40 29 34 73 00 00 2e 04 00 00
packetcapture_18_44_15_686.cap
Packets: 1056 · Displayed: 1056 (100.0%)
Profile: Default


Network Watcher - Microsoft A
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Network/NetworkWatcherMenuBlade/~/connectionMonitor
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DEFAULT DIRECTORY
Home > Network Watcher
Network Watcher | Connection monitor
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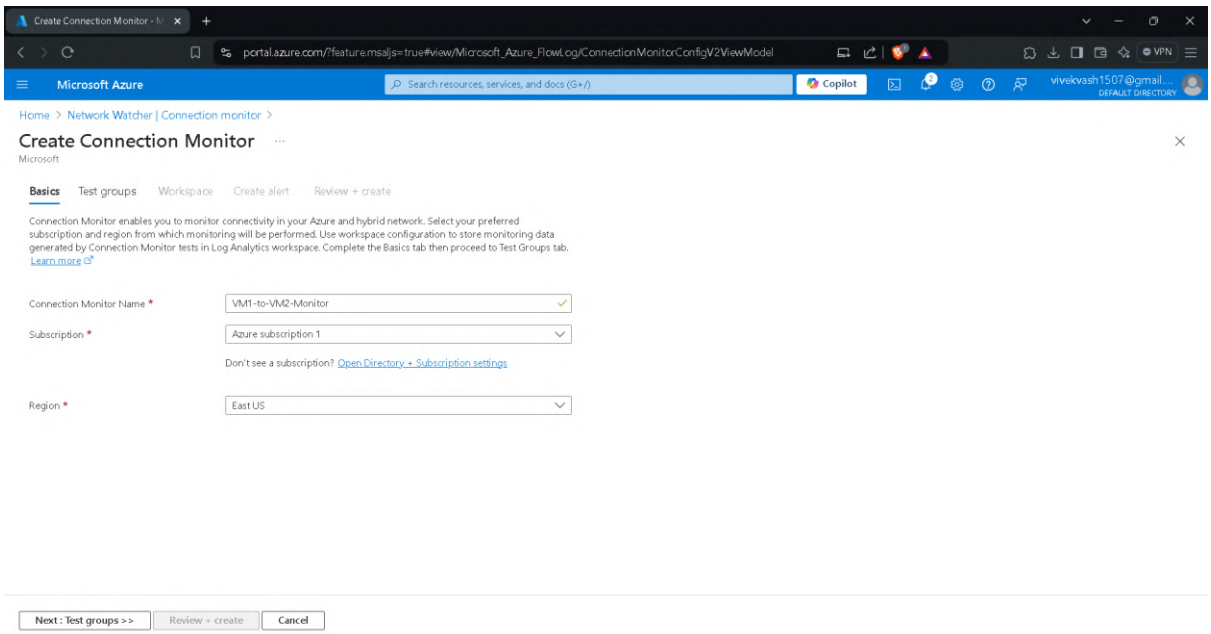
Search
Overview
Get started
Monitoring
Topology
Connection monitor
Traffic Analytics
Network diagnostic tools
IP flow verify
NSG diagnostics
Next hop
Effective security rules
VPN troubleshoot
Packet capture
Connection troubleshoot
Metrics
Usage + quotas
Logs
Create
Refresh
Feedback
Enable Non-Azure
Create
Overvi et Started
Import tests from NPM
Migrate Connection monitor (classic)
Filter by name
Filter on type : 4 selected
Scope : 1 Subscriptions & 0 Locations
Time : Current Time (9/5/2024, 12:55:54 PM)
View by : Connection Monitor
No resources to display
Try changing your filters if you don't see what you're looking for. Learn more


Create Connection Monitor - M
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Microsoft Azure
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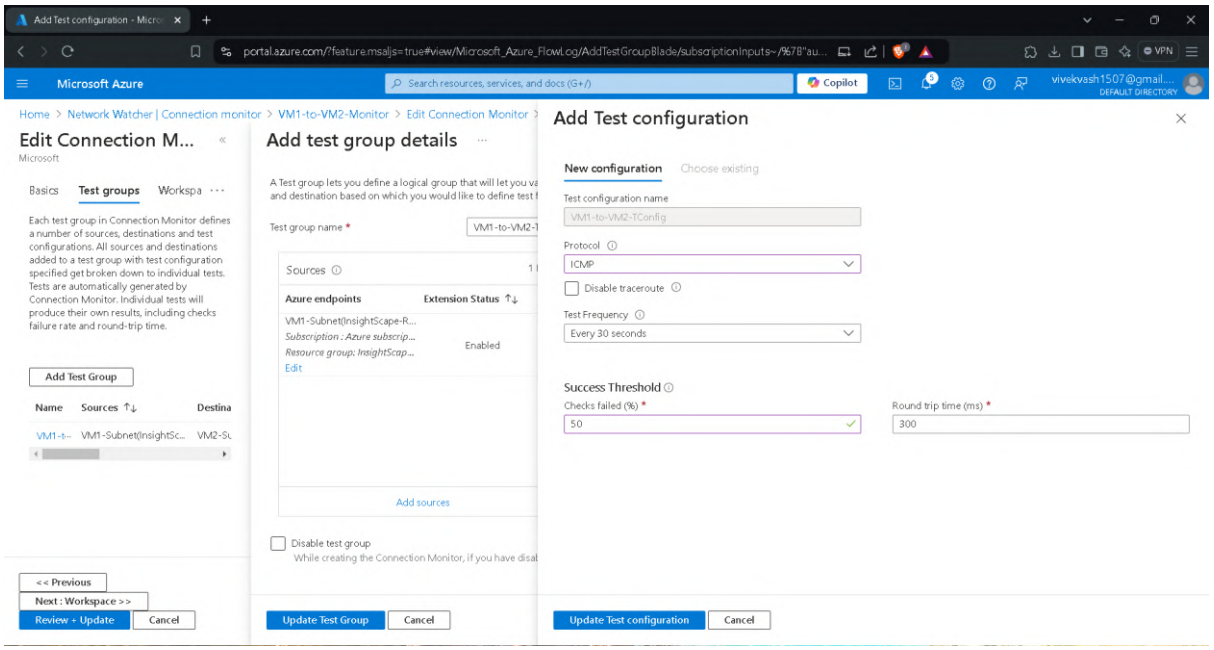
DEFAULT DIRECTORY
Home > Network Watcher | Connection monitor >
Create Connection Monitor
Microsoft
Basics
Test groups
Workspace
Create alert
Review + create
Connection Monitor enables you to monitor connectivity in your Azure and hybrid network. Select your preferred subscription and region from which monitoring will be performed. Use workspace configuration to store monitoring data generated by Connection Monitor tests in Log Analytics workspace. Complete the Basics tab then proceed to Test Groups tab.
Learn more
Connection Monitor Name *
VM1-to-VM2-Monitor
Subscription *
Azure subscription 1
Don't see a subscription? Open Directory + Subscription settings
Region *
East US
Next : Test groups > >
Review + create
Cancel


Add Test configuration - Micros
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Microsoft Azure
Search resources, services, and docs (G+/)
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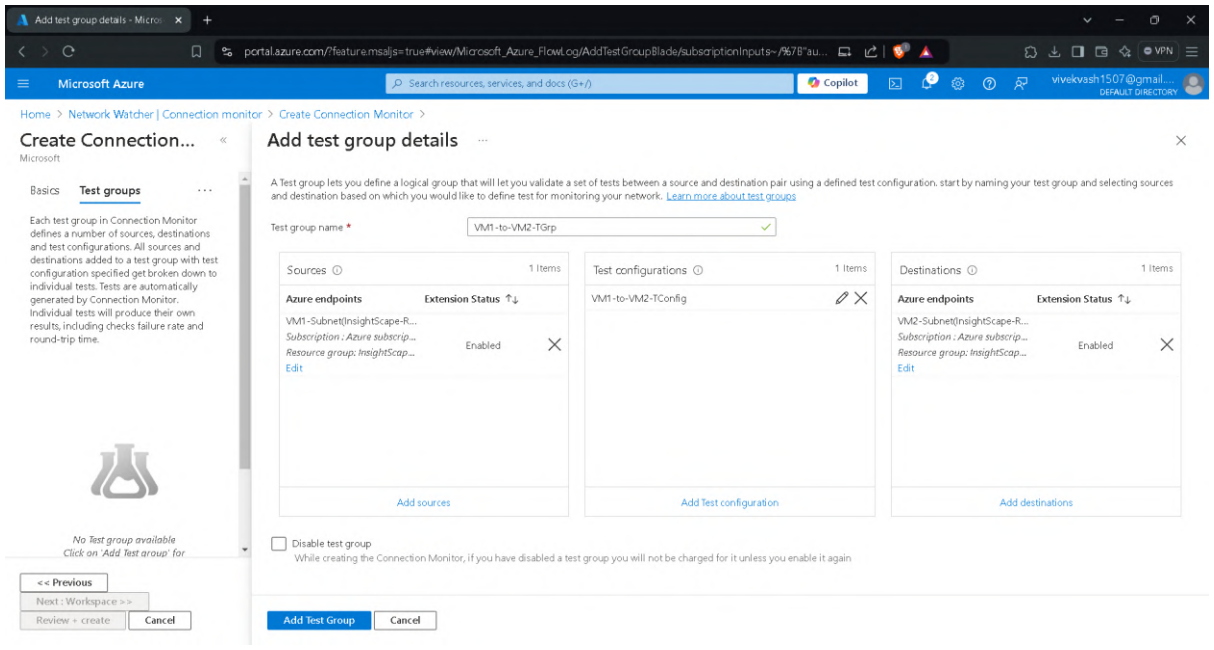
DEFAULT DIRECTORY
Home > Network Watcher | Connection monitor > VM1-to-VM2-Monitor > Edit Connection Monitor >
Edit Connection M...
Microsoft
Basics
Test groups
Workspa
Each test group in Connection Monitor defines a number of sources, destinations and test configurations. All sources and destinations added to a test group with test configuration specified get broken down to individual tests. Tests are automatically generated by Connection Monitor. Individual tests will produce their own results, including checks failure rate and round-trip time.
Add Test Group
Name
Sources
Destina
VM1-t...
VM1-Subnet(InsightSc...
VM2-Su
<< Previous
Next : Workspace >>
Review + Update
Cancel
Add test group details
A Test group lets you define a logical group that will let you va
and destination based on which you would like to define test f
Test group name *
VM1-to-VM2-T
Sources
1 I
Azure endpoints
Extension Status
VM1-Subnet(InsightScape-R...
Subscription : Azure subscrip...
Resource group: InsightScap...
Edit
Enabled
Add sources
Disable test group
While creating the Connection Monitor, if you have disat
Update Test Group
Cancel
Add Test configuration
New configuration
Choose existing
Test configuration name
VM1-to-VM2-TConfig
Protocol
ICMP
Disable traceroute
Test Frequency
Every 30 seconds
Success Threshold
Checks failed (%) *
50
Round trip time (ms) *
300
Update Test configuration
Cancel


Add test group details - Micros
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Microsoft Azure
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Copilot
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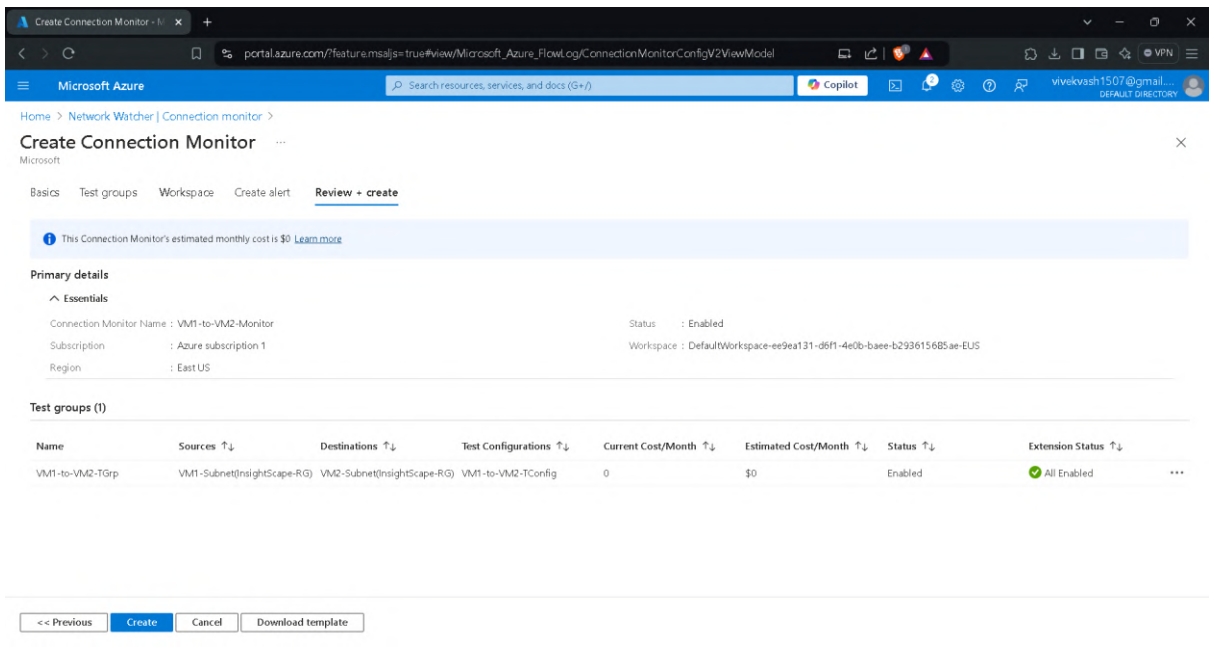
DEFAULT DIRECTORY
Home > Network Watcher | Connection monitor > Create Connection Monitor >
Create Connection...
Microsoft
Basics
Test groups
Each test group in Connection Monitor defines a number of sources, destinations and test configurations. All sources and destinations added to a test group with test configuration specified get broken down to individual tests. Tests are automatically generated by Connection Monitor. Individual tests will produce their own results, including checks failure rate and round-trip time.
No Test group available
Click on 'Add Test group' for
<< Previous
Next : Workspace >>
Review + create
Cancel
Add test group details
A Test group lets you define a logical group that will let you validate a set of tests between a source and destination pair using a defined test configuration. start by naming your test group and selecting sources and destination based on which you would like to define test for monitoring your network. Learn more about test groups
Test group name *
VM1-to-VM2-TGrp
Sources
1 Items
Azure endpoints
Extension Status
VM1-Subnet(InsightScape-R...
Subscription : Azure subscrip...
Resource group: InsightScap...
Edit
Enabled
Add sources
Test configurations
1 Items
VM1-to-VM2-TConfig
Add Test configuration
Destinations
1 Items
Azure endpoints
Extension Status
VM2-Subnet(InsightScape-R...
Subscription : Azure subscrip...
Resource group: InsightScap...
Edit
Enabled
Add destinations
Disable test group
While creating the Connection Monitor, if you have disabled a test group you will not be charged for it unless you enable it again
Add Test Group
Cancel


Create Connection Monitor - M
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_FlowLog/ConnectionMonitorConfigV2ViewModel
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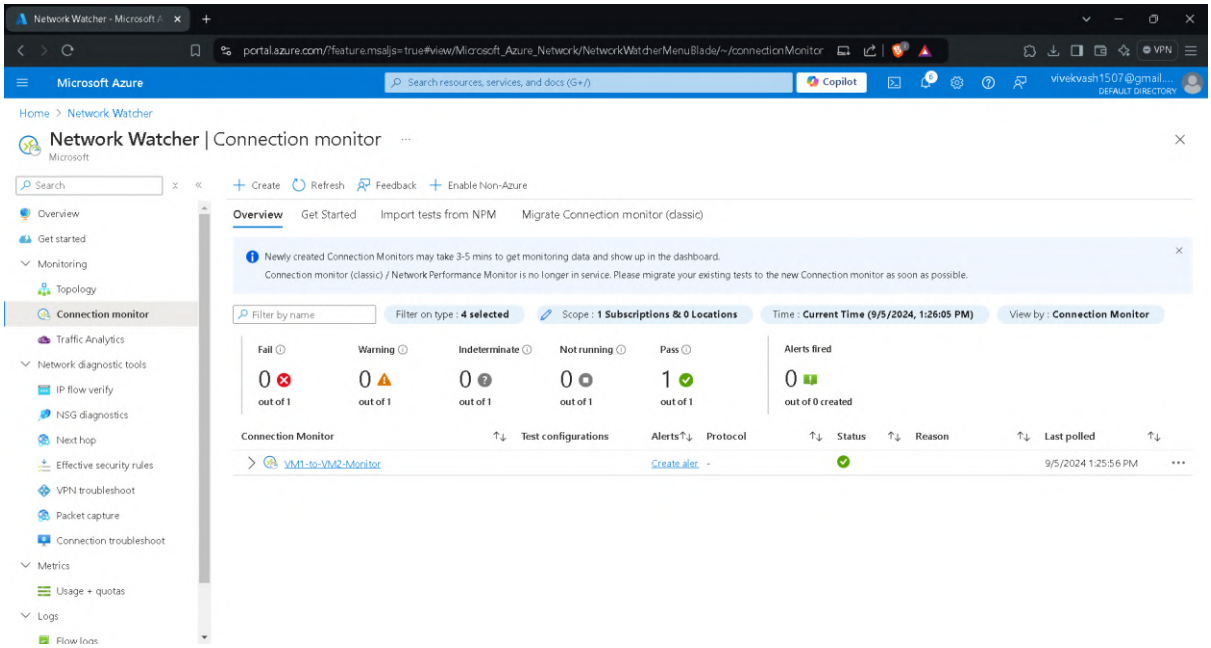
Home > Network Watcher | Connection monitor >
Create Connection Monitor
Microsoft
Basics
Test groups
Workspace
Create alert
Review + create
This Connection Monitor's estimated monthly cost is $0 Learn more
Primary details
Essentials
Connection Monitor Name : VM1-to-VM2-Monitor
Subscription : Azure subscription 1
Region : East US
Status : Enabled
Workspace : DefaultWorkspace-ee9ea131-d6f1-4e0b-baee-b2936156B5ae-EUS
Test groups (1)
Name
Sources
Destinations
Test Configurations
Current Cost/Month
Estimated Cost/Month
Status
Extension Status
VM1-to-VM2-TGrp
VM1-Subnet(InsightScape-RG)
VM2-Subnet(InsightScape-RG)
VM1-to-VM2-TConfig
0
$0
Enabled
All Enabled
<< Previous
Create
Cancel
Download template


Network Watcher - Microsoft A
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Enable Non-Azure
Overview
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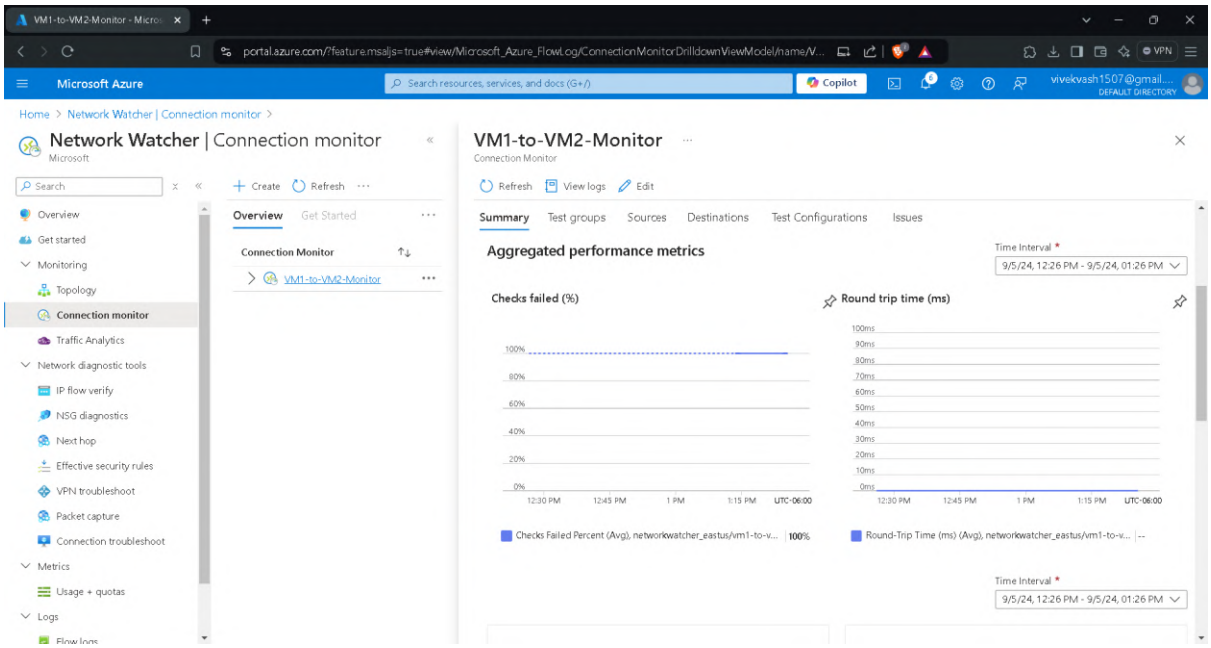
Monitoring
Topology
Connection monitor
Traffic Analytics
Network diagnostic tools
IP flow verify
NSG diagnostics
Next hop
Effective security rules
VPN troubleshoot
Packet capture
Connection troubleshoot
Metrics
Usage + quotas
Logs
Flow logs
Overview
Get Started
Import tests from NPM
Migrate Connection monitor (classic)
Newly created Connection Monitors may take 3-5 mins to get monitoring data and show up in the dashboard.
Connection monitor (classic) / Network Performance Monitor is no longer in service. Please migrate your existing tests to the new Connection monitor as soon as possible.
Filter by name
Filter on type : 4 selected
Scope : 1 Subscriptions & 0 Locations
Time : Current Time (9/5/2024, 1:26:05 PM)
View by : Connection Monitor
Fail
0
out of 1
Warning
0
out of 1
Indeterminate
0
out of 1
Not running
0
out of 1
Pass
1
out of 1
Alerts fired
0
out of 0 created
Connection Monitor
Test configurations
Alerts
Protocol
Status
Reason
Last polled
VM1-to-VM2-Monitor
Create aler
9/5/2024 1:25:56 PM


VM1-to-VM2-Monitor - Micro
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_FlowLog/ConnectionMonitorDrilldownViewModel/name/V...
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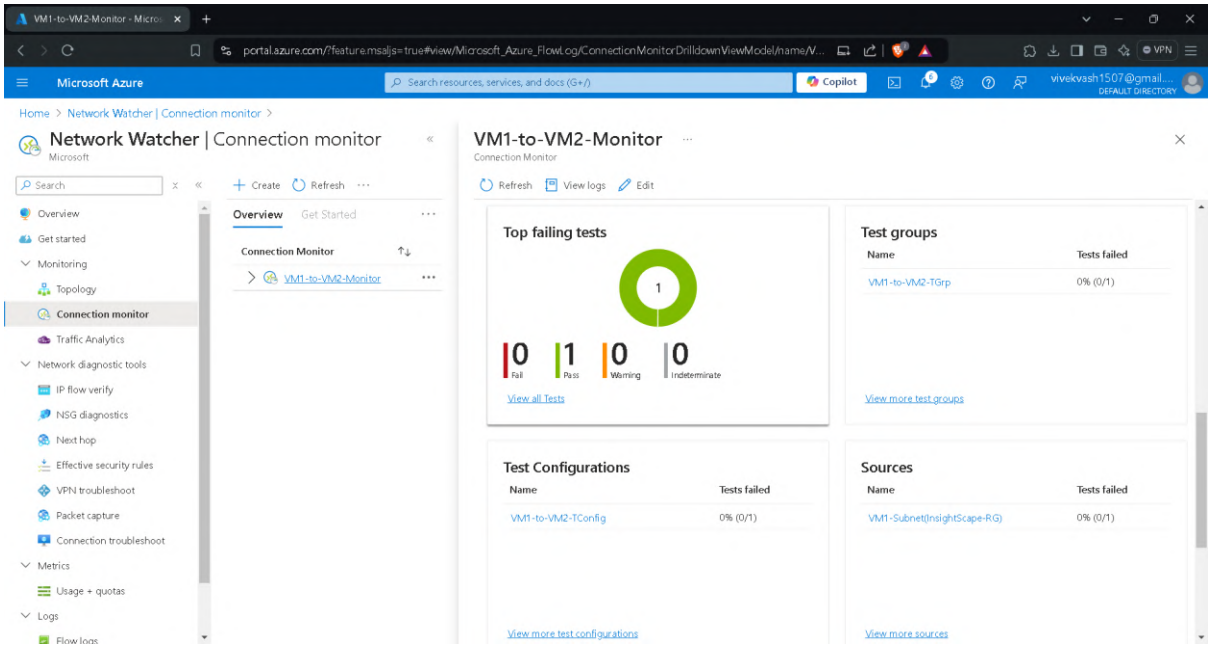
DEFAULT DIRECTORY
Home > Network Watcher | Connection monitor >
Network Watcher | Connection monitor
Microsoft
Create
Refresh
Overview
Get Started
Connection Monitor
VM1-to-VM2-Monitor
VM1-to-VM2-Monitor
Connection Monitor
Refresh
View logs
Edit
Summary
Test groups
Sources
Destinations
Test Configurations
Issues
Aggregated performance metrics
Time Interval *
9/5/24, 12:26 PM - 9/5/24, 01:26 PM
Checks failed (%)
Round trip time (ms)
100%
80%
60%
40%
20%
0%
100ms
90ms
80ms
70ms
60ms
50ms
40ms
30ms
20ms
10ms
0ms
12:30 PM
12:45 PM
1 PM
1:15 PM
UTC-06:00
Checks Failed Percent (Avg), networkwatcher_eastus/vm1-to-v... 100%
Round-Trip Time (ms) (Avg), networkwatcher_eastus/vm1-to-v... --
Time Interval *
9/5/24, 12:26 PM - 9/5/24, 01:26 PM


VM1-to-VM2-Monitor - Micro
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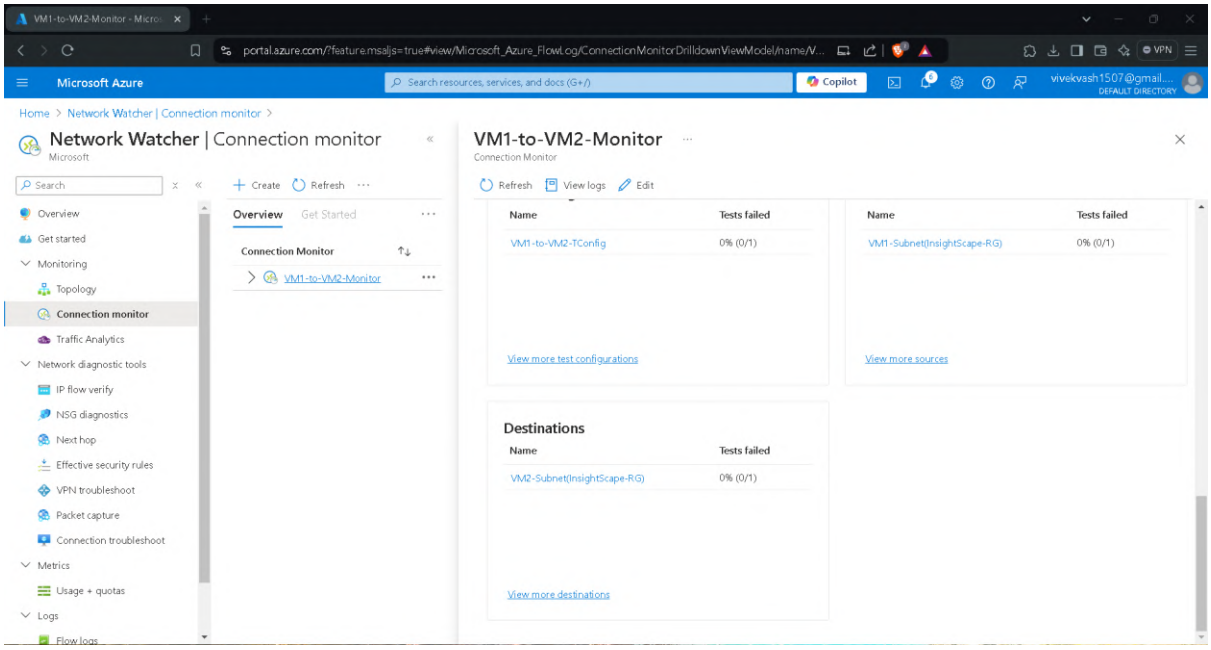
DEFAULT DIRECTORY
Home > Network Watcher | Connection monitor >
Network Watcher | Connection monitor
Microsoft
Create
Refresh
Overview
Get Started
Connection Monitor
VM1-to-VM2-Monitor
VM1-to-VM2-Monitor
Connection Monitor
Refresh
View logs
Edit
Top failing tests
1
0
Fail
1
Pass
0
Warning
0
Indeterminate
View all Tests
Test groups
Name
Tests failed
VM1-to-VM2-TGrp
0% (0/1)
View more test groups
Test Configurations
Name
Tests failed
VM1-to-VM2-TConfig
0% (0/1)
View more test configurations
Sources
Name
Tests failed
VM1-Subnet(InsightScape-RG)
0% (0/1)
View more sources



f) Azure Backup

To set up Azure Backup, I followed these steps:

1. **Recovery Services Vault Creation:**
    - I created a Recovery Services Vault with the following configurations:

    Basics Tab:

    - Resource Group: InsightScape-RG
    - Vault Name: InsightScape-Vault
    - Region: East US
    - Used Default Settings for remaining configurations.
    - After configuring these settings, I clicked on "Review + Create" to create the Recovery Services Vault.
2. **Backup Item Configuration:**
    - After the successful deployment of the vault, I navigated to the Backup Items tab under Protected Items and selected "Azure Virtual Machine".
    - I then proceeded to add a Backup Item.

    Backup Goal:

    - Where is your workload running?: Azure
    - What do you want to backup?: Virtual Machine
    - After setting the backup goal, I clicked on "Backup".
3. **Backup Configuration and Enabling Backup:**
    - To configure and enable the backup, I chose the following settings:

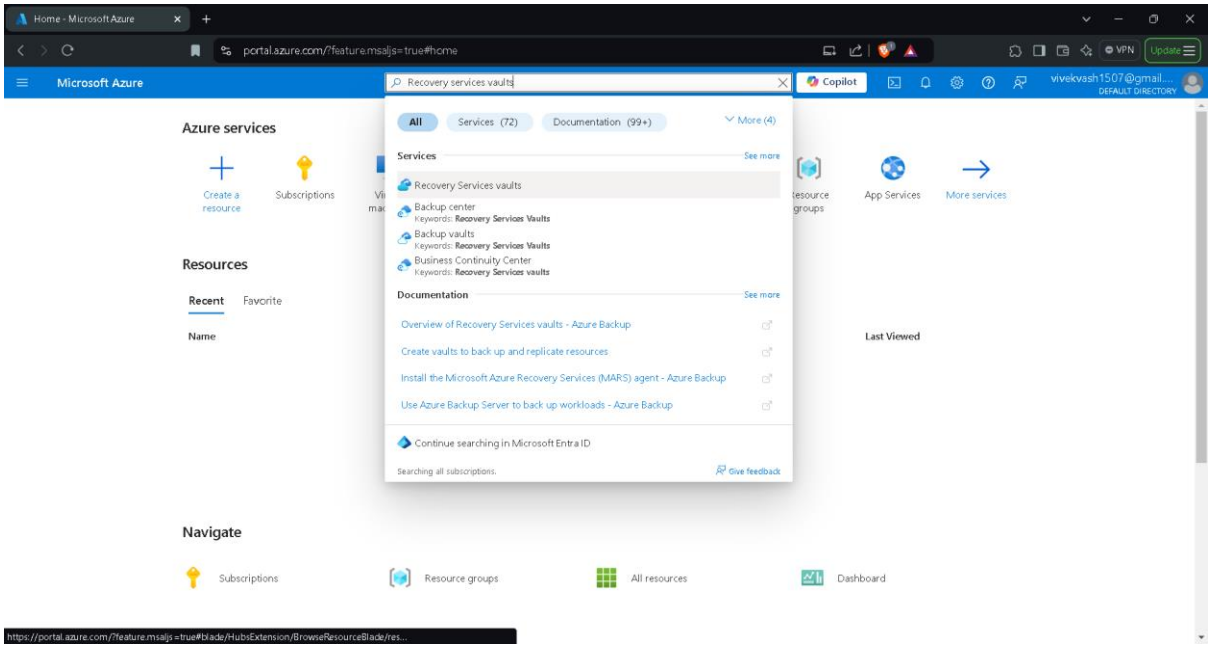
    Policy Sub Type: Standard Backup Policy: DefaultPolicy

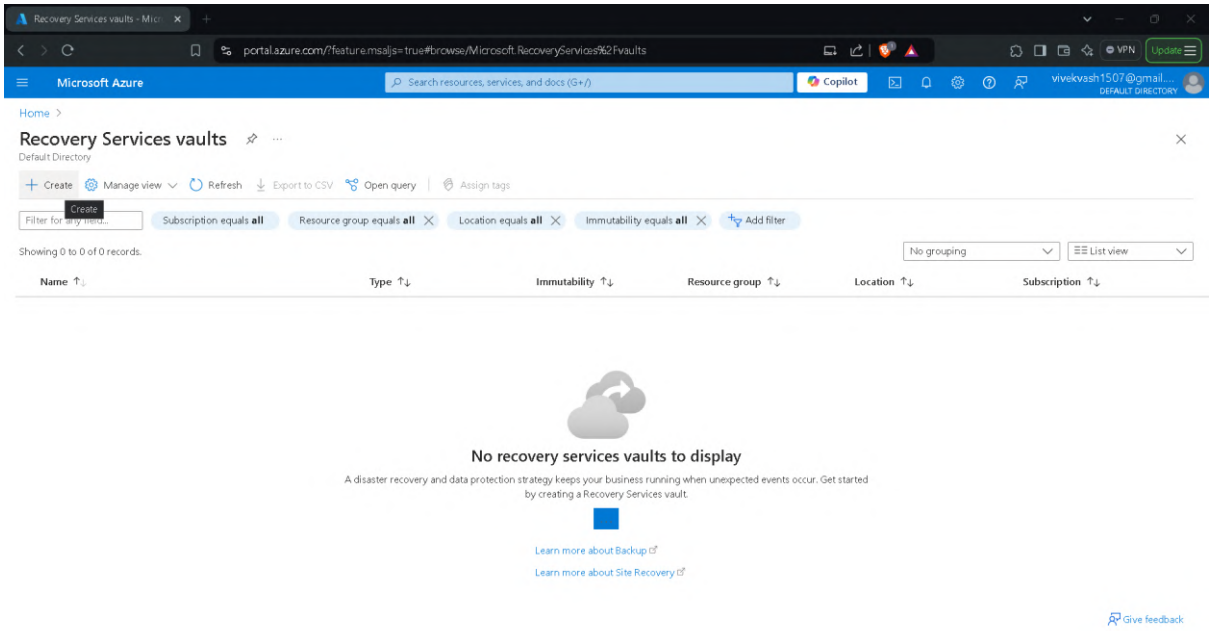
    - I then proceeded to add the Virtual Machine:
    - Virtual Machine: InsightScape-VM1
    - After selecting the VM, I clicked on "Enable Backup".

4. **Verification:**
    - After the successful deployment, I navigated back to the Backup Items tab, and InsightScape-VM1 was visible in the list of backup items.
    - I selected InsightScape-VM1 and clicked on "Backup now" to trigger a manual backup.
5. **Backup Jobs Verification:**
    - To verify that the backup was successful, I accessed the Backup Jobs tab, where I could see two workload items for InsightScape-VM1:
        - InsightScape-VM1:
            - Operation: Backup
            - Status: Completed (Green Tick)
            - Type: Azure Virtual Machine
            - Total Duration: 00:41:10
        - InsightScape-VM1:
            - Operation: Configure Backup
            - Status: Completed (Green Tick)
            - Type: Azure Virtual Machine
            - Total Duration: 00:00:40

With this setup and verification, the Azure Backup for InsightScape-VM1 was successfully completed.

Screenshots




Recovery Services vaults - Micr
portal.azure.com/?feature.msaljs=true#browse/Microsoft.RecoveryServices%2Fvaults
Microsoft Azure
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Copilot
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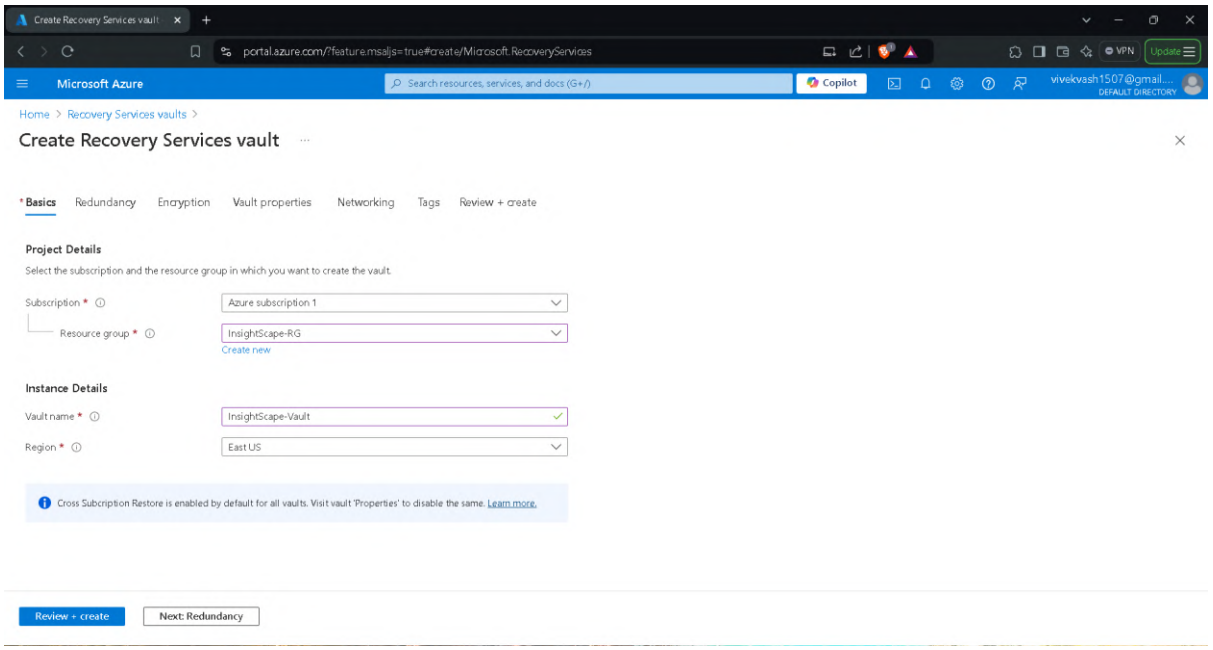
DEFAULT DIRECTORY
Home
Recovery Services vaults
Default Directory
Create
Manage view
Refresh
Export to CSV
Open query
Assign tags
Create
Filter for any field...
Subscription equals all
Resource group equals all
Location equals all
Immutability equals all
Add filter
Showing 0 to 0 of 0 records.
No grouping
List view
Name
Type
Immutability
Resource group
Location
Subscription
No recovery services vaults to display
A disaster recovery and data protection strategy keeps your business running when unexpected events occur. Get started by creating a Recovery Services vault.
Learn more about Backup
Learn more about Site Recovery
Give feedback


Create Recovery Services vault
portal.azure.com/?feature.msaljs=true#create/Microsoft.RecoveryServices
Microsoft Azure
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Copilot
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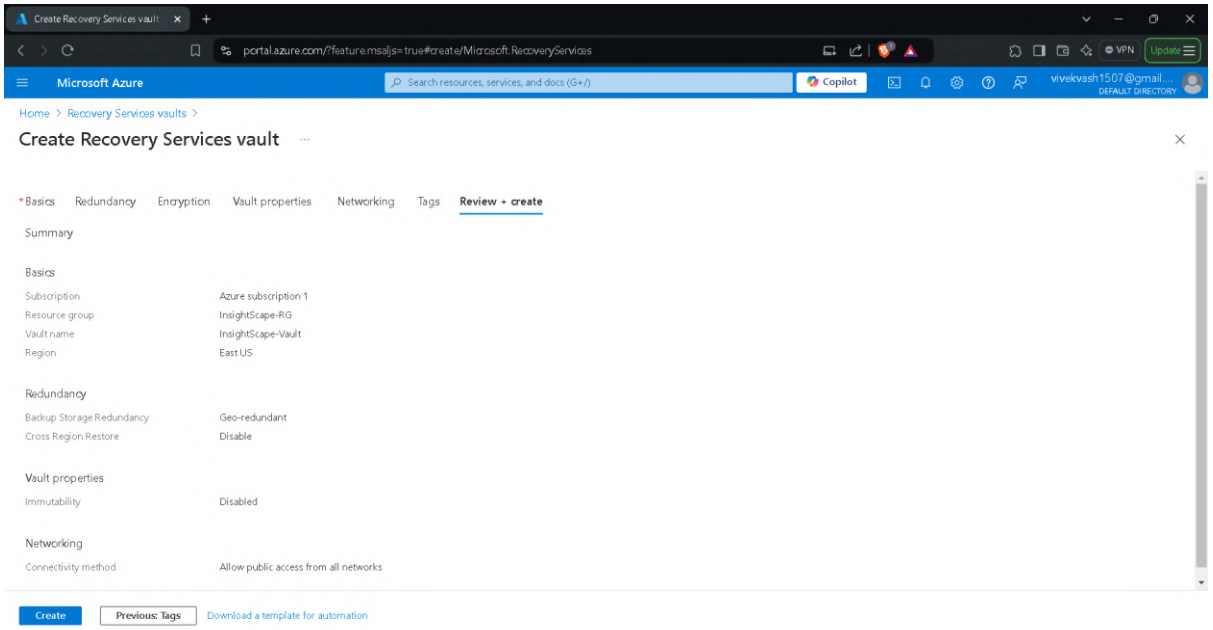
DEFAULT DIRECTORY
Home
Recovery Services vaults
Create Recovery Services vault
*Basics
Redundancy
Encryption
Vault properties
Networking
Tags
Review + create
Project Details
Select the subscription and the resource group in which you want to create the vault.
Subscription *
Azure subscription 1
Resource group *
InsightScape-RG
Create new
Instance Details
Vault name *
InsightScape-Vault
Region *
East US
Cross Subcription Restore is enabled by default for all vaults. Visit vault 'Properties' to disable the same. Learn more.
Review + create
Next: Redundancy


Create Recovery Services vault
portal.azure.com/?feature.msaljs=true#create/Microsoft.RecoveryServices
Microsoft Azure
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Recovery Services vaults
Create Recovery Services vault
*Basics
Redundancy
Encryption
Vault properties
Networking
Tags
Review + create
Summary
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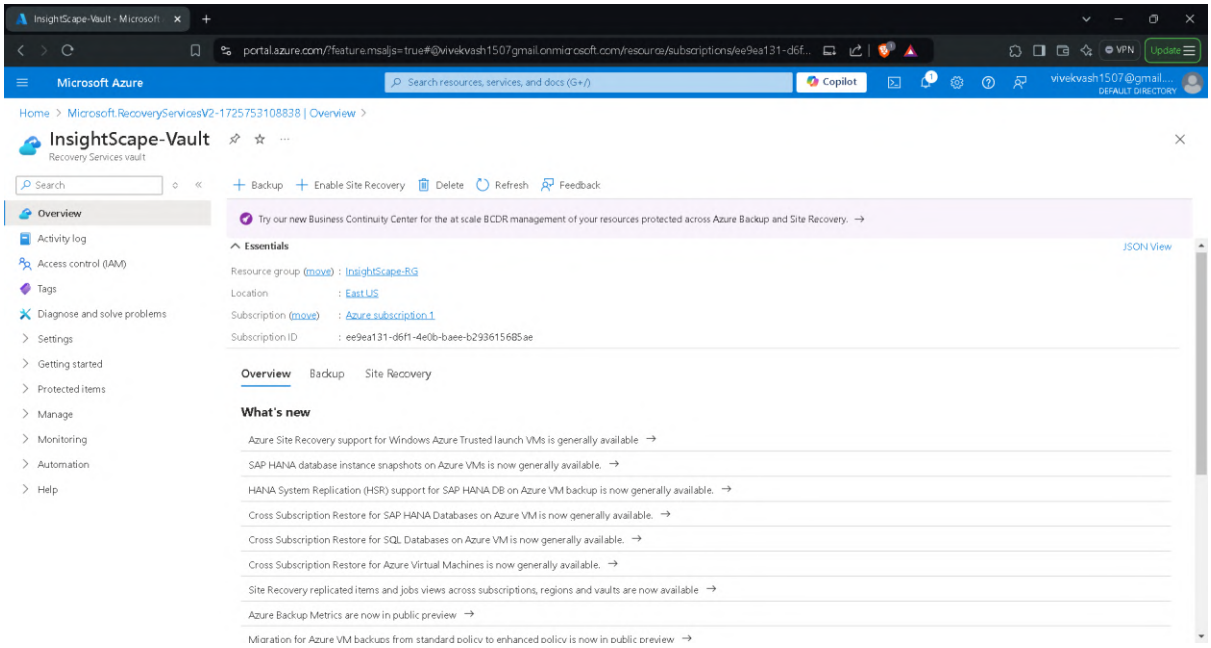
Subscription
Azure subscription 1
Resource group
InsightScape-RG
Vault name
InsightScape-Vault
Region
East US
Redundancy
Backup Storage Redundancy
Geo-redundant
Cross Region Restore
Disable
Vault properties
Immutability
Disabled
Networking
Connectivity method
Allow public access from all networks
Create
Previous: Tags
Download a template for automation


InsightScape-Vault - Microsoft
portal.azure.com/?feature.msaljs=true#@vivekvash1507gmail.onmicrosoft.com/resource/subscriptions/ee9ea131-d6f...
Microsoft Azure
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Copilot
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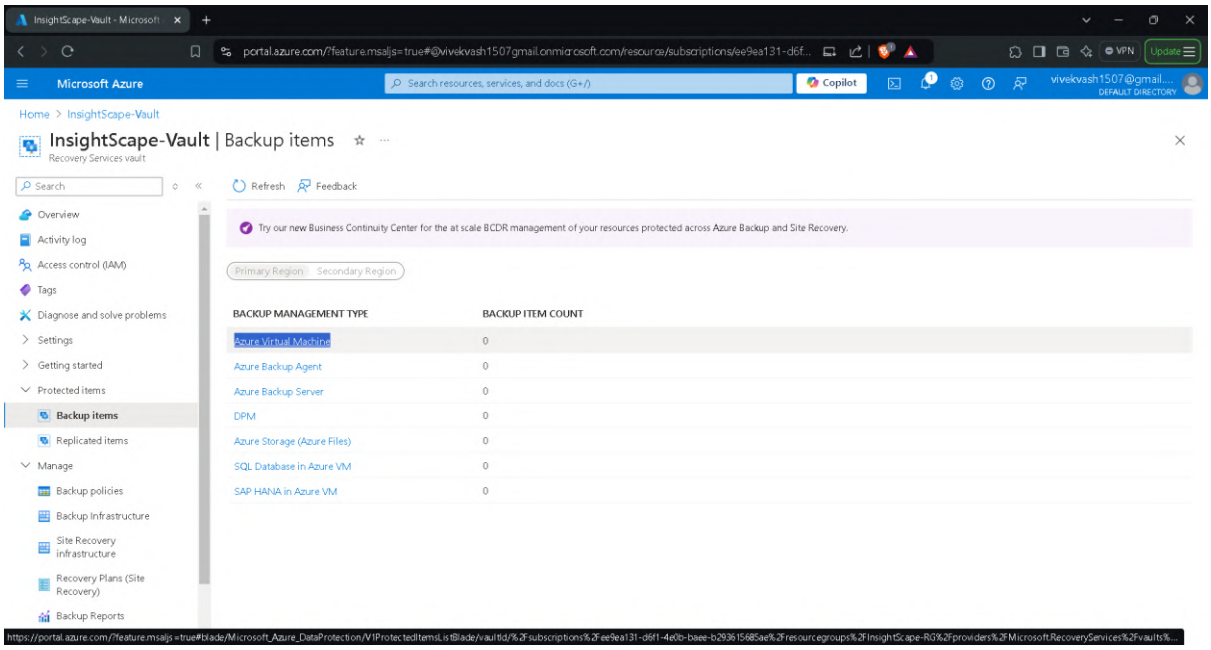
DEFAULT DIRECTORY
Home > Microsoft.RecoveryServicesV2-1725753108838 | Overview >
InsightScape-Vault
Recovery Services vault
Search
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Settings
Getting started
Protected items
Manage
Monitoring
Automation
Help
Backup
Enable Site Recovery
Delete
Refresh
Feedback
Try our new Business Continuity Center for the at scale BCDR management of your resources protected across Azure Backup and Site Recovery.
Essentials
JSON View
Resource group (move) : InsightScape-RG
Location : East US
Subscription (move) : Azure subscription 1
Subscription ID : ee9ea131-d6f1-4e0b-baee-b293615685ae
Overview
Backup
Site Recovery
What's new
Azure Site Recovery support for Windows Azure Trusted launch VMs is generally available
SAP HANA database instance snapshots on Azure VMs is now generally available.
HANA System Replication (HSR) support for SAP HANA DB on Azure VM backup is now generally available.
Cross Subscription Restore for SAP HANA Databases on Azure VM is now generally available.
Cross Subscription Restore for SQL Databases on Azure VM is now generally available.
Cross Subscription Restore for Azure Virtual Machines is now generally available.
Site Recovery replicated items and jobs views across subscriptions, regions and vaults are now available
Azure Backup Metrics are now in public preview


InsightScape-Vault - Microsoft
portal.azure.com/?feature.msaljs=true#@vivekvash1507gmail.onmicrosoft.com/resource/subscriptions/ee9ea131-d6f...
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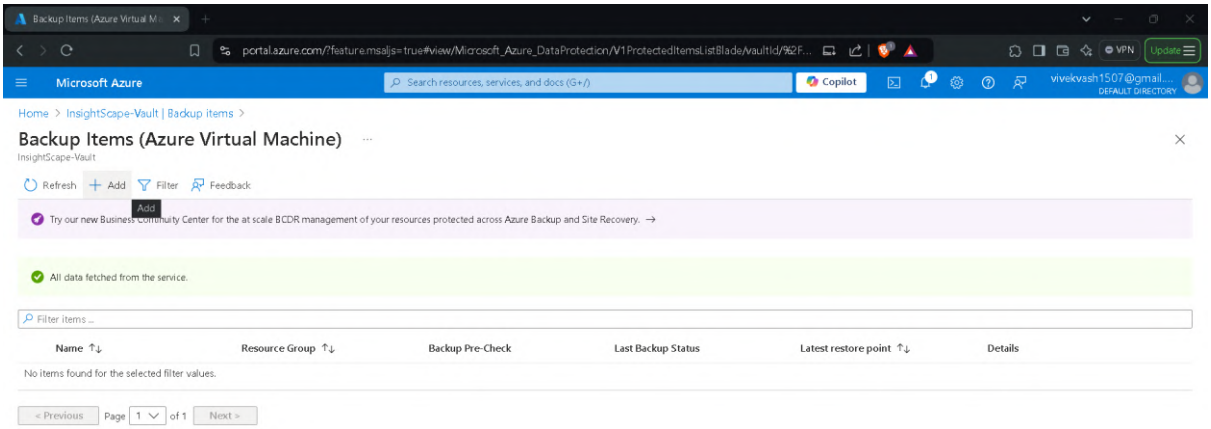
Home > InsightScape-Vault
InsightScape-Vault | Backup items
Recovery Services vault
Search
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Settings
Getting started
Protected items
Backup items
Replicated items
Manage
Backup policies
Backup Infrastructure
Site Recovery infrastructure
Recovery Plans (Site Recovery)
Backup Reports
Refresh
Feedback
Try our new Business Continuity Center for the at scale BCDR management of your resources protected across Azure Backup and Site Recovery.
Primary Region
Secondary Region
BACKUP MANAGEMENT TYPE
BACKUP ITEM COUNT
Azure Virtual Machine 0
Azure Backup Agent 0
Azure Backup Server 0
DPM 0
Azure Storage (Azure Files) 0
SQL Database in Azure VM 0
SAP HANA in Azure VM 0
https://portal.azure.com/?feature.msaljs=true#blade/Microsoft_Azure_DataProtection/V1ProtectedItemsListBlade/vaultId/%2Fsubscriptions%2Fee9ea131-d6f1-4e0b-baee-b293615685ae%2Fresourcegroups%2FInsightScape-RG%2Fproviders%2FMicrosoft.RecoveryServices%2Fvaults%...


Backup Items (Azure Virtual M...
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_DataProtection/V1ProtectedItemsListBlade/vaultId/%2F...
Microsoft Azure
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Copilot
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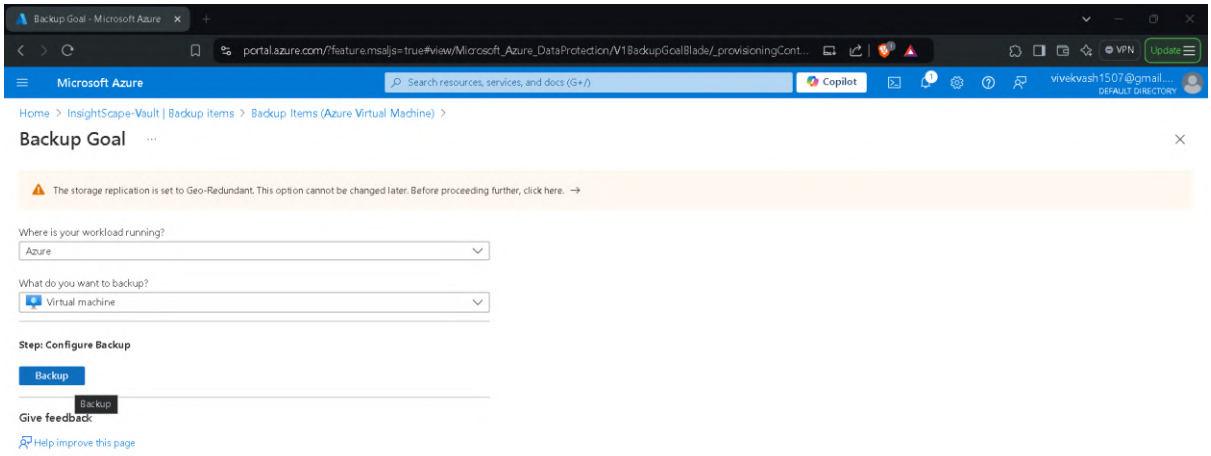
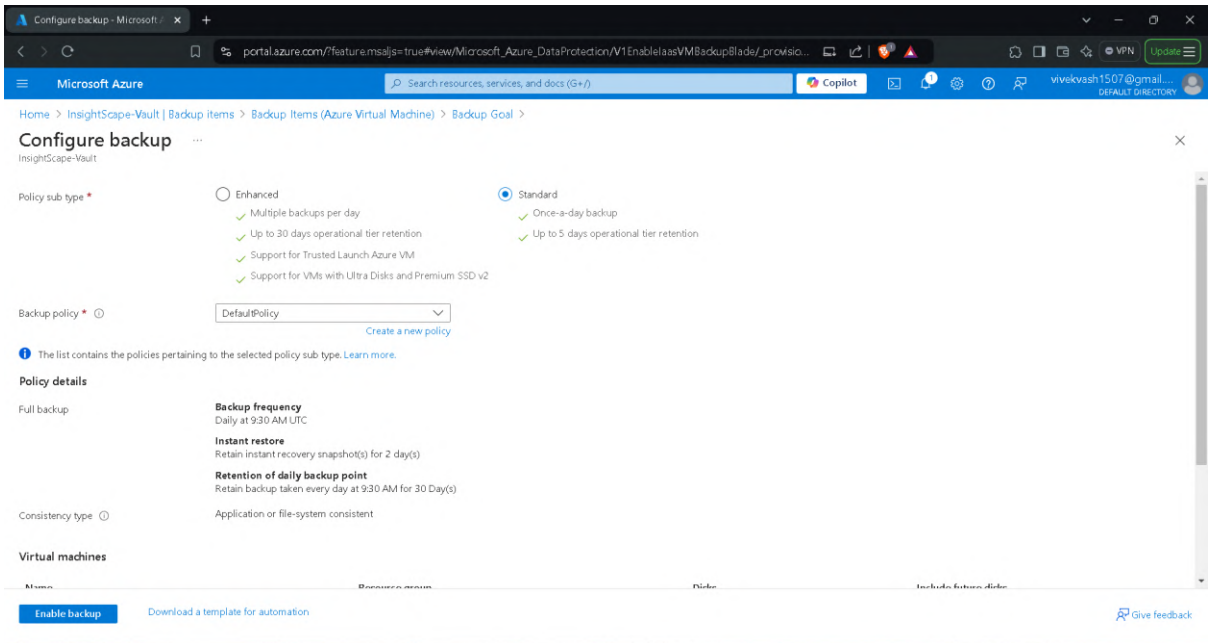
DEFAULT DIRECTORY
Home > InsightScape-Vault | Backup items >
Backup Items (Azure Virtual Machine)
InsightScape-Vault
Refresh
Add
Filter
Feedback
Add
Try our new Business Continuity Center for the at scale BCDR management of your resources protected across Azure Backup and Site Recovery.
All data fetched from the service.
Filter items ...
Name
Resource Group
Backup Pre-Check
Last Backup Status
Latest restore point
Details
No items found for the selected filter values.
« Previous
Page 1 of 1
Next »


Backup Goal - Microsoft Azure
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_DataProtection/V1BackupGoalBlade/_provisioningCont...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY
Home > InsightScape-Vault | Backup items > Backup Items (Azure Virtual Machine) >
Backup Goal
The storage replication is set to Geo-Redundant. This option cannot be changed later. Before proceeding further, click here.
Where is your workload running?
Azure
What do you want to backup?
Virtual machine
Step: Configure Backup
Backup
Backup
Give feedback
Help improve this page


Configure backup - Microsoft
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_DataProtection/V1EnableIaasVMBackupBlade/_provisio...
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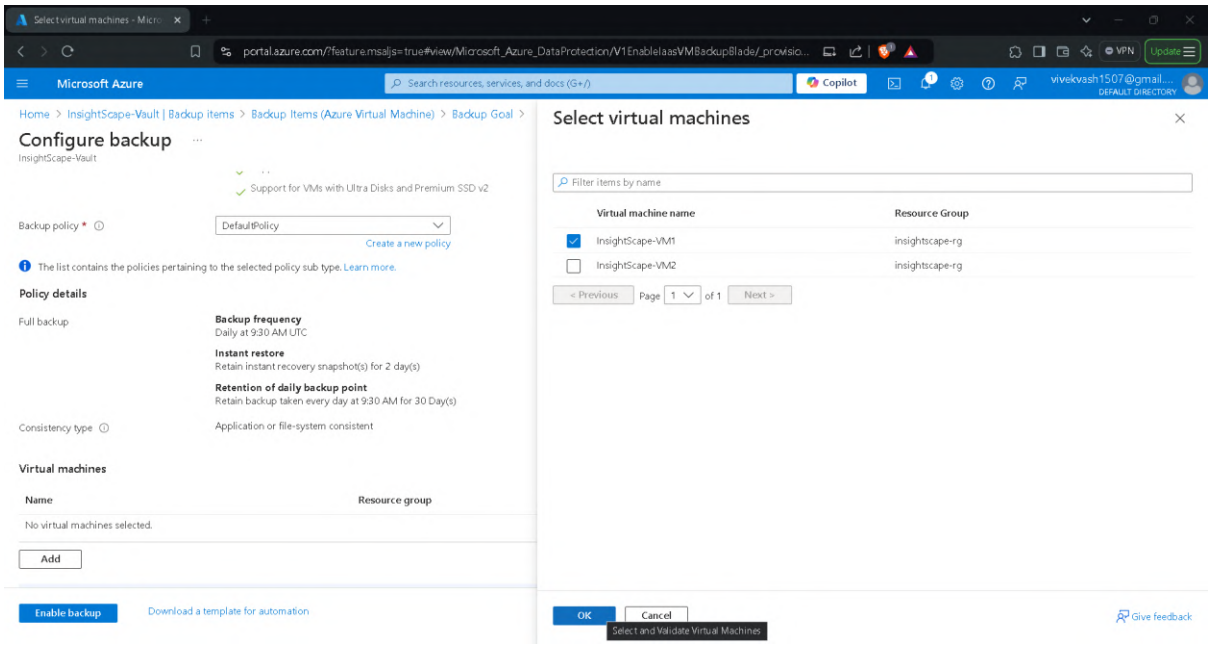
vivekvash1507@gmail....
DEFAULT DIRECTORY
Home > InsightScape-Vault | Backup items > Backup Items (Azure Virtual Machine) > Backup Goal >
Configure backup
InsightScape-Vault
Policy sub type *
Enhanced
Multiple backups per day
Up to 30 days operational tier retention
Support for Trusted Launch Azure VM
Support for VMs with Ultra Disks and Premium SSD v2
Standard
Once-a-day backup
Up to 5 days operational tier retention
Backup policy *
DefaultPolicy
Create a new policy
The list contains the policies pertaining to the selected policy sub type. Learn more.
Policy details
Full backup
Backup frequency
Daily at 9:30 AM UTC
Instant restore
Retain instant recovery snapshot(s) for 2 day(s)
Retention of daily backup point
Retain backup taken every day at 9:30 AM for 30 Day(s)
Consistency type
Application or file-system consistent
Virtual machines
Enable backup
Download a template for automation
Give feedback


Select virtual machines - Micro
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_DataProtection/V1EnableIaasVMBackupBlade/_provisio...
Microsoft Azure
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vivekvash1507@gmail....
DEFAULT DIRECTORY
Home > InsightScape-Vault | Backup items > Backup Items (Azure Virtual Machine) > Backup Goal >
Configure backup
InsightScape-Vault
Support for VMs with Ultra Disks and Premium SSD v2
Backup policy *
DefaultPolicy
Create a new policy
The list contains the policies pertaining to the selected policy sub type. Learn more.
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Full backup
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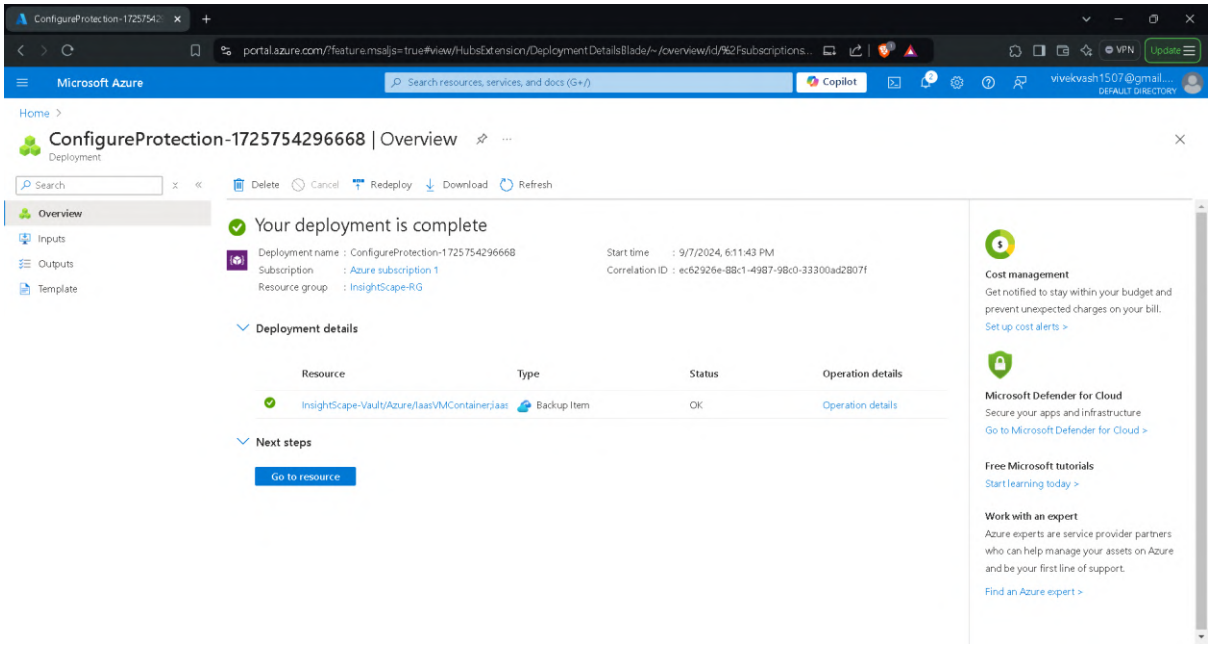
Daily at 9:30 AM UTC
Instant restore
Retain instant recovery snapshot(s) for 2 day(s)
Retention of daily backup point
Retain backup taken every day at 9:30 AM for 30 Day(s)
Consistency type
Application or file-system consistent
Virtual machines
Name
Resource group
No virtual machines selected.
Add
Enable backup
Download a template for automation
Select virtual machines
Filter items by name
Virtual machine name
Resource Group
InsightScape-VM1
insightscape-rg
InsightScape-VM2
insightscape-rg
< Previous
Page 1 of 1
Next >
OK
Cancel
Select and Validate Virtual Machines
Give feedback


Microsoft Azure
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Copilot
Home >
ConfigureProtection-1725754296668 | Overview
Deployment
Search
Overview
Inputs
Outputs
Template
Delete
Cancel
Redeploy
Download
Refresh
Your deployment is complete
Deployment name : ConfigureProtection-1725754296668
Subscription : Azure subscription 1
Resource group : InsightScape-RG
Start time : 9/7/2024, 6:11:43 PM
Correlation ID : ec62926e-88c1-4987-98c0-33300ad2807f
Deployment details
Resource
Type
Status
Operation details
InsightScape-Vault/Azure/IaasVMContainer;iaas
Backup Item
OK
Operation details
Next steps
Go to resource
Cost management
Get notified to stay within your budget and prevent unexpected charges on your bill.
Set up cost alerts >
Microsoft Defender for Cloud
Secure your apps and infrastructure
Go to Microsoft Defender for Cloud >
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Start learning today >
Work with an expert
Azure experts are service provider partners who can help manage your assets on Azure and be your first line of support.
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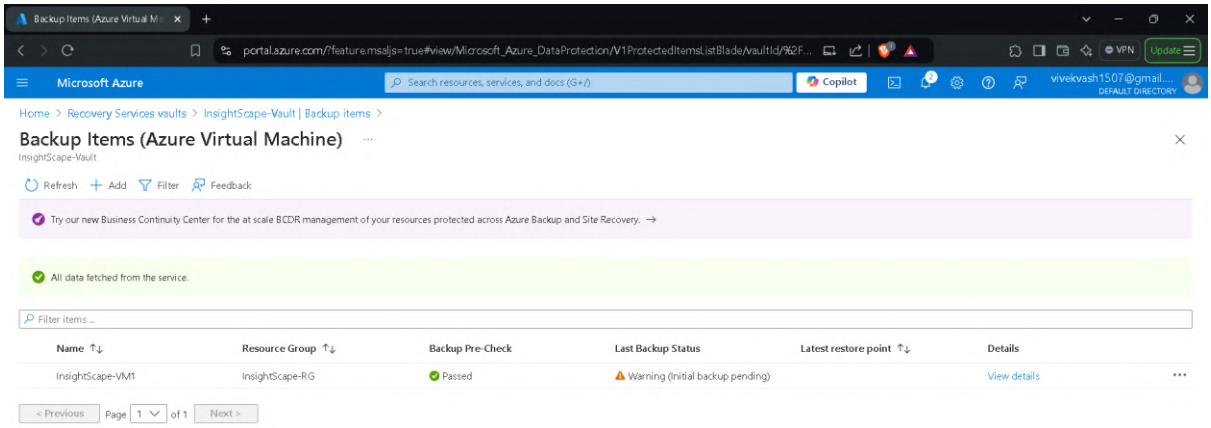
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Backup Items (Azure Virtual Machine)
InsightScape-Vault
Refresh
Add
Filter
Feedback
Try our new Business Continuity Center for the at scale BCDR management of your resources protected across Azure Backup and Site Recovery.
All data fetched from the service.
Filter items ...
Name
Resource Group
Backup Pre-Check
Last Backup Status
Latest restore point
Details
InsightScape-VM1
InsightScape-RG
Passed
Warning (Initial backup pending)
View details
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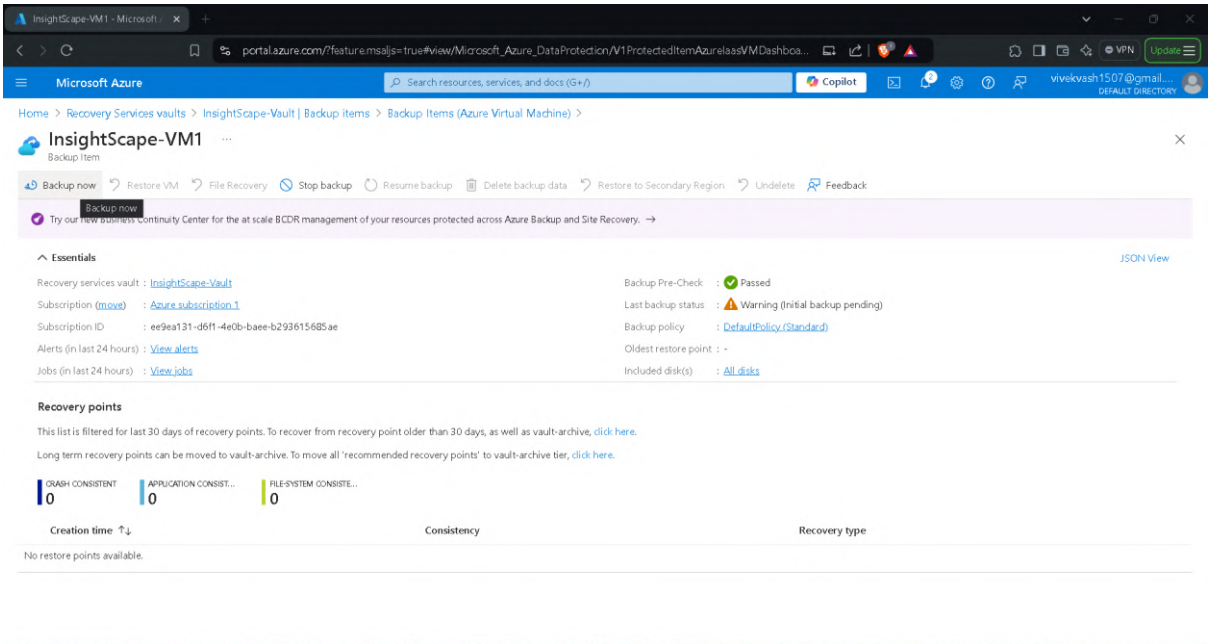
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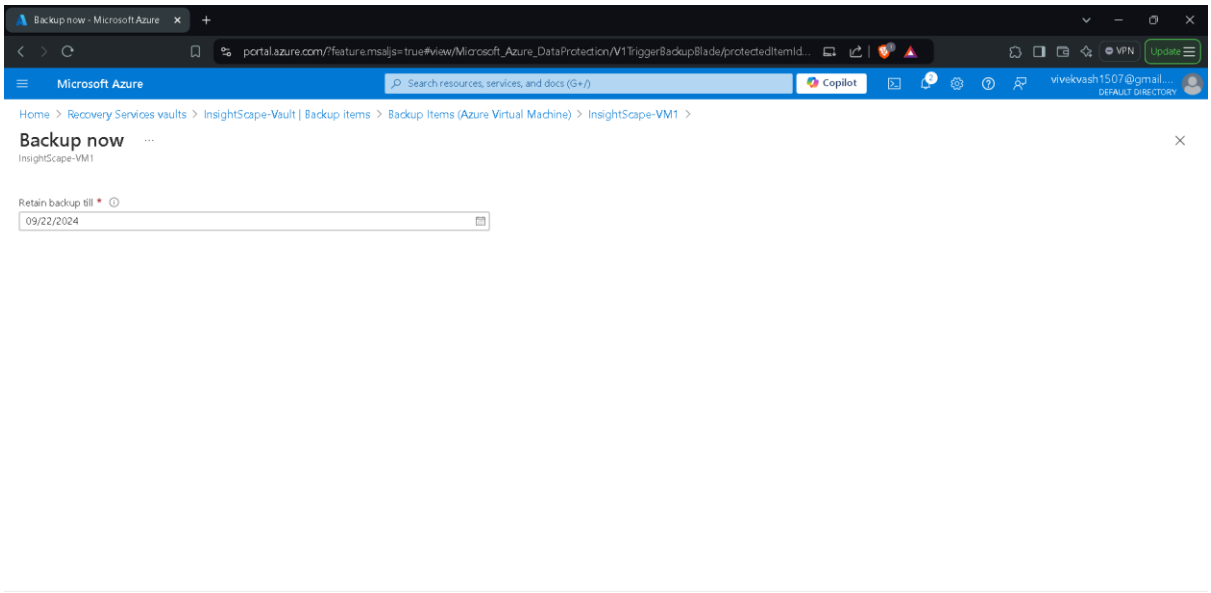
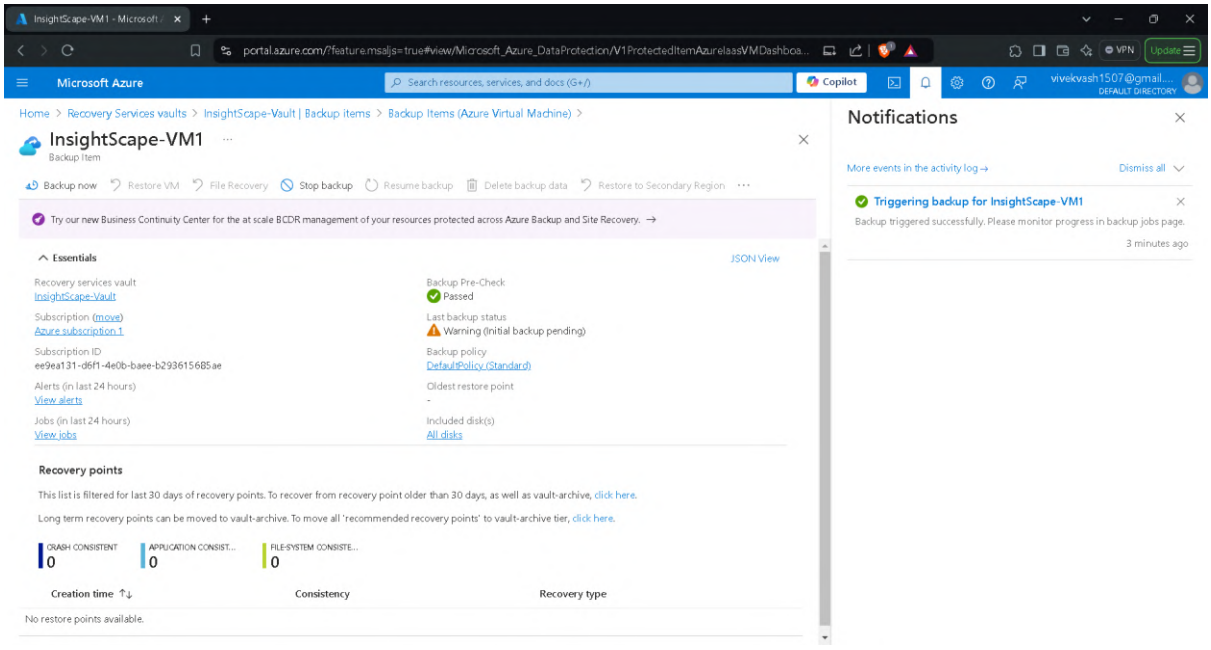
Search resources, services, and docs (G+/)
Copilot
Home > Recovery Services vaults > InsightScape-Vault | Backup items > Backup Items (Azure Virtual Machine) >
InsightScape-VM1
Backup Item
Backup now
Restore VM
File Recovery
Stop backup
Resume backup
Delete backup data
Restore to Secondary Region
Undelete
Feedback
Backup now
Try our new Business Continuity Center for the at scale BCDR management of your resources protected across Azure Backup and Site Recovery.
Essentials
JSON View
Recovery services vault : InsightScape-Vault
Subscription (move) : Azure subscription 1
Subscription ID : ee9ea131-d6f1-4e0b-baee-b2936156f85ae
Alerts (in last 24 hours) : View alerts
Jobs (in last 24 hours) : View jobs
Backup Pre-Check : Passed
Last backup status : Warning (Initial backup pending)
Backup policy : DefaultPolicy (Standard)
Oldest restore point : -
Included disk(s) : All disks
Recovery points
This list is filtered for last 30 days of recovery points. To recover from recovery point older than 30 days, as well as vault-archive, click here.
Long term recovery points can be moved to vault-archive. To move all 'recommended recovery points' to vault-archive tier, click here.
CRASH CONSISTENT
0
APPLICATION CONSIST...
0
FILE-SYSTEM CONSISTE...
0
Creation time
Consistency
Recovery type
No restore points available.


Backup now - Microsoft Azure
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_DataProtection/V1TriggerBackupBlade/protectedItemId...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY
Home > Recovery Services vaults > InsightScape-Vault | Backup items > Backup Items (Azure Virtual Machine) > InsightScape-VM1 >
Backup now
InsightScape-VM1
Retain backup till *
09/22/2024
OK
Give feedback


InsightScape-VM1 - Microsoft...
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_DataProtection/V1ProtectedItemAzureIaasVMDashboa...
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DEFAULT DIRECTORY
Home > Recovery Services vaults > InsightScape-Vault | Backup items > Backup Items (Azure Virtual Machine) >
InsightScape-VM1
Backup Item
Backup now
Restore VM
File Recovery
Stop backup
Resume backup
Delete backup data
Restore to Secondary Region
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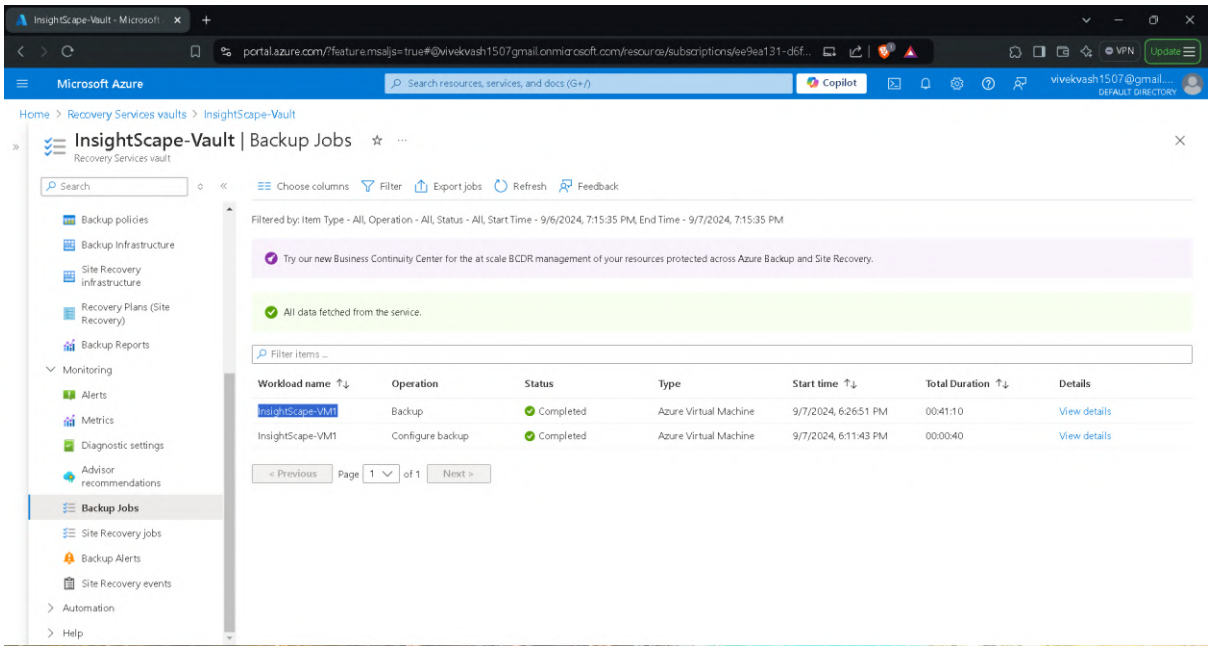
JSON View
Recovery services vault
InsightScape-Vault
Subscription (move)
Azure subscription 1
Subscription ID
ee9ea131-d6f1-4e0b-baee-b293615685ae
Alerts (in last 24 hours)
View alerts
Jobs (in last 24 hours)
View jobs
Backup Pre-Check
Passed
Last backup status
Warning (Initial backup pending)
Backup policy
DefaultPolicy (Standard)
Oldest restore point
-
Included disk(s)
All disks
Recovery points
This list is filtered for last 30 days of recovery points. To recover from recovery point older than 30 days, as well as vault-archive, click here.
Long term recovery points can be moved to vault-archive. To move all 'recommended recovery points' to vault-archive tier, click here.
CRASH CONSISTENT
0
APPLICATION CONSIST...
0
FILE-SYSTEM CONSISTE...
0
Creation time
Consistency
Recovery type
No restore points available.
Notifications
More events in the activity log →
Dismiss all
Triggering backup for InsightScape-VM1
Backup triggered successfully. Please monitor progress in backup jobs page.
3 minutes ago


InsightScape-Vault - Microsoft...
portal.azure.com/?feature.msaljs=true#@vivekvash1507gmail.onmicrosoft.com/resource/subscriptions/ee9ea131-d6f...
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Home > Recovery Services vaults > InsightScape-Vault
InsightScape-Vault | Backup Jobs
Recovery Services vault
Search
Choose columns
Filter
Export jobs
Refresh
Feedback
Backup policies
Backup Infrastructure
Site Recovery infrastructure
Recovery Plans (Site Recovery)
Backup Reports
Monitoring
Alerts
Metrics
Diagnostic settings
Advisor recommendations
Backup Jobs
Site Recovery jobs
Backup Alerts
Site Recovery events
Automation
Help
Filtered by: Item Type - All, Operation - All, Status - All, Start Time - 9/6/2024, 7:15:35 PM, End Time - 9/7/2024, 7:15:35 PM
Try our new Business Continuity Center for the at scale BCDR management of your resources protected across Azure Backup and Site Recovery.
All data fetched from the service.
Filter items ...
Workload name
Operation
Status
Type
Start time
Total Duration
Details
InsightScape-VM1
Backup
Completed
Azure Virtual Machine
9/7/2024, 6:26:51 PM
00:41:10
View details
InsightScape-VM1
Configure backup
Completed
Azure Virtual Machine
9/7/2024, 6:11:43 PM
00:00:40
View details
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Azure Monitor Integration

1) Monitoring Setup for Deployed Resources

For this phase of the project, I started by navigating to Azure Monitor to configure monitoring for my deployed resources.

Virtual Machines Monitoring Setup:

- First, I clicked on the Virtual Machines tab under Insights in Azure Monitor.
- On the Get Started page, I selected the "Configure Insights" option and enabled monitoring configurations for both InsightScape-VM1 and InsightScape-VM2.
- To enable monitoring, I created a new Data Collection Rule and selected the Default Log Analytics Workspace for both VMs.

After the successful deployment of VM Insights for both VMs, I proceeded with the "Analyze data" option on the Get Started page under the Virtual Machines tab in Azure Monitor.

Upon clicking Analyze Data, I was taken to the Performance Page in Virtual Machines under Azure Monitor, where I could see various Top N Charts for metrics like CPU Utilization %, Available Memory, Bytes Sent Rate, Bytes Received Rate, and Logical Disk Space Used % for both VMs.

Setting Up Alerts for VMs:

The last part of integrating Azure Monitor with the VMs was to set up alerts.

- To configure alerts, I went to the Alerts tab in Azure Monitor and clicked on "+ Create Alert Rule".

Alert Configuration for InsightScape-VM1:

- Scope Tab:
  - Selected InsightScape-VM1 as the resource.
- Conditions Tab:
  - Signal Name: Percentage CPU
  - Alert Logic:
    - Threshold: Static
    - Aggregation Type: Average
    - Operator: Greater than
    - Threshold Value: 50
  - When to Evaluate:
    - Check Every: 1 Minute
    - Lookback Period: 1 Minute

- Actions Tab:
    - Used Quick Actions with the following details:
        - Action Group Name: InsightScape-AlertGroup
        - Display Name: CPUUsageAlrt
        - Actions: Email
    - Entered my email address and clicked on Save.
- Details Tab:
    - Resource Group: InsightScape-RG
    - Severity: 2 - Warning
    - Alert Rule Name: High CPU Alert for VM1

After configuring the alert, I clicked on "Review + Create", and the alert was successfully created. Shortly after, I received an email saying, "You're now in the CPUUsageAlrt action group."

Testing the Alert:

To verify that the alert was set up correctly, I performed the following steps:

- I RDP into InsightScape-VM1 and opened Windows PowerShell.
- I ran the following command to put a load on the CPU:

```
while ($true) { Start-Process calc.exe; Start-Sleep -Milliseconds
100; Stop-Process -Name calc }
```

- As expected, the CPU Utilization % shot up to 92%, as verified through Task Manager.
- To check if the alert was triggered, I went to the Alerts tab in Azure Monitor.
- There, I saw the Alert Condition: Fired, and shortly afterward, I received an alert email confirming the alert had been fired, along with a summary of the alert metrics.

This verified that the alert was successfully set up. I did not create any more alerts at this stage, as I had already planned a later phase called "Alerts Configuration".

Azure Monitor Integration for Web App:

- After setting up the VM monitoring, I proceeded with Azure Monitor integration for the Web App.
- I navigated to the Application Insights tab under Settings in InsightScape-WebApp and made sure it was enabled.
- Then, I went to Applications under Insights in Azure Monitor, where InsightScape-WebApp was listed.
- In the Overview section, I could see metrics such as Failed Requests, Server Response Time, Server Requests, and Availability for the Web App.
- I did not make any additional configurations in Application Insights at this stage, as I had already planned to cover this in a later phase called "Application Insights".

Azure Monitor Integration for Logic App:

- Moving on, I integrated Azure Monitor with InsightScape-LogicApp.

- I went to Diagnostics Settings under Monitoring in InsightScape-LogicApp and added a Diagnostic Setting with the following configurations:
    - Diagnostic Setting Name: LogicApp-Diagnostics

  Logs:

    - allLogs (Ticked)

  Metrics:

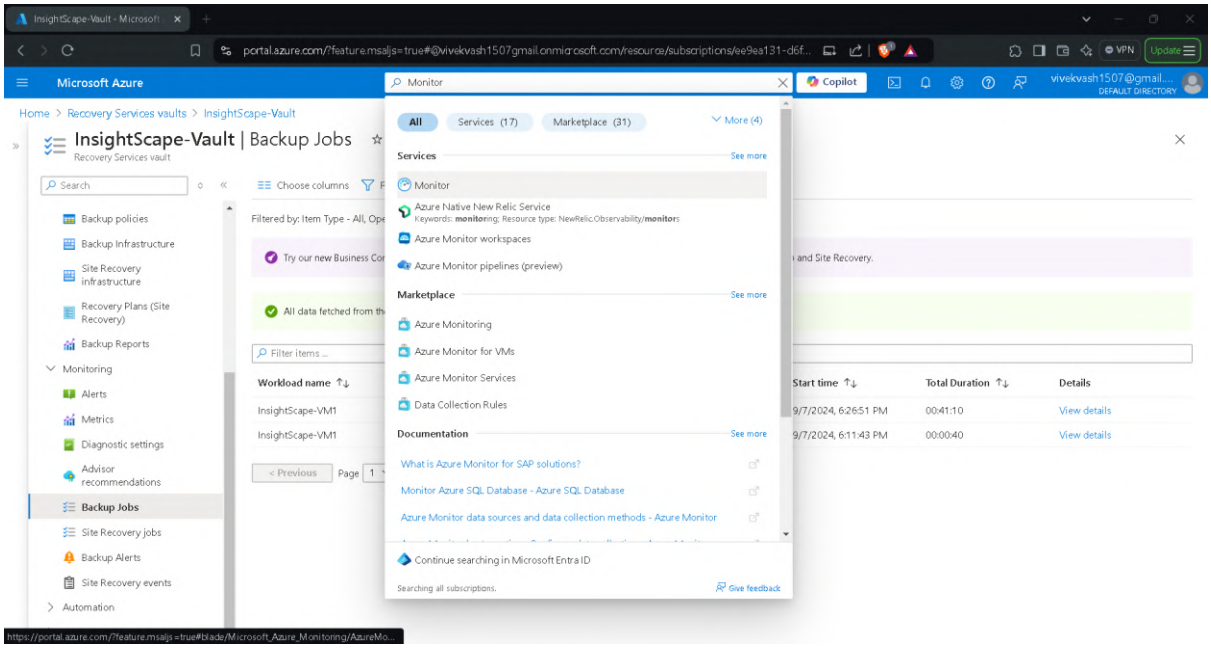
    - AllMetrics (Ticked)

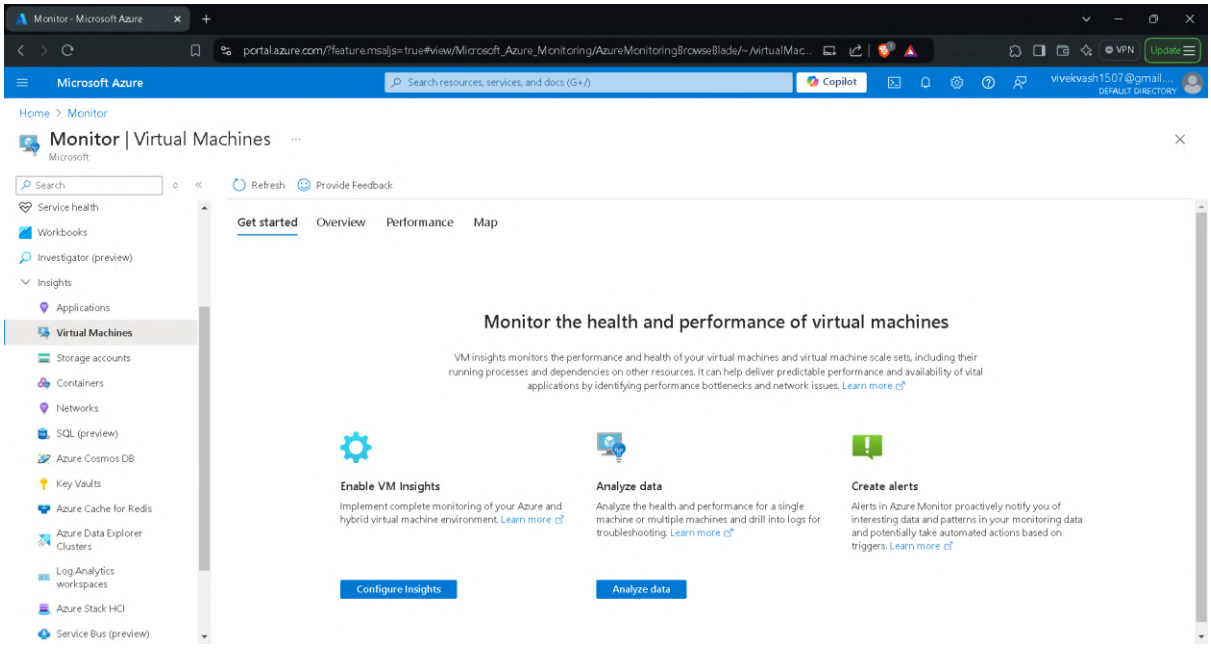
  Destination Details:

    - Send to Log Analytics Workspace (Ticked)
    - Log Analytics Workspace: Default Workspace.
- After completing the configuration, I saved the Diagnostic Settings.

This completed the Monitoring Setup for Deployed Resources phase.

Screenshots

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Networks
SQL (preview)
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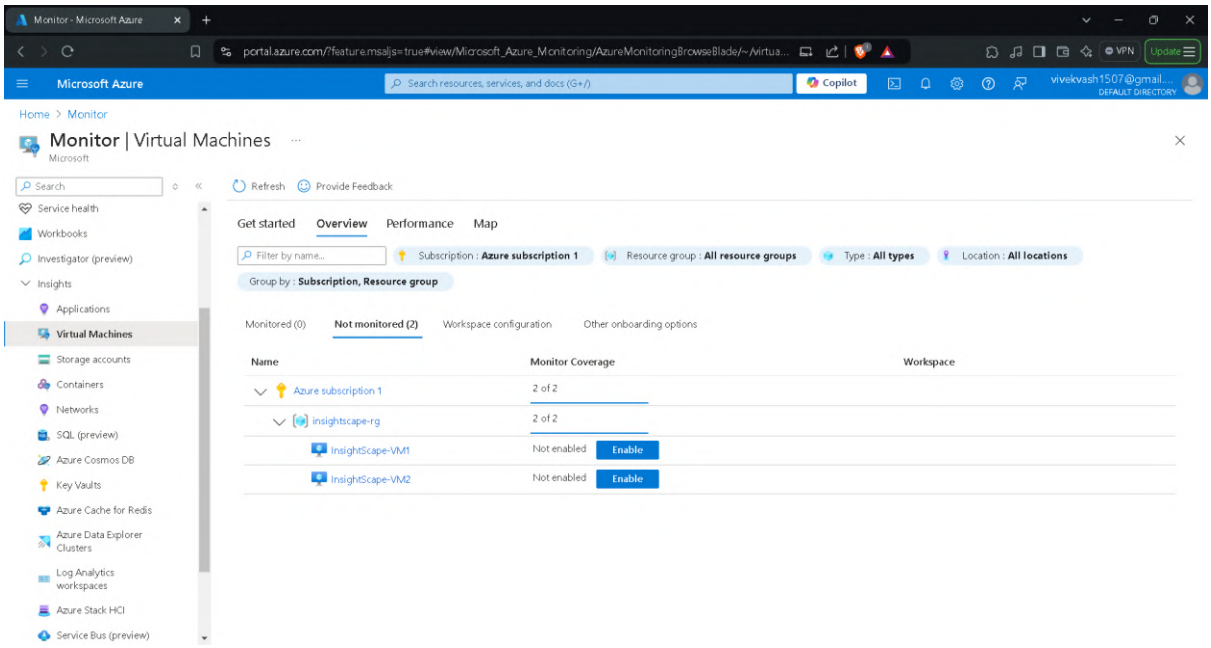
Key Vaults
Azure Cache for Redis
Azure Data Explorer Clusters
Log Analytics workspaces
Azure Stack HCI
Service Bus (preview)
Monitor the health and performance of virtual machines
VM insights monitors the performance and health of your virtual machines and virtual machine scale sets, including their running processes and dependencies on other resources. It can help deliver predictable performance and availability of vital applications by identifying performance bottlenecks and network issues. Learn more
Enable VM Insights
Implement complete monitoring of your Azure and hybrid virtual machine environment. Learn more
Analyze data
Analyze the health and performance for a single machine or multiple machines and drill into logs for troubleshooting. Learn more
Create alerts
Alerts in Azure Monitor proactively notify you of interesting data and patterns in your monitoring data and potentially take automated actions based on triggers. Learn more
Configure Insights
Analyze data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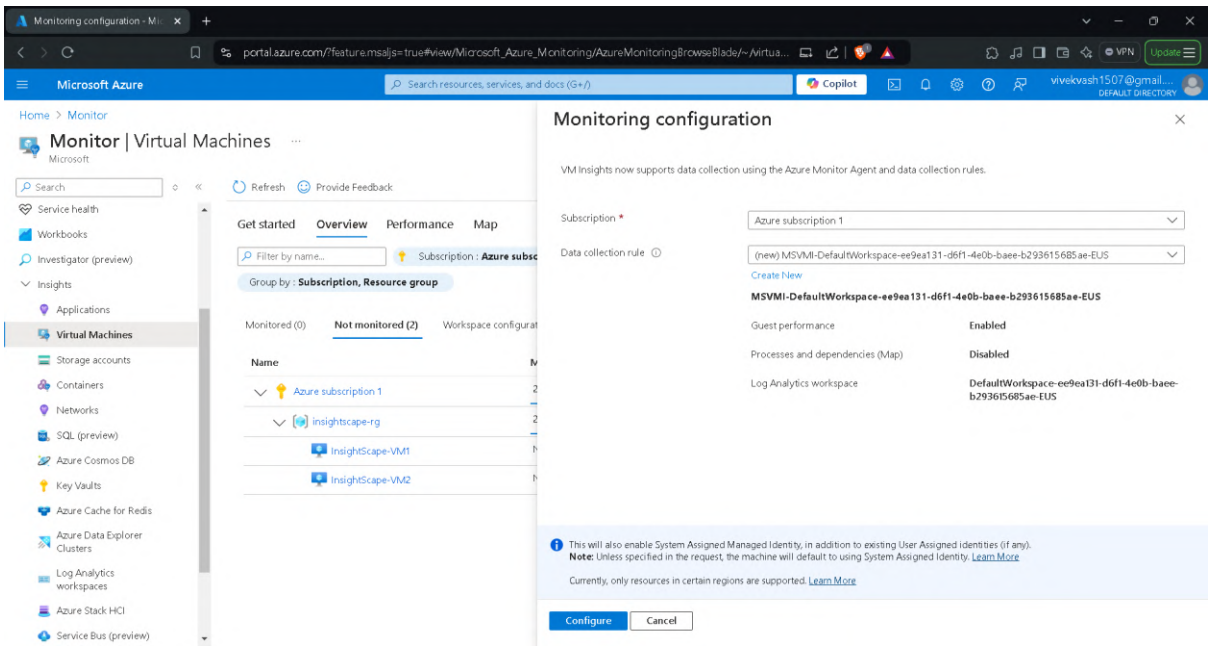
Filter by name...
Subscription : Azure subscription 1
Resource group : All resource groups
Type : All types
Location : All locations
Group by : Subscription, Resource group
Monitored (0)
Not monitored (2)
Workspace configuration
Other onboarding options
Name
Monitor Coverage
Workspace
Azure subscription 1
2 of 2
insightscape-rg
2 of 2
InsightScape-VM1
Not enabled
Enable
InsightScape-VM2
Not enabled
Enable


Monitoring configuration - Mi
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Overview
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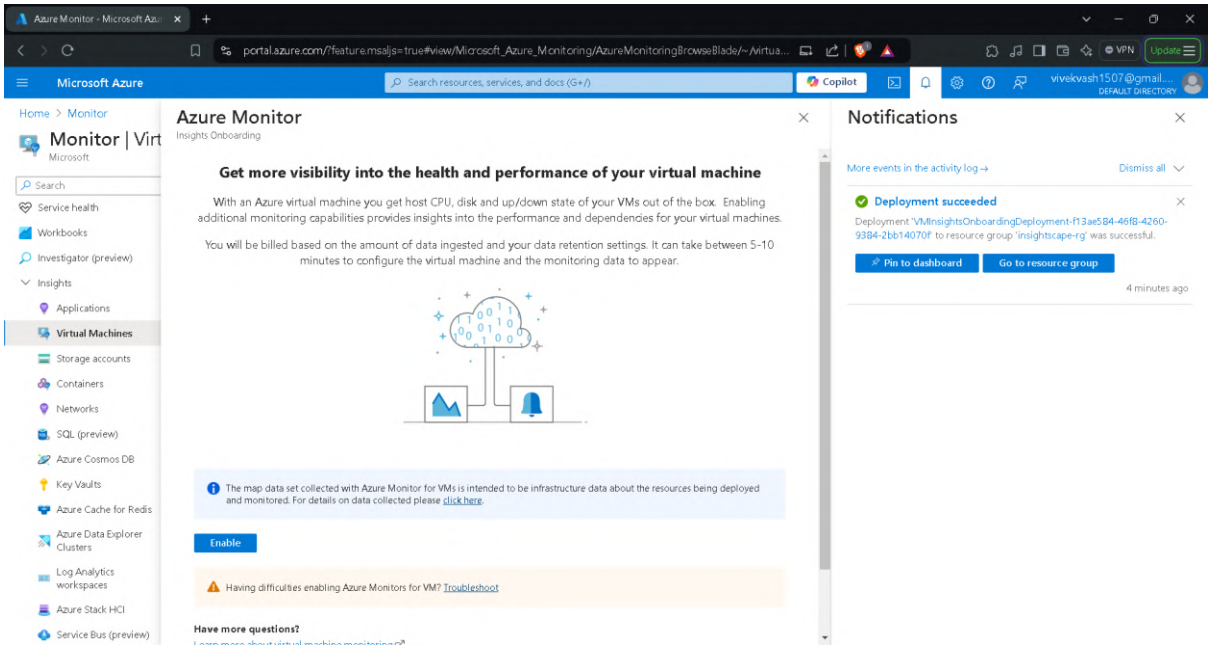
Map
Monitored (0)
Not monitored (2)
Name
Azure subscription 1
insightscape-rg
InsightScape-VM1
InsightScape-VM2
Monitoring configuration
VM Insights now supports data collection using the Azure Monitor Agent and data collection rules.
Subscription *
Azure subscription 1
Data collection rule
(new) MSVMI-DefaultWorkspace-ee9ea131-d6f1-4e0b-baee-b293615685ae-EUS
Create New
MSVMI-DefaultWorkspace-ee9ea131-d6f1-4e0b-baee-b293615685ae-EUS
Guest performance
Enabled
Processes and dependencies (Map)
Disabled
Log Analytics workspace
DefaultWorkspace-ee9ea131-d6f1-4e0b-baee-b293615685ae-EUS
This will also enable System Assigned Managed Identity, in addition to existing User Assigned identities (if any).
Note: Unless specified in the request, the machine will default to using System Assigned Identity. Learn More
Currently, only resources in certain regions are supported. Learn More
Configure
Cancel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Storage accounts
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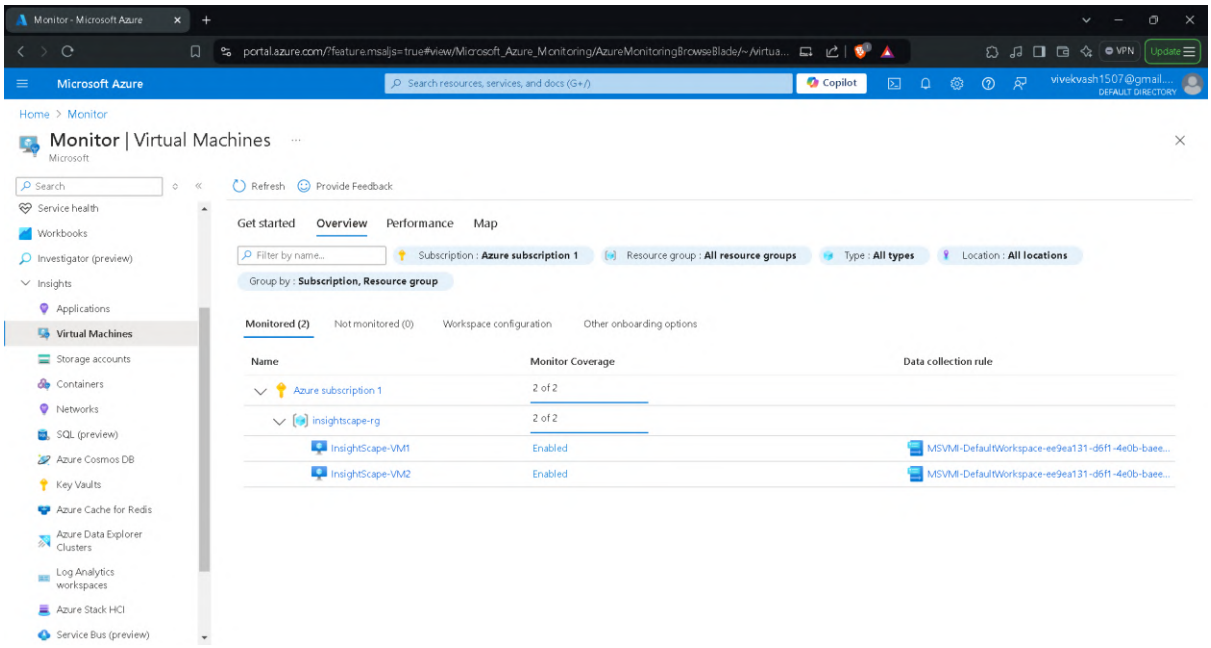
Azure Cosmos DB
Key Vaults
Azure Cache for Redis
Azure Data Explorer Clusters
Log Analytics workspaces
Azure Stack HCI
Service Bus (preview)
Azure Monitor
Insights Onboarding
Get more visibility into the health and performance of your virtual machine
With an Azure virtual machine you get host CPU, disk and up/down state of your VMs out of the box. Enabling additional monitoring capabilities provides insights into the performance and dependencies for your virtual machines.
You will be billed based on the amount of data ingested and your data retention settings. It can take between 5-10 minutes to configure the virtual machine and the monitoring data to appear.
The map data set collected with Azure Monitor for VMs is intended to be infrastructure data about the resources being deployed and monitored. For details on data collected please click here.
Enable
Having difficulties enabling Azure Monitors for VM? Troubleshoot
Have more questions?
Notifications
More events in the activity log →
Dismiss all
Deployment succeeded
Deployment 'VMInsightsOnboardingDeployment-f13ae584-46f8-4260-9384-2bb14070f' to resource group 'insightscape-rg' was successful.
Pin to dashboard
Go to resource group
4 minutes ago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Monitor Coverage
Data collection rule
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2 of 2
insightscape-rg
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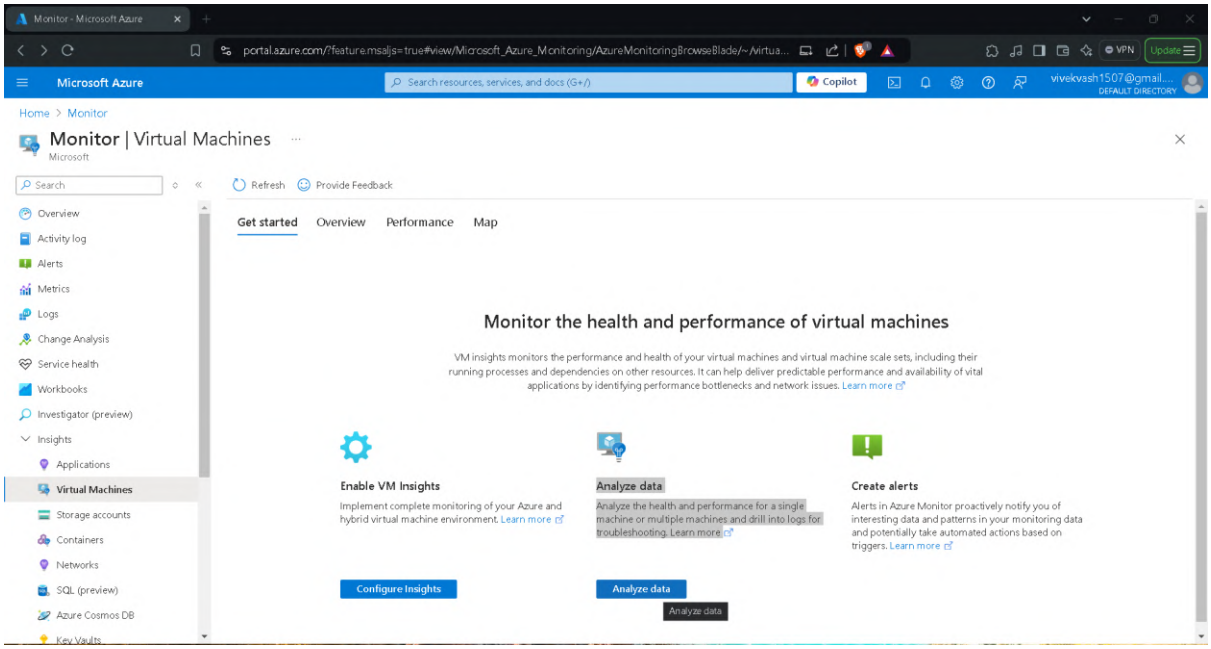
InsightScape-VM1
Enabled
MSVMI-DefaultWorkspace-ee9ea131-d6f1-4e0b-baee...
InsightScape-VM2
Enabled
MSVMI-DefaultWorkspace-ee9ea131-d6f1-4e0b-baee...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Workbooks
Investigator (preview)
Insights
Applications
Virtual Machines
Storage accounts
Containers
Networks
SQL (preview)
Azure Cosmos DB
Key Vaults
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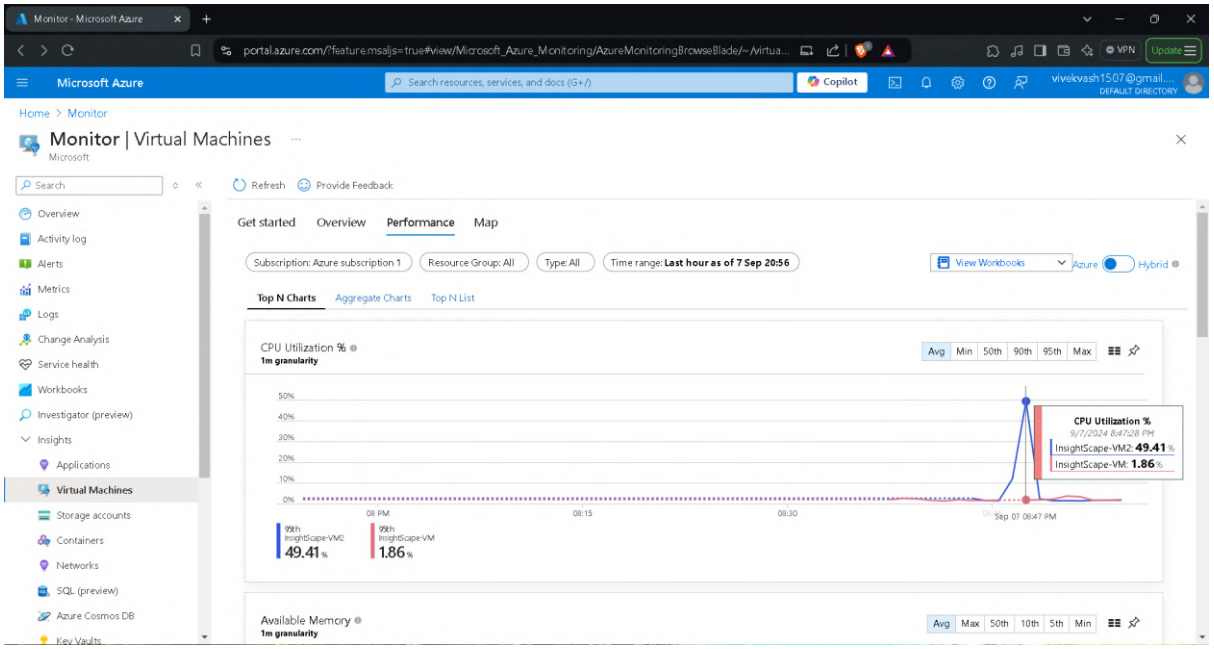
Overview
Performance
Map
Monitor the health and performance of virtual machines
VM insights monitors the performance and health of your virtual machines and virtual machine scale sets, including their running processes and dependencies on other resources. It can help deliver predictable performance and availability of vital applications by identifying performance bottlenecks and network issues. Learn more
Enable VM Insights
Implement complete monitoring of your Azure and hybrid virtual machine environment. Learn more
Configure Insights
Analyze data
Analyze the health and performance for a single machine or multiple machines and drill into logs for troubleshooting. Learn more
Analyze data
Create alerts
Alerts in Azure Monitor proactively notify you of interesting data and patterns in your monitoring data and potentially take automated actions based on triggers. Learn more


Monitor - Microsoft Azure
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Monitoring/AzureMonitoringBrowseBlade/~/virtua...
Microsoft Azure
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Microsoft
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Refresh
Provide Feedback
Overview
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Alerts
Metrics
Logs
Change Analysis
Service health
Workbooks
Investigator (preview)
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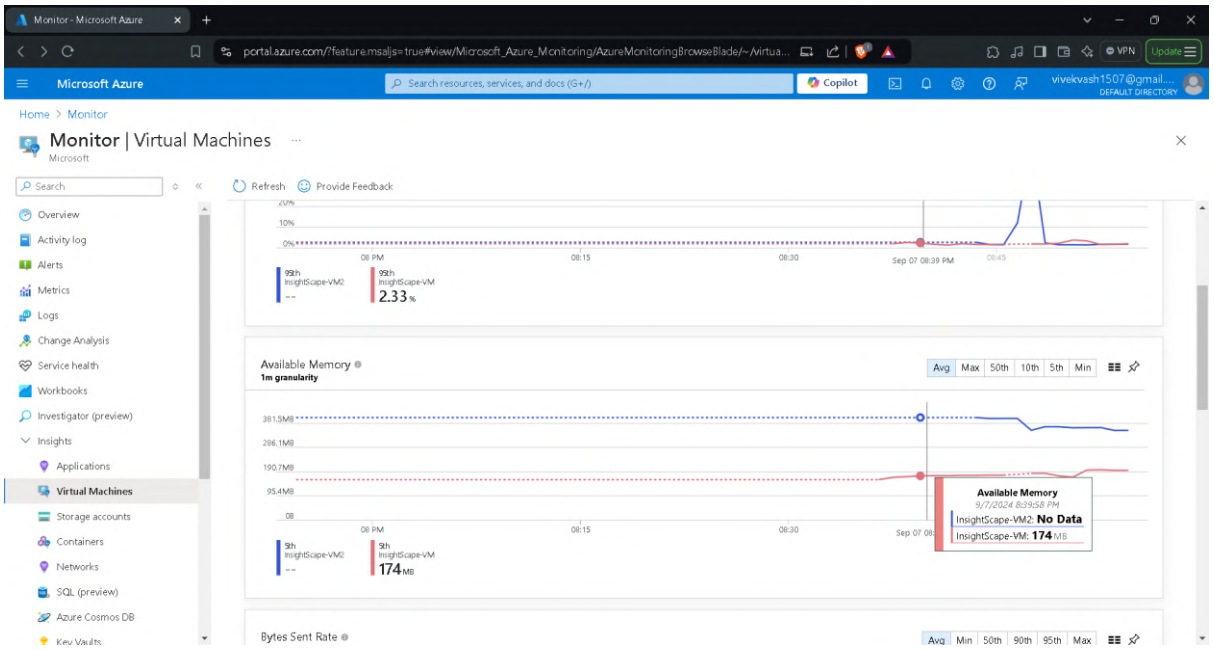
Applications
Virtual Machines
Storage accounts
Containers
Networks
SQL (preview)
Azure Cosmos DB
Key Vaults
Get started
Overview
Performance
Map
Subscription: Azure subscription 1
Resource Group: All
Type: All
Time range: Last hour as of 7 Sep 20:56
View Workbooks
Azure
Hybrid
Top N Charts
Aggregate Charts
Top N List
CPU Utilization %
1m granularity
Avg
Min
50th
90th
95th
Max
50%
40%
30%
20%
10%
0%
08 PM
08:15
08:30
Sep 07 08:47 PM
CPU Utilization %
9/7/2024 8:47:28 PM
InsightScape-VM2: 49.41 %
InsightScape-VM: 1.86 %
99th
InsightScape-VM2
49.41 %
95th
InsightScape-VM
1.86 %
Available Memory
1m granularity
Avg
Max
50th
10th
5th
Min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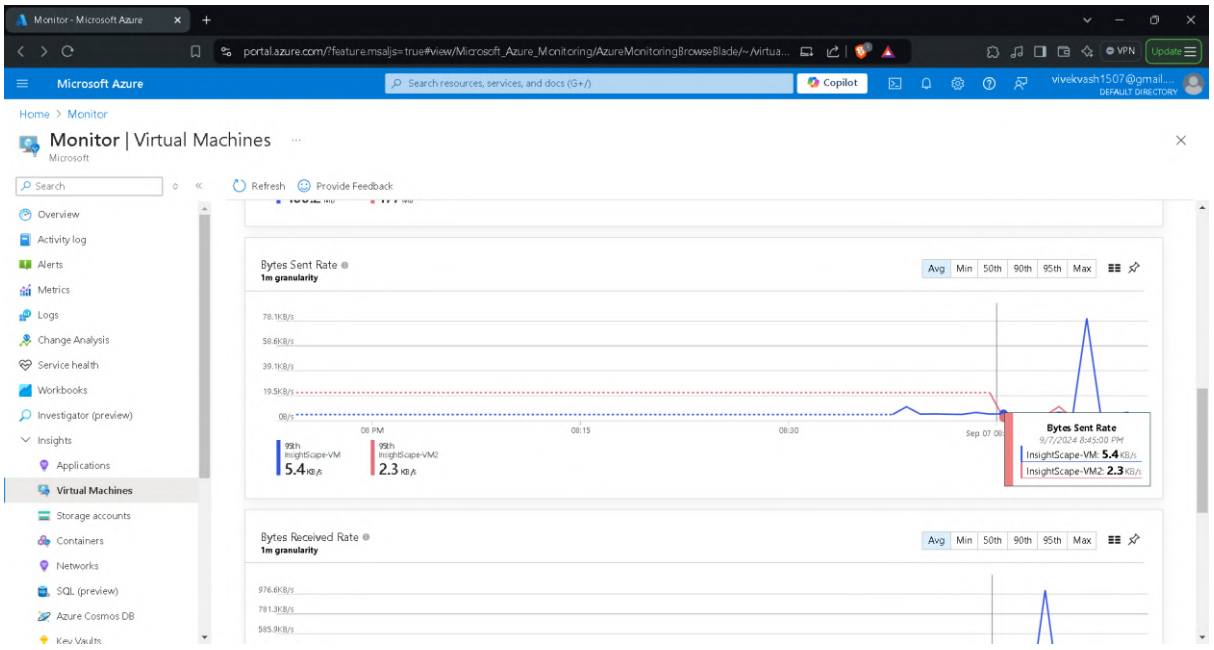
Applications
Virtual Machines
Storage accounts
Containers
Networks
SQL (preview)
Azure Cosmos DB
Key Vaults
10%
0%
08 PM
08:15
08:30
Sep 07 08:39 PM
08:45
99th
InsightScape-VM2
--
95th
InsightScape-VM
2.33 %
Available Memory
1m granularity
Avg
Max
50th
10th
5th
Min
381.5MB
286.1MB
190.7MB
95.4MB
0B
08 PM
08:15
08:30
Sep 07 08:
Available Memory
9/7/2024 8:39:58 PM
InsightScape-VM2: No Data
InsightScape-VM: 174 MB
5th
InsightScape-VM2
--
5th
InsightScape-VM
174 MB
Bytes Sent Rate
Avg
Min
50th
90th
95th
Max


Monitor - Microsoft Azure
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Investigator (preview)
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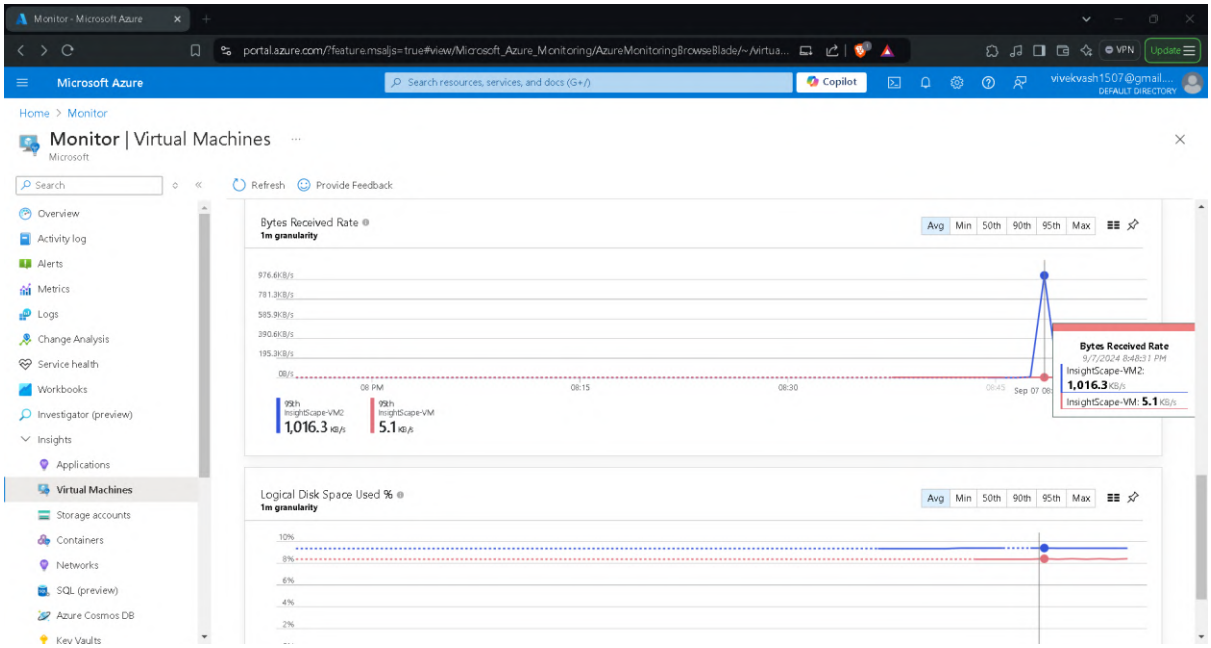
Storage accounts
Containers
Networks
SQL (preview)
Azure Cosmos DB
Key Vaults
Bytes Sent Rate
1m granularity
Avg
Min
50th
90th
95th
Max
78.1KB/s
58.6KB/s
39.1KB/s
19.5KB/s
0B/s
08 PM
08:15
08:30
Sep 07 08:
Bytes Sent Rate
9/7/2024 8:45:00 PM
InsightScape-VM: 5.4 KB/s
InsightScape-VM2: 2.3 KB/s
99th
InsightScape-VM
5.4 KB/s
95th
InsightScape-VM2
2.3 KB/s
Bytes Received Rate
1m granularity
Avg
Min
50th
90th
95th
Max
976.6KB/s
781.3KB/s
585.9KB/s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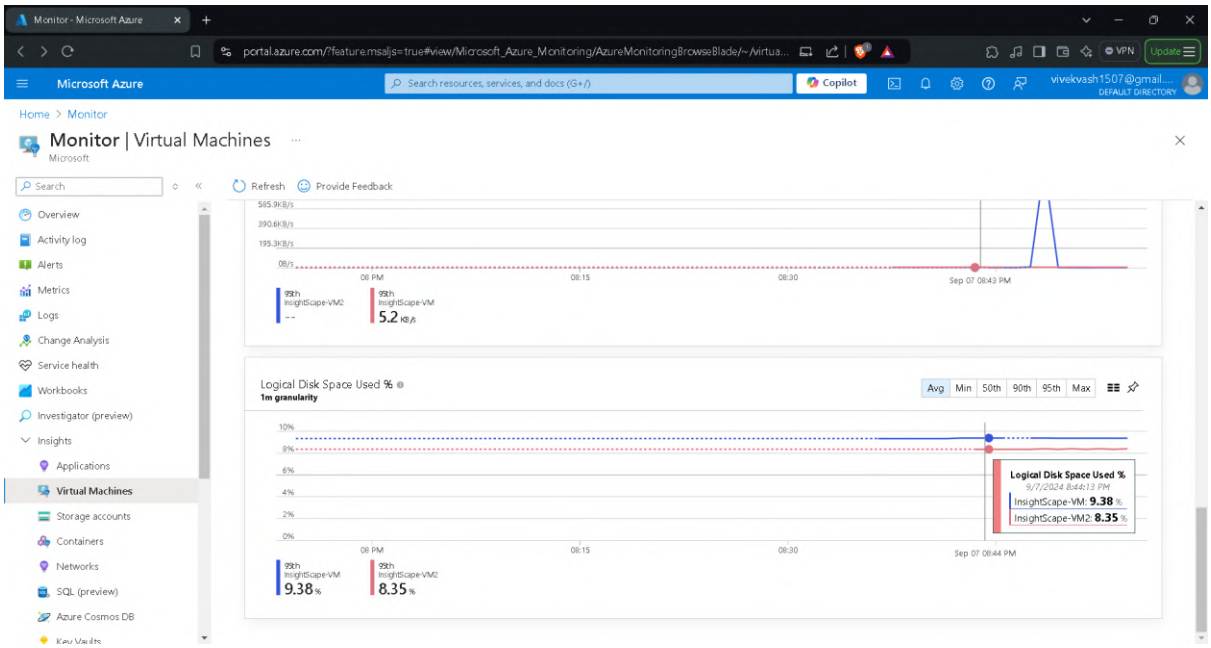
Azure Cosmos DB
Key Vaults
Bytes Received Rate
1m granularity
Avg
Min
50th
90th
95th
Max
Bytes Received Rate
InsightScape-VM2: 1,016.3 KB/s
InsightScape-VM: 5.1 KB/s
Logical Disk Space Used %
1m granularity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Provide Feedback
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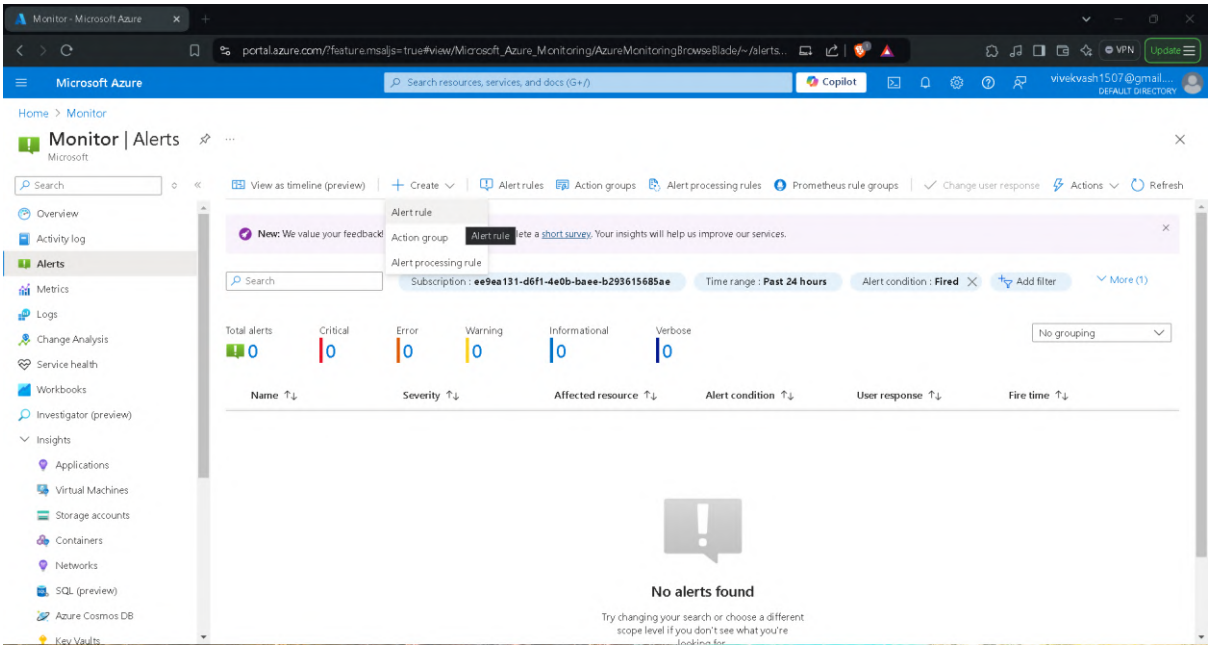
Networks
SQL (preview)
Azure Cosmos DB
Key Vaults
InsightScape-VM
5.2 KB/s
Logical Disk Space Used %
1m granularity
Avg
Min
50th
90th
95th
Max
Logical Disk Space Used %
InsightScape-VM: 9.38 %
InsightScape-VM2: 8.35 %
InsightScape-VM
9.38 %
InsightScape-VM2
8.35 %


Monitor - Microsoft Azure
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Microsoft
View as timeline (preview)
Create
Alert rules
Action groups
Alert processing rules
Prometheus rule groups
Change user response
Actions
Refresh
Alert rule
Action group
Alert processing rule
Overview
Activity log
Alerts
Metrics
Logs
Change Analysis
Service health
Workbooks
Investigator (preview)
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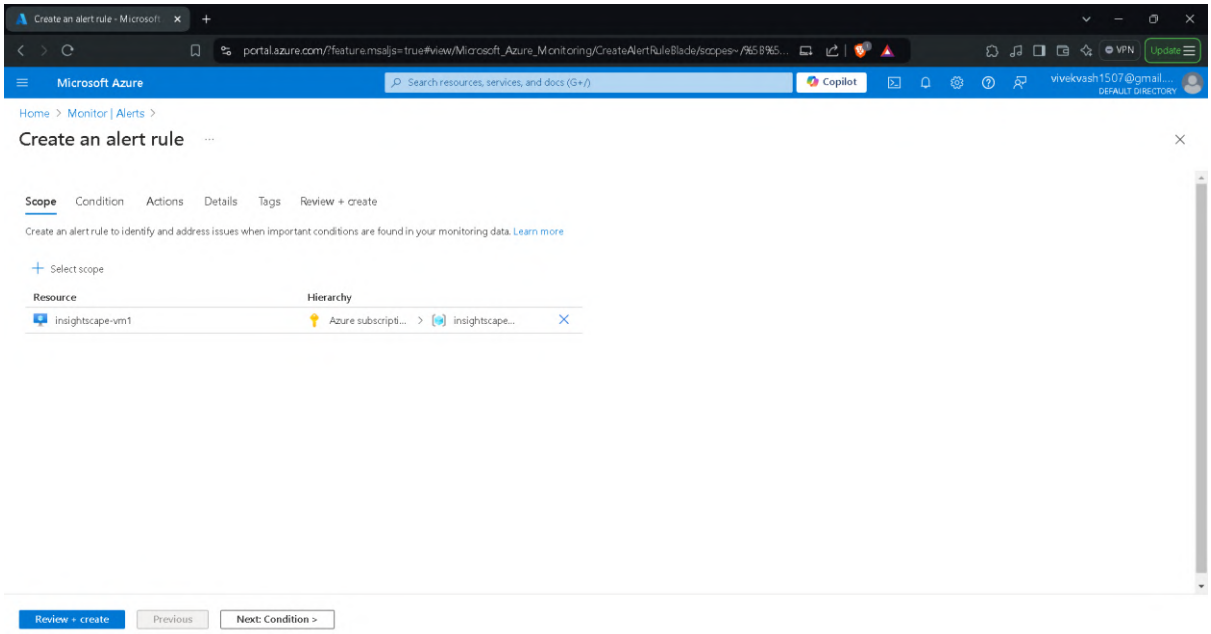
Storage accounts
Containers
Networks
SQL (preview)
Azure Cosmos DB
Key Vaults
Subscription : ee9ea131-d6f1-4e0b-baee-b293615685ae
Time range : Past 24 hours
Alert condition : Fired
Add filter
More (1)
Total alerts
Critical
Error
Warning
Informational
Verbose
No grouping
Name
Severity
Affected resource
Alert condition
User response
Fire time
No alerts found
Try changing your search or choose a different scope level if you don't see what you're looking for.


Create an alert rule - Microsoft
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Monitoring/CreateAlertRuleBlade/scopes~/%5B%5...
Microsoft Azure
Search resources, services, and docs (G+/)
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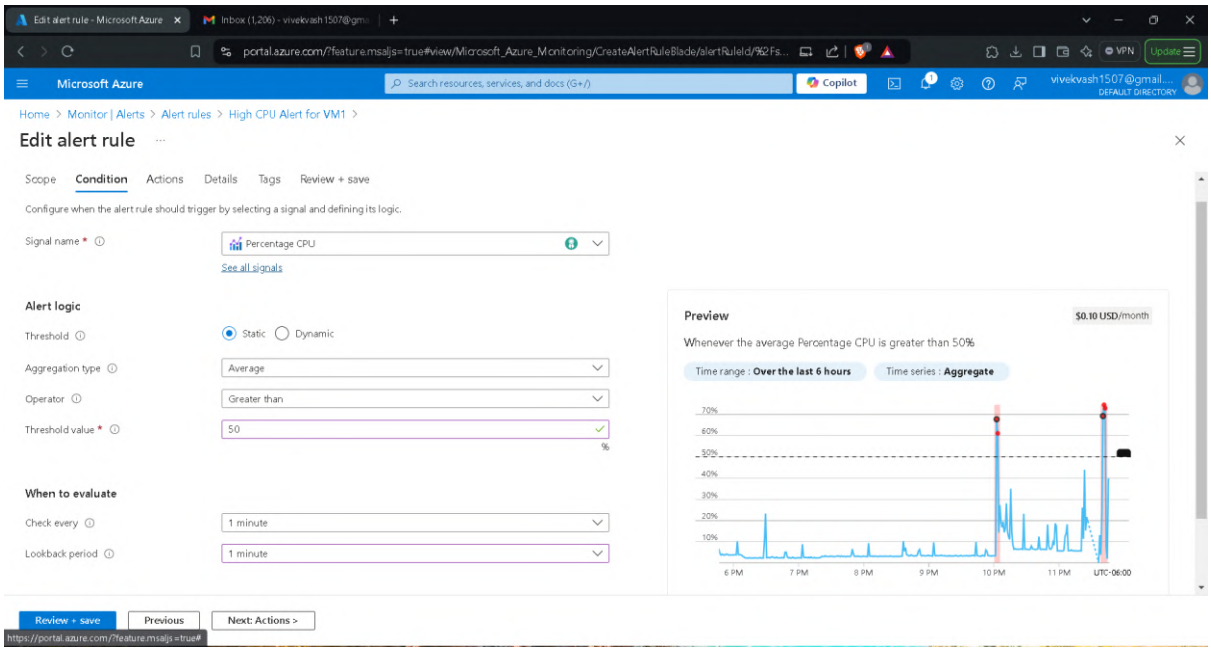
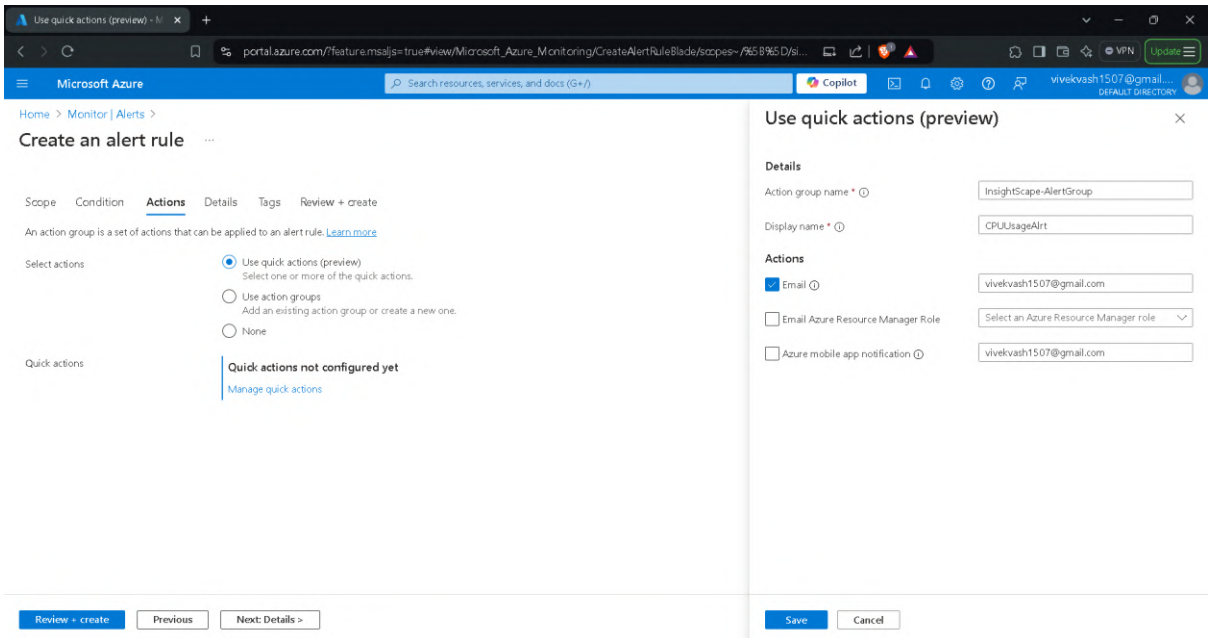
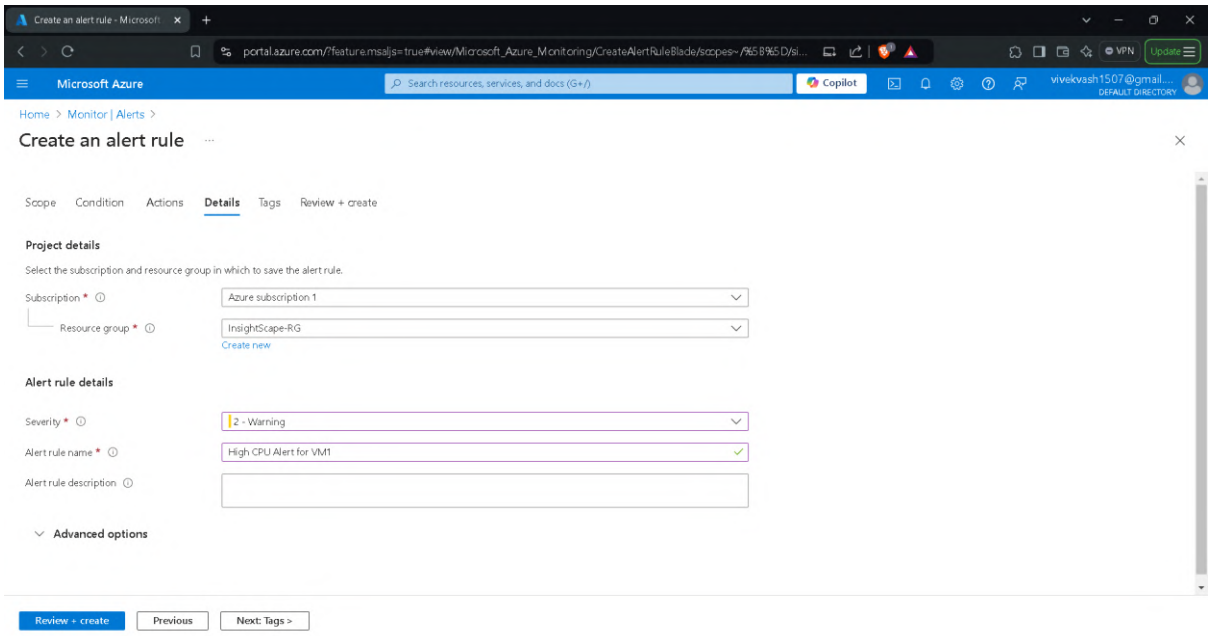
vivekvash1507@gmail....
DEFAULT DIRECTORY
Home > Monitor | Alerts >
Create an alert rule
Scope Condition Actions Details Tags Review + create
Create an alert rule to identify and address issues when important conditions are found in your monitoring data. Learn more
Select scope
Resource
Hierarchy
insightscape-vm1
Azure subscripti... > insightscape...
Review + create
Previous
Next: Condition >


Edit alert rule - Microsoft Azure
Inbox (1,206) - vivekvash1507@gm...
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Monitoring/CreateAlertRuleBlade/alertRuleId/%2Fs...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY
Home > Monitor | Alerts > Alert rules > High CPU Alert for VM1 >
Edit alert rule
Scope Condition Actions Details Tags Review + save
Configure when the alert rule should trigger by selecting a signal and defining its logic.
Signal name *
Percentage CPU
See all signals
Alert logic
Threshold
Static Dynamic
Aggregation type
Average
Operator
Greater than
Threshold value *
50
%
When to evaluate
Check every
1 minute
Lookback period
1 minute
Preview
$0.10 USD/month
Whenever the average Percentage CPU is greater than 50%
Time range : Over the last 6 hours
Time series : Aggregate
70%
60%
50%
40%
30%
20%
10%
6 PM
7 PM
8 PM
9 PM
10 PM
11 PM
UTC-06:00
Review + save
Previous
Next: Actions >


Use quick actions (preview) - M
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Monitoring/CreateAlertRuleBlade/scopes~/%5B%5D/si...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY
Home > Monitor | Alerts >
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 actions
Use quick actions (preview)
Select one or more of the quick actions.
Use action groups
Add an existing action group or create a new one.
None
Quick actions
Quick actions not configured yet
Manage quick actions
Review + create
Previous
Next: Details >
Use quick actions (preview)
Details
Action group name *
InsightScape-AlertGroup
Display name *
CPUUsageAlrt
Actions
Email
vivekvash1507@gmail.com
Email Azure Resource Manager Role
Select an Azure Resource Manager role
Azure mobile app notification
vivekvash1507@gmail.com
Save
Cancel


Create an alert rule - Microsoft
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Monitoring/CreateAlertRuleBlade/scopes~/%5B%5D/si...
Microsoft Azure
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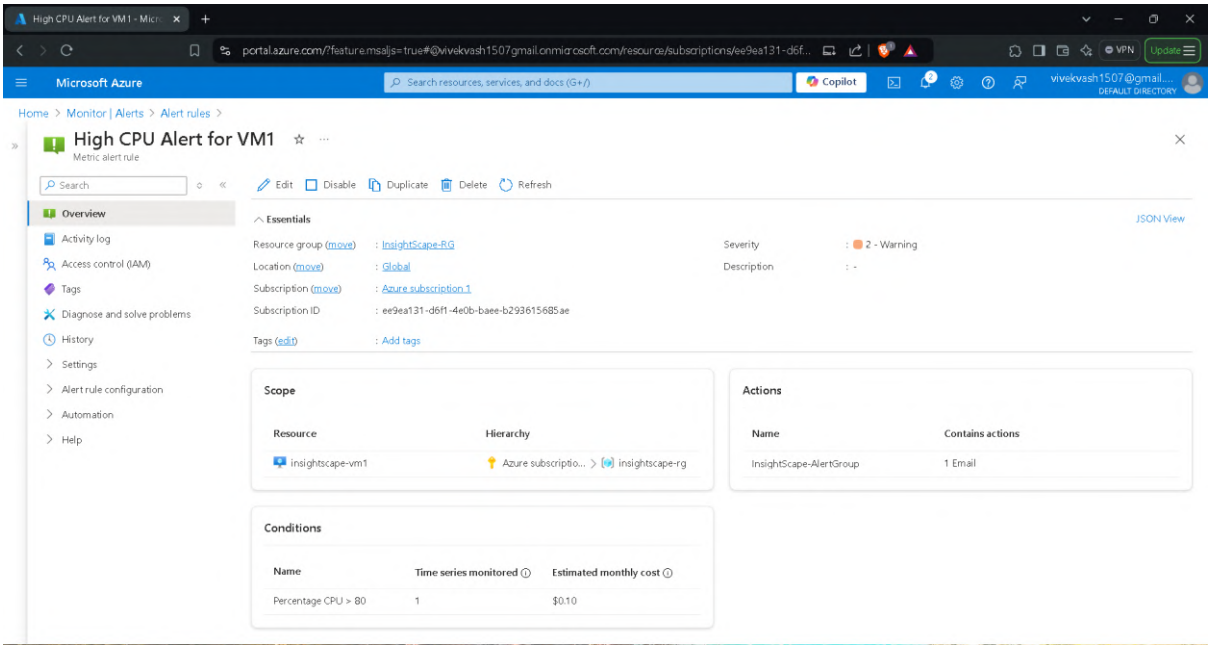
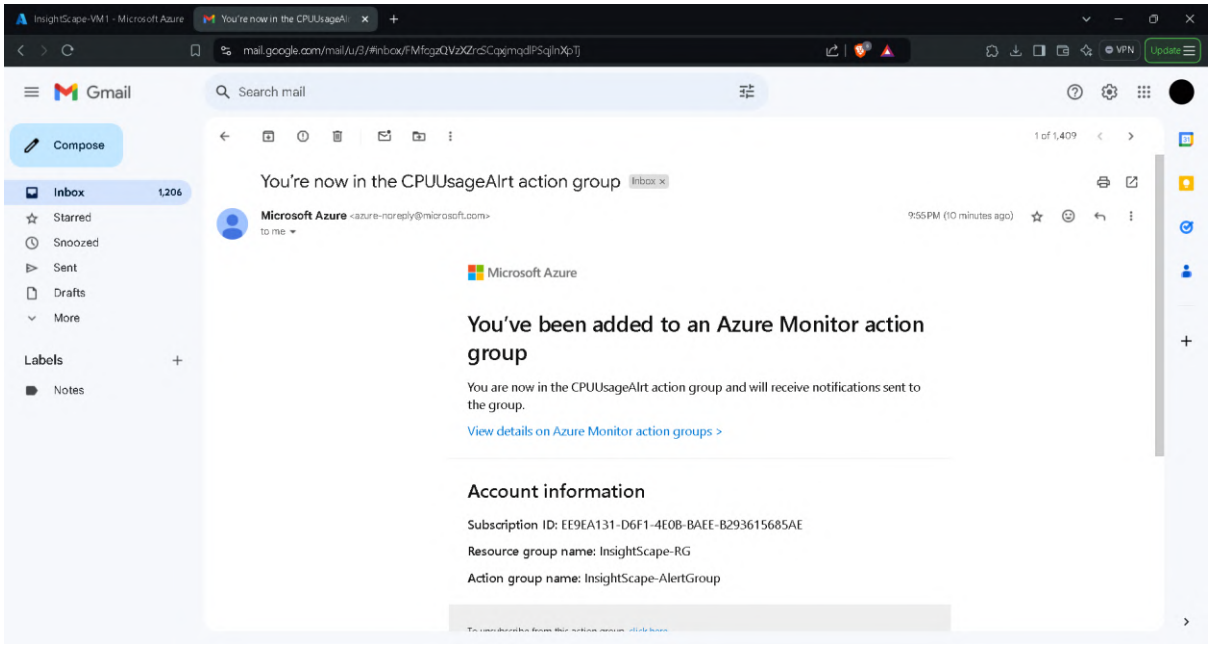
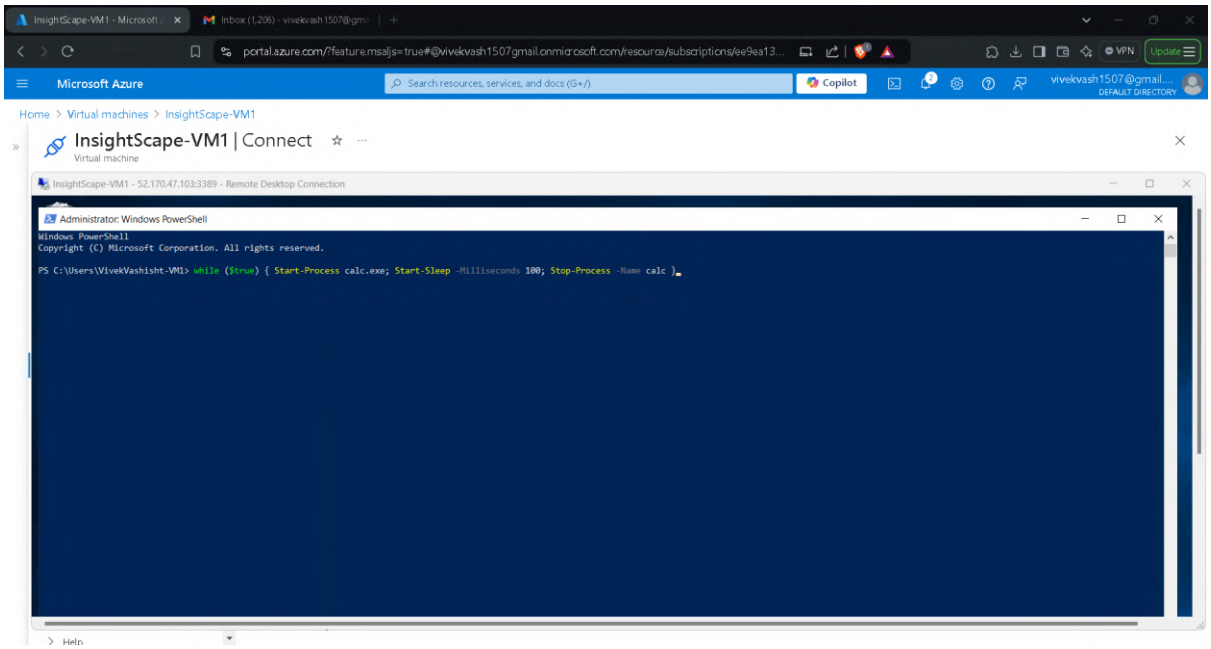
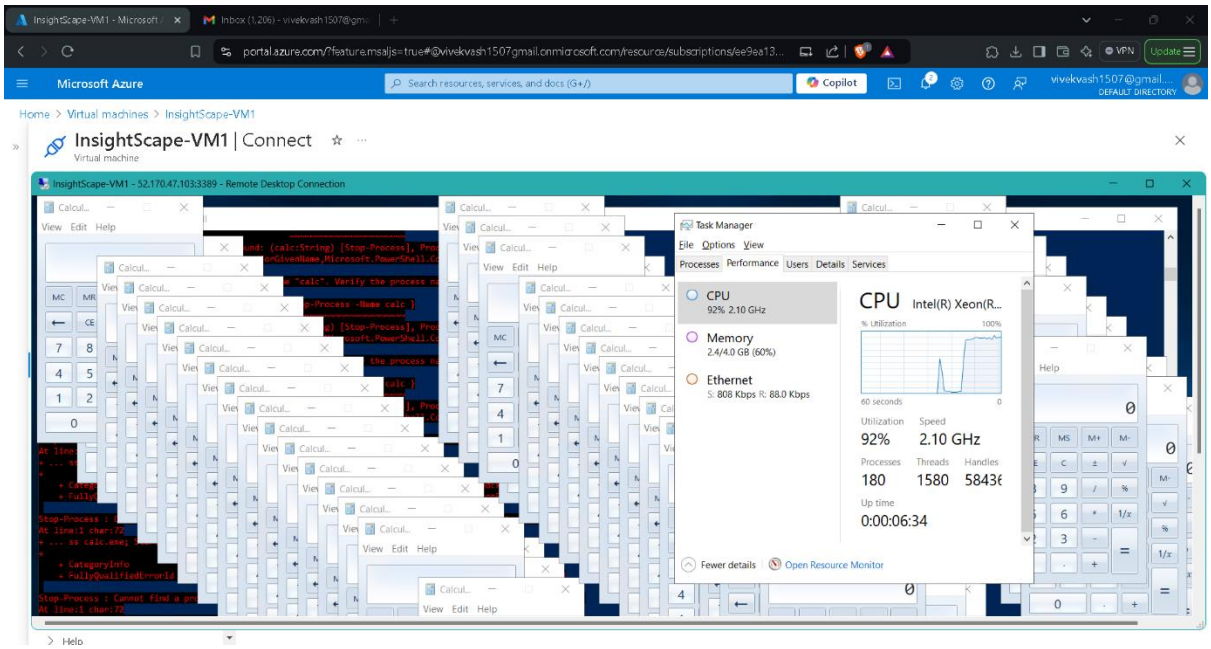
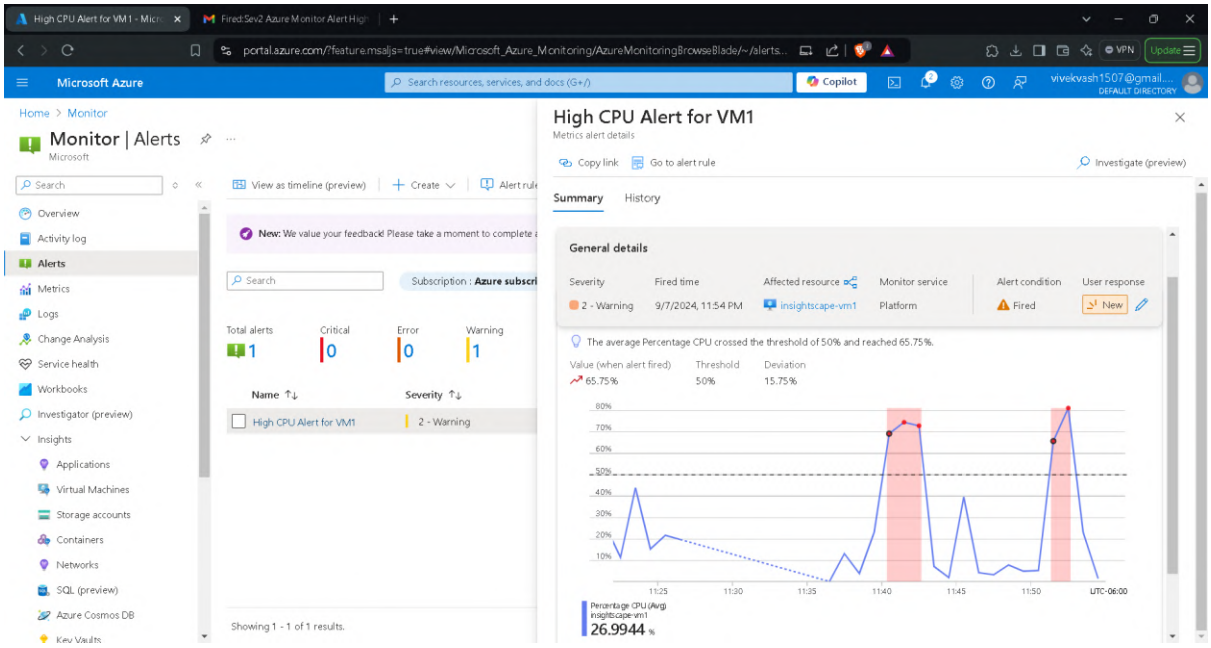
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY
Home > Monitor | Alerts >
Create an alert rule
Scope
Condition
Actions
Details
Tags
Review + create
Project details
Select the subscription and resource group in which to save the alert rule.
Subscription *
Azure subscription 1
Resource group *
InsightScape-RG
Create new
Alert rule details
Severity *
2 - Warning
Alert rule name *
High CPU Alert for VM1
Alert rule description
Advanced options
Review + create
Previous
Next: Tags >

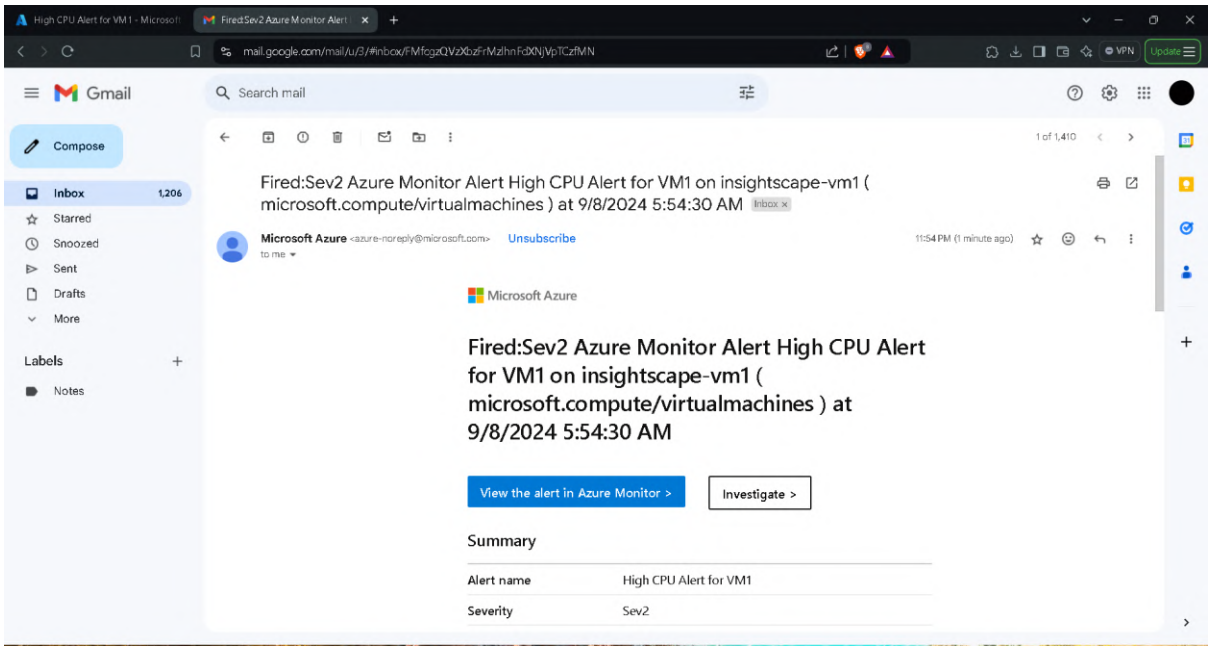

High CPU Alert for VM1 - Micr
portal.azure.com/?feature.msaljs=true#@vivekvash1507gmail.onmicrosoft.com/resource/subscriptions/ee9ea131-d6f...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY
Home > Monitor | Alerts > Alert rules >
High CPU Alert for VM1
Metric alert rule
Search
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
History
Settings
Alert rule configuration
Automation
Help
Edit
Disable
Duplicate
Delete
Refresh
Essentials
JSON View
Resource group (move) : InsightScape-RG
Location (move) : Global
Subscription (move) : Azure subscription 1
Subscription ID : ee9ea131-d6f1-4e0b-baee-b293615685ae
Tags (edit) : Add tags
Severity : 2 - Warning
Description : -
Scope
Resource
Hierarchy
insightscape-vm1
Azure subscriptio... > insightscape-rg
Actions
Name
Contains actions
InsightScape-AlertGroup
1 Email
Conditions
Name
Time series monitored
Estimated monthly cost
Percentage CPU > 80
1
$0.10

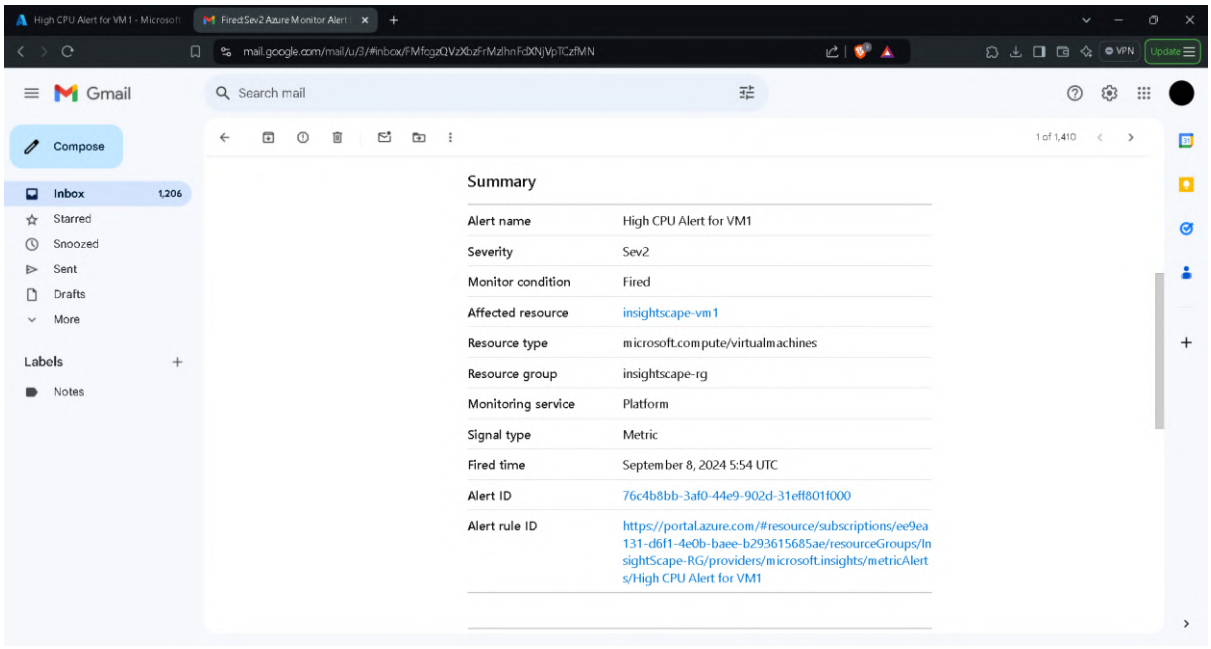

InsightScape-VM1 - Microsoft Azure
You're now in the CPUUsageAl
mail.google.com/mail/u/3/#inbox/FMfcgzQVzXZrcSCqxjmqdlPSqlnXpTj
Gmail
Search mail
Compose
Inbox 1,206
Starred
Snoozed
Sent
Drafts
More
Labels
Notes
1 of 1,409
You're now in the CPUUsageAlrt action group
Inbox
Microsoft Azure <azure-noreply@microsoft.com>
to me
9:55 PM (10 minutes ago)
Microsoft Azure
You've been added to an Azure Monitor action group
You are now in the CPUUsageAlrt action group and will receive notifications sent to the group.
View details on Azure Monitor action groups >
Account information
Subscription ID: EE9EA131-D6F1-4E0B-BAEE-B293615685AE
Resource group name: InsightScape-RG
Action group name: InsightScape-AlertGroup

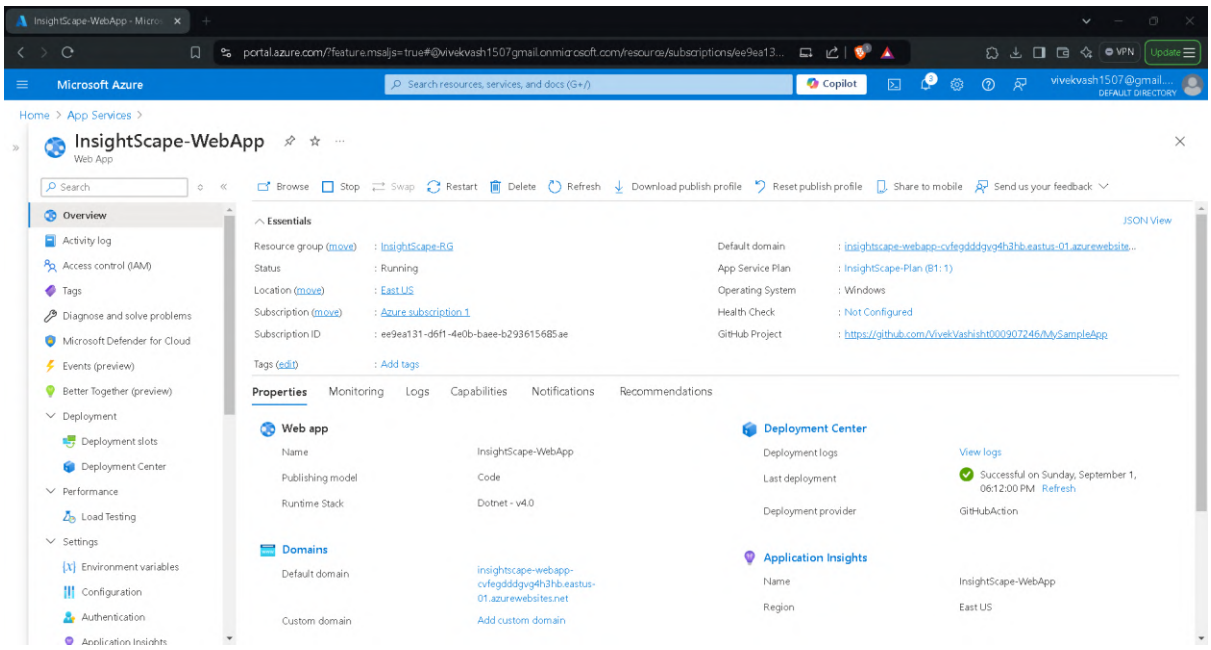

Microsoft Azure
Home > Virtual machines > InsightScape-VM1
InsightScape-VM1 | Connect
Virtual machine
InsightScape-VM1 - 52.170.47.103:3389 - Remote Desktop Connection
Administrator: Windows PowerShell
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.
PS C:\Users\VivekVashisht-VM1> while ($true) { Start-Process calc.exe; Start-Sleep -Milliseconds 100; Stop-Process -Name calc }

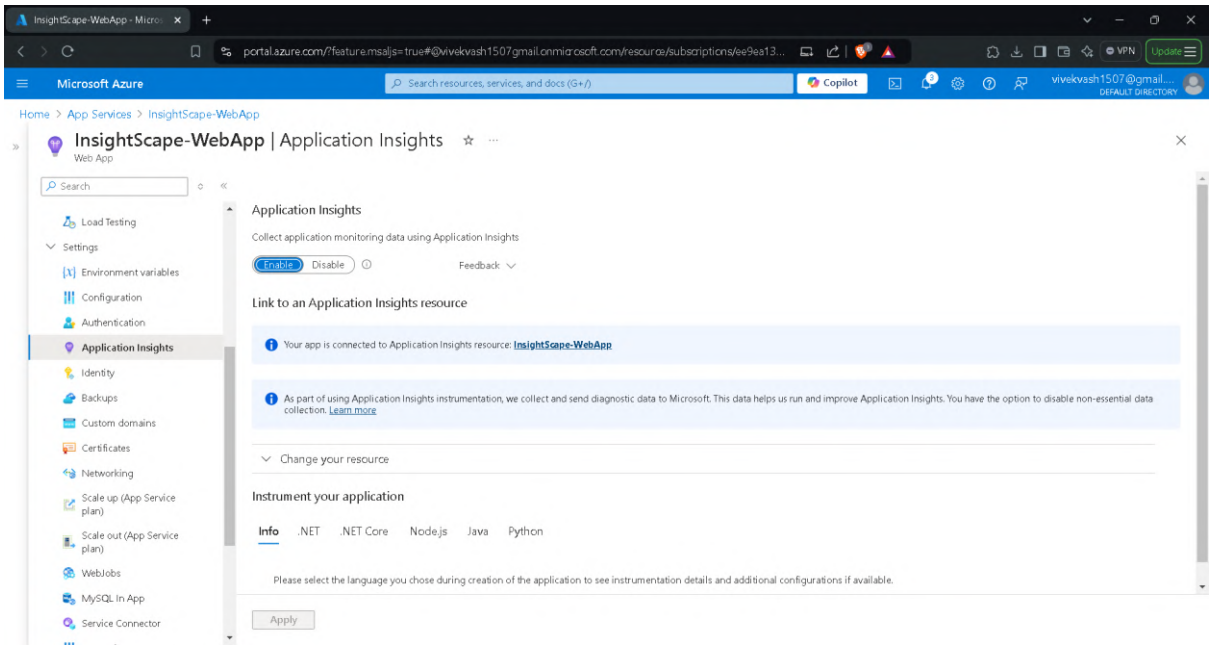

Microsoft Azure
Home > Virtual machines > InsightScape-VM1
InsightScape-VM1 | Connect
Virtual machine
InsightScape-VM1 - 52.170.47.103:3389 - Remote Desktop Connection
Task Manager
CPU
92% 2.10 GHz
Memory
2.4/4.0 GB (60%)
Ethernet
S: 808 Kbps R: 88.0 Kbps
CPU Intel(R) Xeon(R...
Utilization 92%
Speed 2.10 GHz
Processes 180
Threads 1580
Handles 5843
Up time 0:00:06:34
Fewer details
Open Resource Monitor


Microsoft Azure
Home > Monitor
Monitor | Alerts
Microsoft
Overview
Activity log
Alerts
Metrics
Logs
Change Analysis
Service health
Workbooks
Investigator (preview)
Insights
Applications
Virtual Machines
Storage accounts
Containers
Networks
SQL (preview)
Azure Cosmos DB
Total alerts 1
Critical 0
Error 0
Warning 1
Name
Severity
High CPU Alert for VM1
2 - Warning
Showing 1 - 1 of 1 results.
High CPU Alert for VM1
Metrics alert details
Copy link
Go to alert rule
Investigate (preview)
Summary
History
General details
Severity
Fired time
Affected resource
Monitor service
Alert condition
User response
2 - Warning
9/7/2024, 11:54 PM
insightscape-vm1
Platform
Fired
New
The average Percentage CPU crossed the threshold of 50% and reached 65.75%.
Value (when alert fired) 65.75%
Threshold 50%
Deviation 15.75%
Percentage CPU (Avg)
insightscape-vm1
26.9944 %


Gmail
Search mail
Compose
Inbox 1,206
Starred
Snoozed
Sent
Drafts
More
Labels
Notes
Fired:Sev2 Azure Monitor Alert High CPU Alert for VM1 on insightscape-vm1 (microsoft.compute/virtualmachines) at 9/8/2024 5:54:30 AM
Microsoft Azure <azure-noreply@microsoft.com> Unsubscribe
Microsoft Azure
Fired:Sev2 Azure Monitor Alert High CPU Alert for VM1 on insightscape-vm1 (microsoft.compute/virtualmachines) at 9/8/2024 5:54:30 AM
View the alert in Azure Monitor >
Investigate >
Summary
Alert name High CPU Alert for VM1
Severity Sev2


Gmail
Search mail
Compose
Inbox 1,206
Starred
Snoozed
Sent
Drafts
More
Labels
Notes
Summary
Alert name High CPU Alert for VM1
Severity Sev2
Monitor condition Fired
Affected resource insightscape-vm1
Resource type microsoft.compute/virtualmachines
Resource group insightscape-rg
Monitoring service Platform
Signal type Metric
Fired time September 8, 2024 5:54 UTC
Alert ID 76c4b8bb-3af0-44e9-902d-31eff801f000
Alert rule ID https://portal.azure.com/#resource/subscriptions/ee9ea131-d6f1-4e0b-baee-b293615685ae/resourceGroups/InsightScape-RG/providers/microsoft.insights/metricAlerts/High CPU Alert for VM1


Microsoft Azure
Home > App Services >
InsightScape-WebApp
Web App
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Microsoft Defender for Cloud
Events (preview)
Better Together (preview)
Deployment
Deployment slots
Deployment Center
Performance
Load Testing
Settings
Environment variables
Configuration
Authentication
Browse Stop Swap Restart Delete Refresh Download publish profile Reset publish profile Share to mobile Send us your feedback
Essentials
JSON View
Resource group (move) : InsightScape-RG
Status : Running
Location (move) : East US
Subscription (move) : Azure subscription 1
Subscription ID : ee9ea131-d6f1-4e0b-baee-b293615685ae
Tags (edit) : Add tags
Default domain : insightscape-webapp-cvfegdddgvg4h3hb.eastus-01.azurewebsite...
App Service Plan : InsightScape-Plan (B1: 1)
Operating System : Windows
Health Check : Not Configured
GitHub Project : https://github.com/VivekVashisht000907246/MySampleApp
Properties Monitoring Logs Capabilities Notifications Recommendations
Web app
Name InsightScape-WebApp
Publishing model Code
Runtime Stack Dotnet - v4.0
Domains
Default domain insightscape-webapp-cvfegdddgvg4h3hb.eastus-01.azurewebsites.net
Custom domain Add custom domain
Deployment Center
Deployment logs View logs
Last deployment Successful on Sunday, September 1, 06:12:00 PM Refresh
Deployment provider GitHubAction
Application Insights
Name InsightScape-WebApp
Region East US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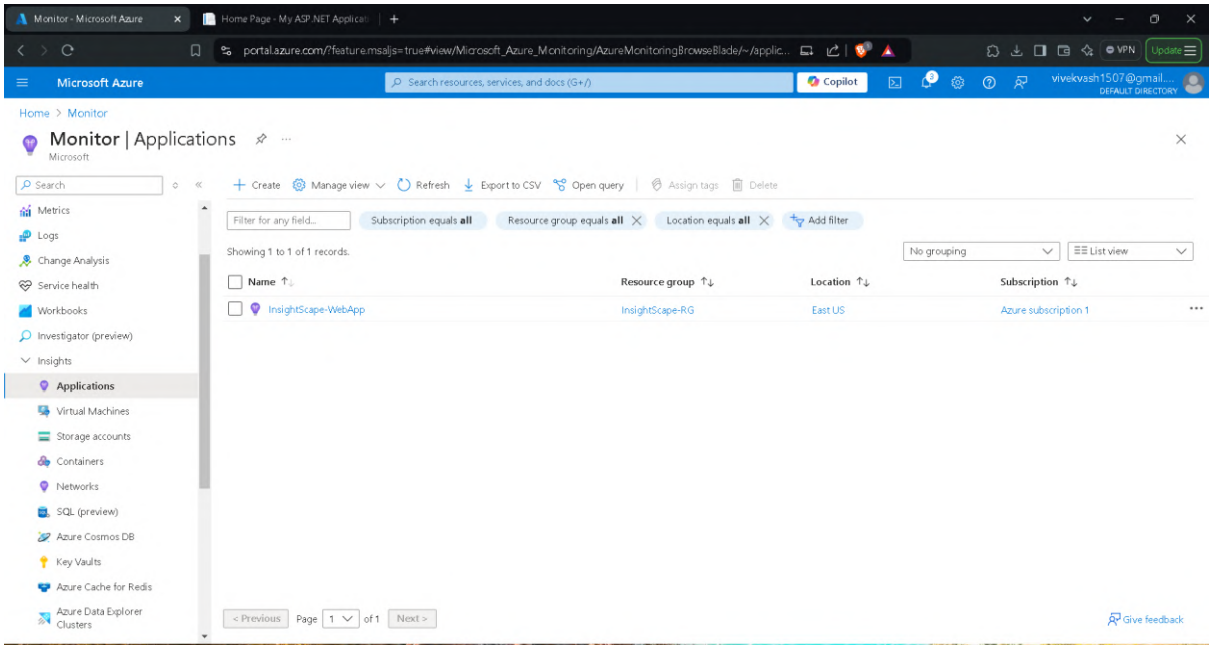
Scale out (App Service plan)
WebJobs
MySQL In App
Service Connector
Application Insights
Collect application monitoring data using Application Insights
Enable
Disable
Feedback
Link to an Application Insights resource
Your app is connected to Application Insights resource: InsightScape-WebApp
As part of using Application Insights instrumentation, we collect and send diagnostic data to Microsoft. This data helps us run and improve Application Insights. You have the option to disable non-essential data collection. Learn more
Change your resource
Instrument your application
Info
.NET
.NET Core
Node.js
Java
Python
Please select the language you chose during creation of the application to see instrumentation details and additional configurations if available.
Apply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Assign tags
Delete
Filter for any field...
Subscription equals all
Resource group equals all
Location equals all
Add filter
Showing 1 to 1 of 1 records.
No grouping
List view
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Resource group
Location
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InsightScape-RG
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Azure subscription 1
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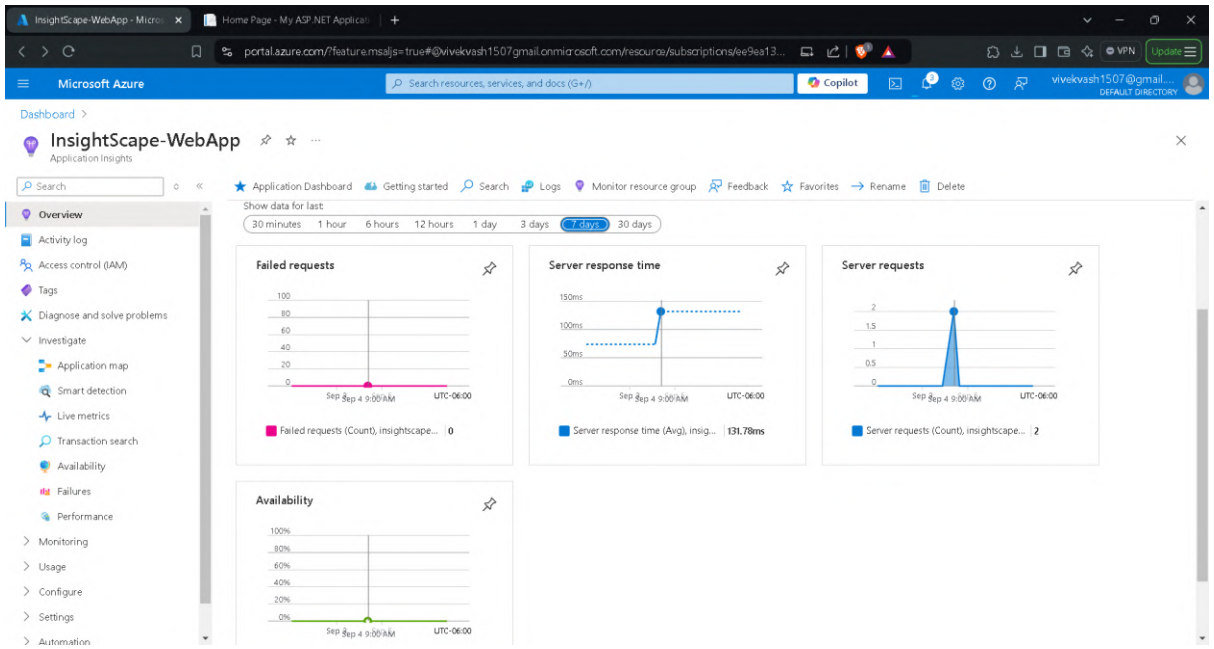
Give feedback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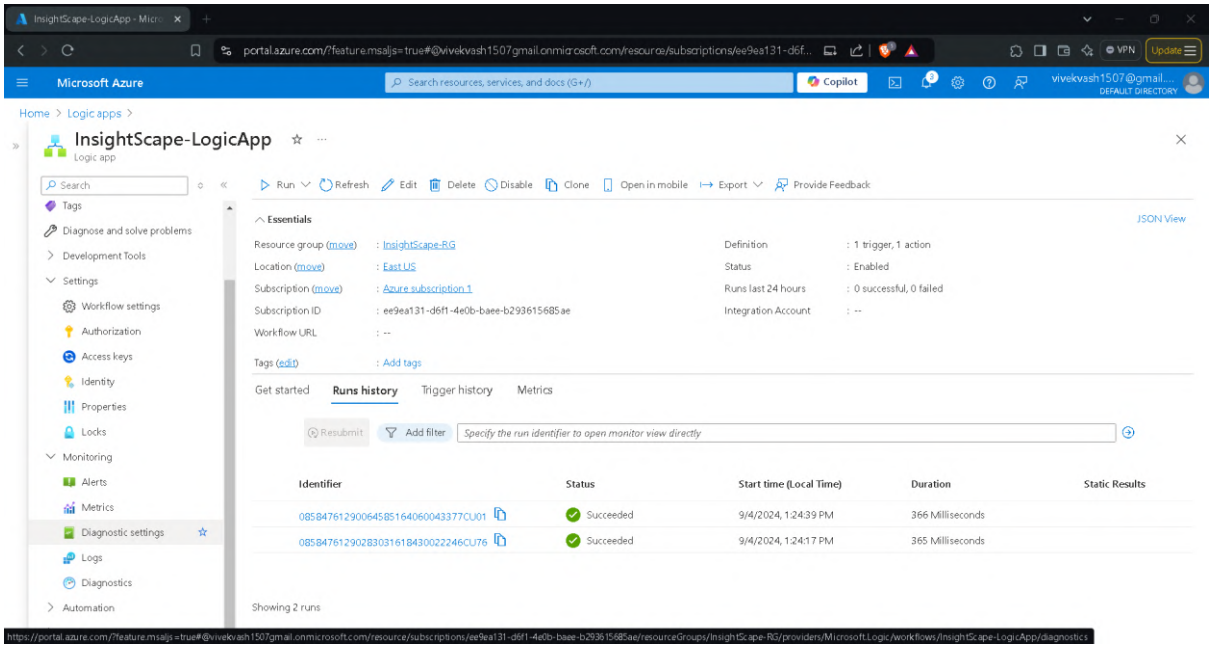
Delete
Show data for last:
30 minutes
1 hour
6 hours
12 hours
1 day
3 days
7 days
30 days
Failed requests
Failed requests (Count), insightscape... 0
Server response time
Server response time (Avg), insig... 131.78ms
Server requests
Server requests (Count), insightscape... 2
Availability
UTC-06:00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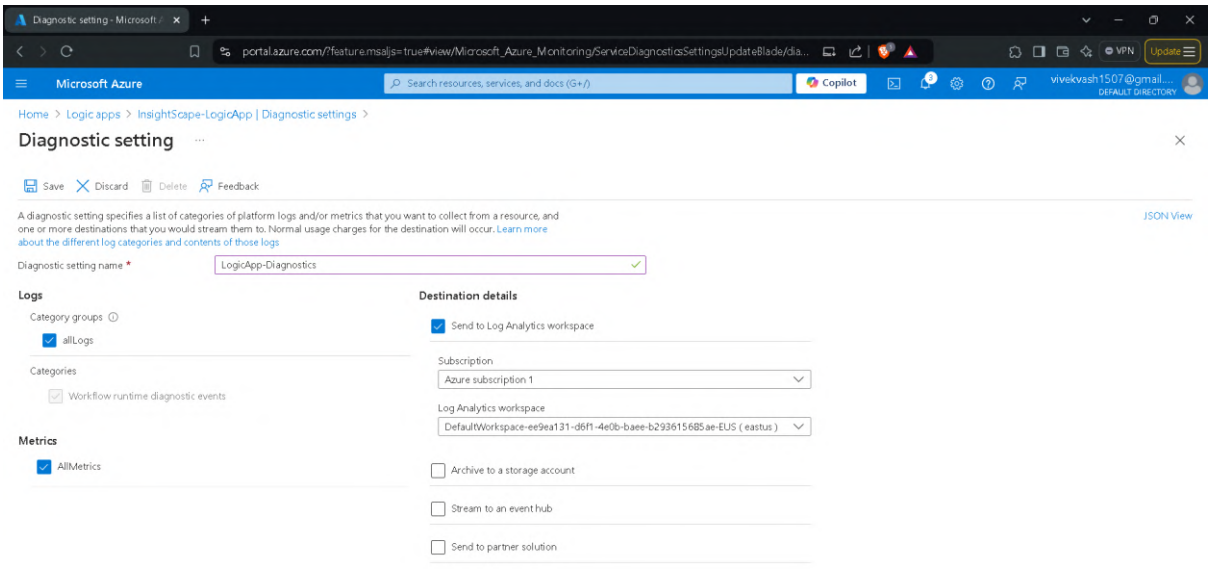
Automation
Run
Refresh
Edit
Delete
Disable
Clone
Open in mobile
Export
Provide Feedback
Essentials
JSON View
Resource group (move) : InsightScape-RG
Location (move) : East US
Subscription (move) : Azure subscription 1
Subscription ID : ee9ea131-d6f1-4e0b-baee-b293615685ae
Workflow URL : --
Definition : 1 trigger, 1 action
Status : Enabled
Runs last 24 hours : 0 successful, 0 failed
Integration Account : --
Tags (edit) : Add tags
Get started
Runs history
Trigger history
Metrics
Resubmit
Add filter
Specify the run identifier to open monitor view directly
Identifier
Status
Start time (Local Time)
Duration
Static Results
08584761290064585164060043377CU01
Succeeded
9/4/2024, 1:24:39 PM
366 Milliseconds
08584761290283031618430022246CU76
Succeeded
9/4/2024, 1:24:17 PM
365 Milliseconds
Showing 2 runs
https://portal.azure.com/?feature.msaljs=true#@vivekvash1507gmail.onmicrosoft.com/resource/subscriptions/ee9ea131-d6f1-4e0b-baee-b293615685ae/resourceGroups/InsightScape-RG/providers/Microsoft.Logic/workflows/InsightScape-LogicApp/diagnostics


Diagnostic setting - Microsoft A
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Monitoring/ServiceDiagnosticsSettingsUpdateBlade/dia...
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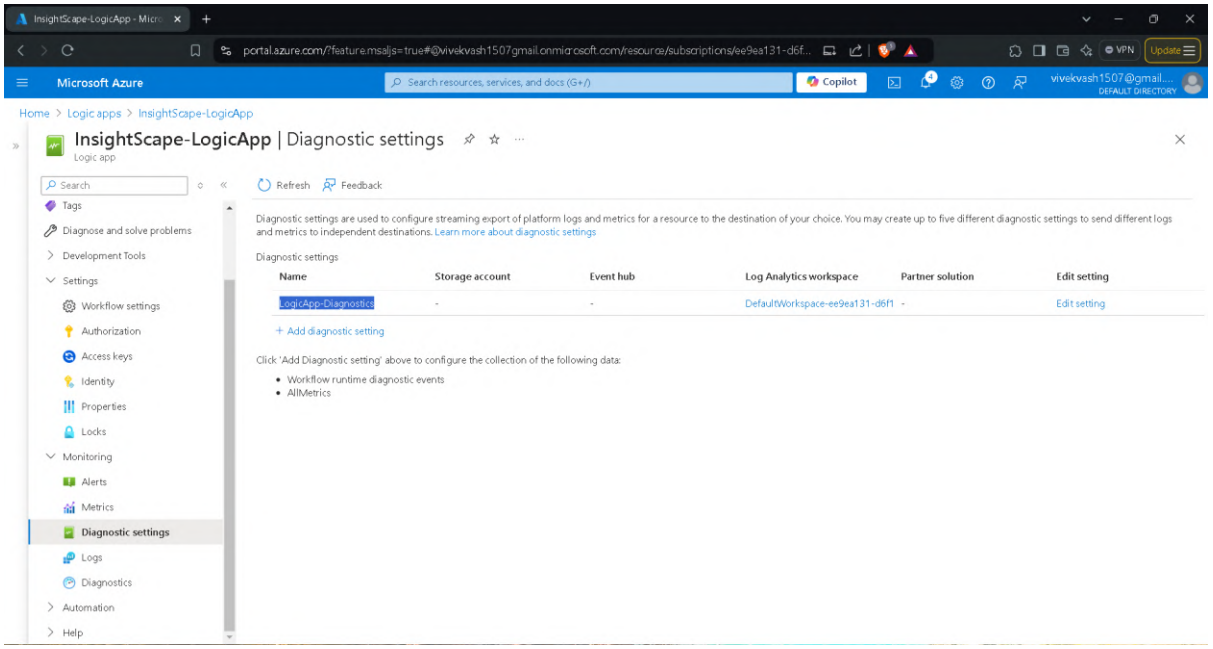
vivekvash1507@gmail....
DEFAULT DIRECTORY
Home > Logic apps > InsightScape-LogicApp | Diagnostic settings >
Diagnostic setting
Save
Discard
Delete
Feedback
JSON View
A diagnostic setting specifies a list of categories of platform logs and/or metrics that you want to collect from a resource, and one or more destinations that you would stream them to. Normal usage charges for the destination will occur. Learn more about the different log categories and contents of those logs
Diagnostic setting name *
LogicApp-Diagnostics
Logs
Category groups
allLogs
Categories
Workflow runtime diagnostic events
Metrics
AllMetrics
Destination details
Send to Log Analytics workspace
Subscription
Azure subscription 1
Log Analytics workspace
DefaultWorkspace-ee9ea131-d6f1-4e0b-baee-b293615685ae-EUS (eastus)
Archive to a storage account
Stream to an event hub
Send to partner solution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Diagnostic settings are used to configure streaming export of platform logs and metrics for a resource to the destination of your choice. You may create up to five different diagnostic settings to send different logs and metrics to independent destinations. Learn more about diagnostic settings
Diagnostic settings
Name
Storage account
Event hub
Log Analytics workspace
Partner solution
Edit setting
LogicApp-Diagnostics
DefaultWorkspace-ee9ea131-d6f1
Edit setting
+ Add diagnostic setting
Click 'Add Diagnostic setting' above to configure the collection of the following data:
Workflow runtime diagnostic events
AllMetrics

2) Activity Logs, Metrics, and Diagnostic Settings

For this phase of the project:

Activity Log Setup:

- First, I accessed the Activity Log in Azure Monitor. This log captures every event, which is very beneficial for monitoring purposes and provides detailed information regarding resource changes and activities.

Setting Up Metrics for VMs, WebApp, and Logic App:

VM Metrics:

- I navigated to the Metrics tab in Azure Monitor, where I selected both InsightScape-VM1 and InsightScape-VM2 as the scope.
- I configured the following metrics:
    - Percentage CPU, Aggregation: Avg - This metric helps monitor the percentage of CPU usage for both VMs.
    - OS Disk Latency, Aggregation: Avg - This metric helps understand the disk latency of the OS disks.
    - Available Memory Bytes, Aggregation: Avg - This shows the available memory for each VM.
    - Disk Read Bytes, Aggregation: Avg - This provides insight into the disk read performance of the VMs.
- After successfully setting up these metrics, I pinned each metric chart to my Dashboard for easy and quick access.

WebApp Metrics:

- I proceeded to set up metrics for the WebApp:
    - Scope: InsightScape-WebApp
    - Configured the following metrics:
        - Requests, Aggregation: Count - To monitor the number of requests received.
        - Response Time, Aggregation: Avg - To track the average response time of the web app.
        - Average Memory Working Set, Aggregation: Avg - To monitor memory usage.
        - CPU Time, Aggregation: Sum - To monitor the total CPU time consumed.
- I pinned each of these metric charts to my Dashboard as well.

Logic App Metrics:

- Finally, I set up metrics for the Logic App:
    - Scope: InsightScape-LogicApp
    - Configured the following metrics:

        - Runs Succeeded, Aggregation: Count - To track successful executions of the Logic App.
        - Triggers Completed, Aggregation: Count - To monitor the total triggers completed.
        - Triggers Failed, Aggregation: Count - To track any failed triggers.
- I pinned each of these metric charts to my Dashboard.

Diagnostic Settings for VMs, WebApp, and Log Analytics Workspace:

VM Diagnostic Settings:

- InsightScape-VM1:
    - I went to the Extensions + applications tab in InsightScape-VM1.
    - I provisioned the Azure Performance Diagnostics with the following configurations:
        - Storage Account Name: insightscapeblob
        - Storage Account Key: (Entered the Storage Account Key)
        - Performance Scenario: Collect basic configurations
- With this, the Diagnostics settings extension was successfully installed on InsightScape-VM1.
- InsightScape-VM2:
    - For InsightScape-VM2, the setup process was different. I SSH into InsightScape-VM2 using Azure CLI and then ran a series of commands to install the LinuxDiagnostic extension:
        1. Check the version of the waagent:

           ```
           /usr/sbin/waagent -version
           ```

        2. Update and install walinuxagent:

           ```
           sudo apt-get update && sudo apt-get install walinuxagent
           ```

        3. Install wget:

           ```
           sudo apt-get install -y wget
           ```

        4. Install Python 2:

           ```
           sudo apt-get install -y python2
           ```

        5. Set Python 2 as the default Python version:

           ```
           sudo update-alternatives --install /usr/bin/python python
           /usr/bin/python2 1
           ```

        6. Assign a managed identity to the VM:

           ```
           az vm identity assign --resource-group InsightScape-RG --
           name InsightScape-VM2
           ```

        7. Download the diagnostics settings JSON file:

```
wget https://raw.githubusercontent.com/Azure/azure-linux-extensions/master/Diagnostic/tests/lad_2_3_compatible_portal_pub_settings.json -O portal_public_settings.json
```

8. Set the diagnostic storage account name:

```
my_diagnostic_storage_account="insightscapeblob"
```

9. Get the resource ID of the VM:

```
my_vm_resource_id=$(az vm show --resource-group InsightScape-RG --name InsightScape-VM2 --query "id" -o tsv)
```

10. Update the diagnostic storage account in the settings file:

```
sed -i "s#_DIAGNOSTIC_STORAGE_ACCOUNT_#$my_diagnostic_storage_account#g" portal_public_settings.json
```

11. Update the VM resource ID in the settings file:

```
sed -i "s#_VM_RESOURCE_ID_#$my_vm_resource_id#g" portal_public_settings.json
```

12. Generate a SAS token for the diagnostic storage account:

```
my_diagnostic_storage_account_sastoken=$(az storage account generate-sas --account-name $my_diagnostic_storage_account --expiry 2037-12-31T23:59:00Z --permissions wlacu --resource-types co --services b --output tsv)
```

13. Create the protected settings for the extension:

```
my_lad_protected_settings="{\"storageAccountName\": \"$my_diagnostic_storage_account\", \"storageAccountSasToken\": \"$my_diagnostic_storage_account_sastoken\"}"
```

14. Set the Linux diagnostics extension on the VM:

```
az vm extension set --publisher Microsoft.Azure.Diagnostics --name LinuxDiagnostic --version 4.0 --resource-group InsightScape-RG --vm-name InsightScape-VM2 --protected-settings "$my_lad_protected_settings" --settings portal_public_settings.json
```

- With this, the LinuxDiagnostic extension was successfully installed on InsightScape-VM2.

WebApp Diagnostic Settings:

- I went to the Diagnostic Settings tab under Settings in Azure Monitor and clicked on InsightScape-WebApp.
- These were the configurations for InsightScape-WebApp:
    - Diagnostic Setting Name: WebApp-Diagnostics

  Logs:

    - HTTP Logs (Ticked)
    - App Service Console Logs (Ticked)
    - App Service Application Logs (Ticked)
    - Access Audit Logs (Ticked)
    - IPSecurity Audit Logs (Ticked)
    - App Service Platform Logs (Ticked)
    - App Service Authentication Logs (preview) (Ticked)

  Metrics:

    - AllMetrics (Ticked)

  Destination Details: I selected the Default Log Analytics Workspace.

Verifying Link to Log Analytics Workspace:

- After configuring diagnostic settings, I verified that both VMs were linked to the Default Log Analytics Workspace by accessing the Virtual Machines (deprecated) tab in the Default Log Analytics Workspace.

Log Analytics Workspace Diagnostic Settings:

- At the end of this phase, I added diagnostic settings for the Default Log Analytics Workspace with the following configurations:
    - Diagnostic Setting Name: Workspace-Diagnostics

  Logs:

    - Audit (Ticked)
    - allLogs (Ticked)

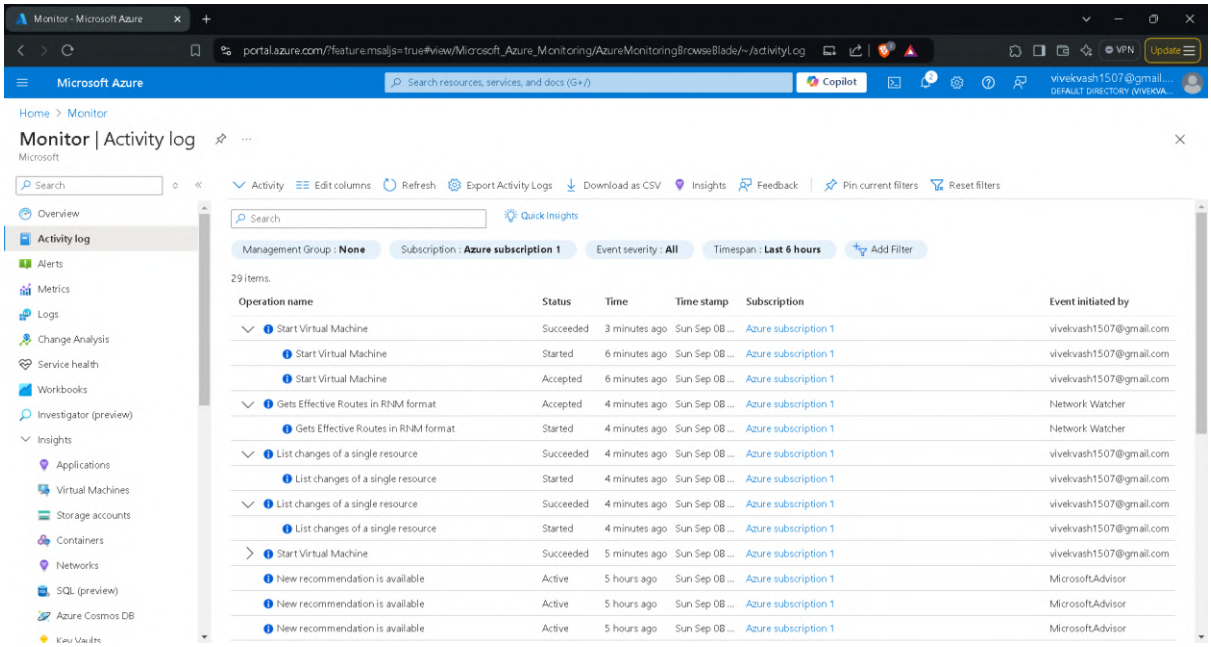
  Metrics:

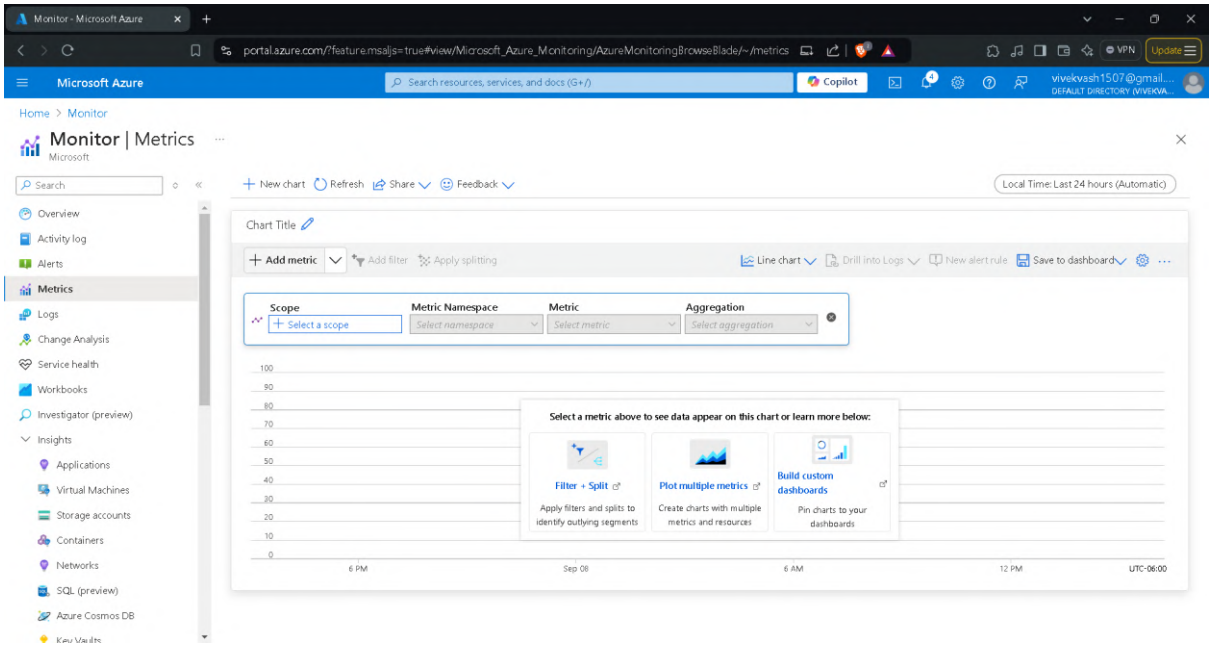
    - AllMetrics (Ticked)

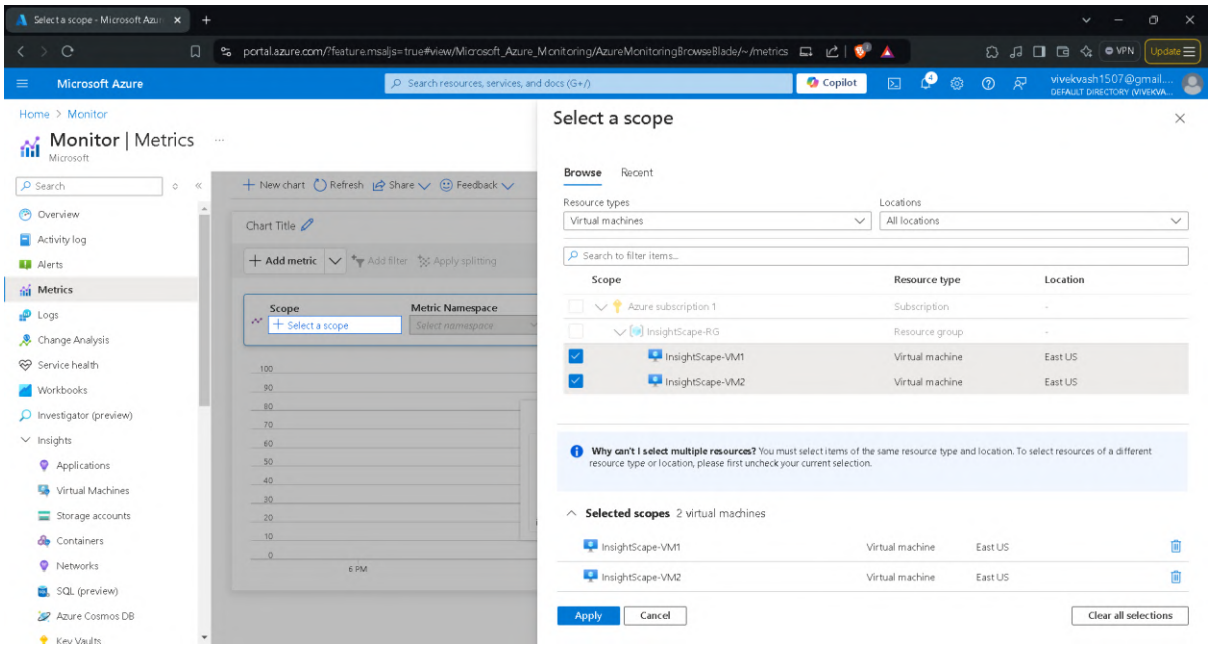
  Destination Details: I selected the Default Log Analytics Workspace.

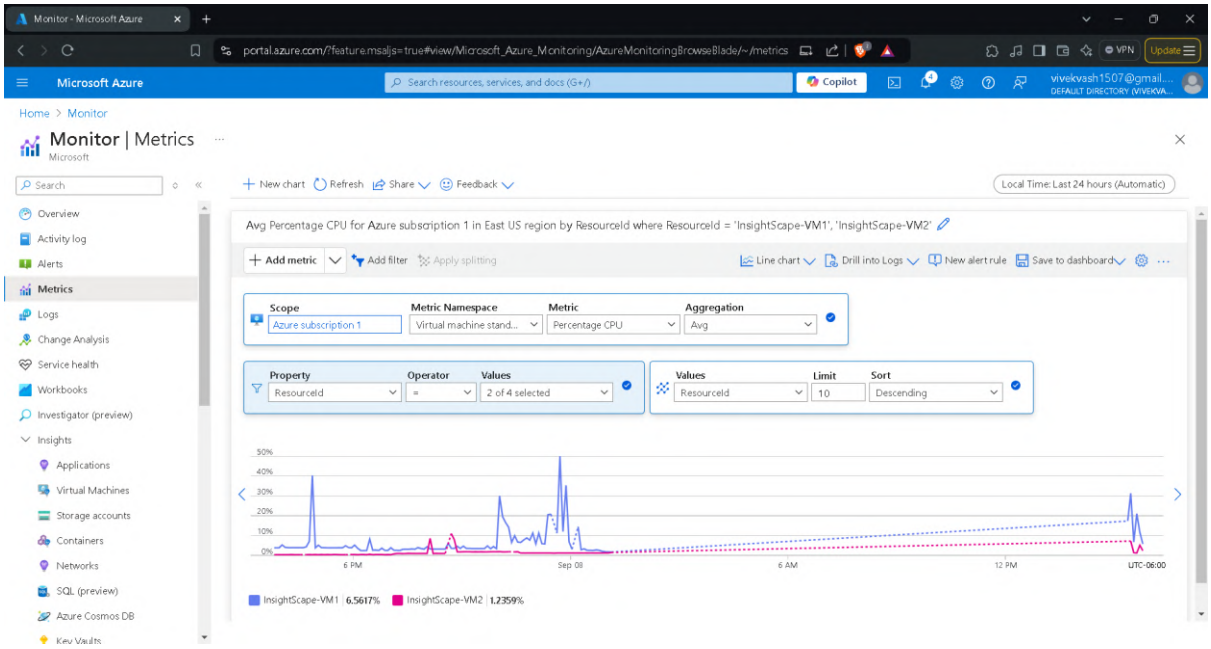
This completed the Activity Logs, Metrics, and Diagnostic Settings phase successfully.

Screenshots





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Metric
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Operator
=
Values
2 of 4 selected
Values
ResourceId
Limit
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Sort
Descending
50%
40%
30%
20%
10%
0%
6 PM
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InsightScape-VM1 6.5617%
InsightScape-VM2 1.2359%
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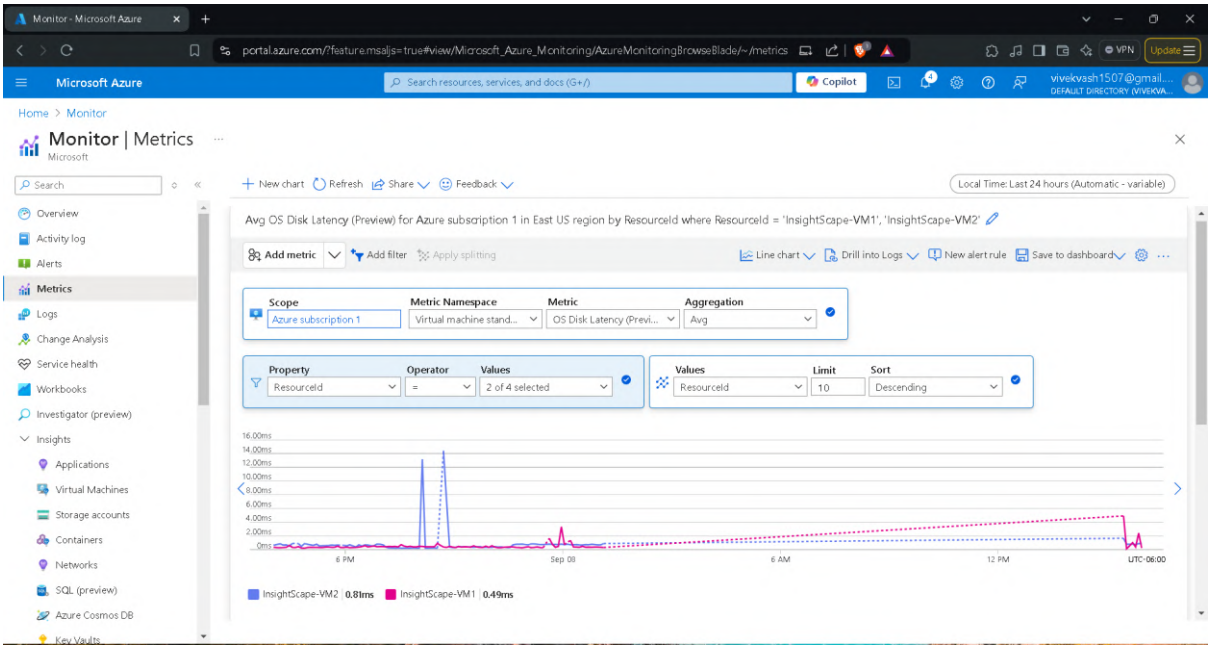
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Avg
Property
ResourceId
Operator
=
Values
2 of 4 selected
Values
ResourceId
Limit
10
Sort
Descending
16.00ms
14.00ms
12.00ms
10.00ms
8.00ms
6.00ms
4.00ms
2.00ms
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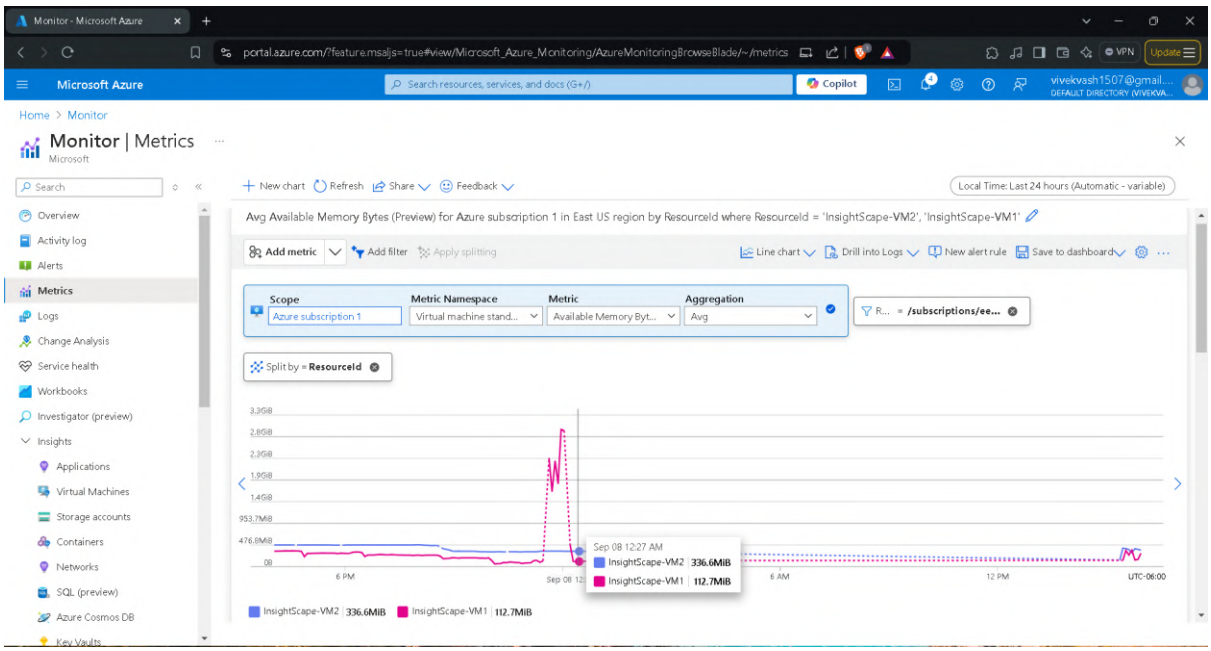
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2.8GiB
2.3GiB
1.9GiB
1.4GiB
953.7MiB
476.8MiB
0B
6 PM
Sep 08 12:27 AM
InsightScape-VM2 336.6MiB
InsightScape-VM1 112.7MiB
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12 PM
UTC-06:00
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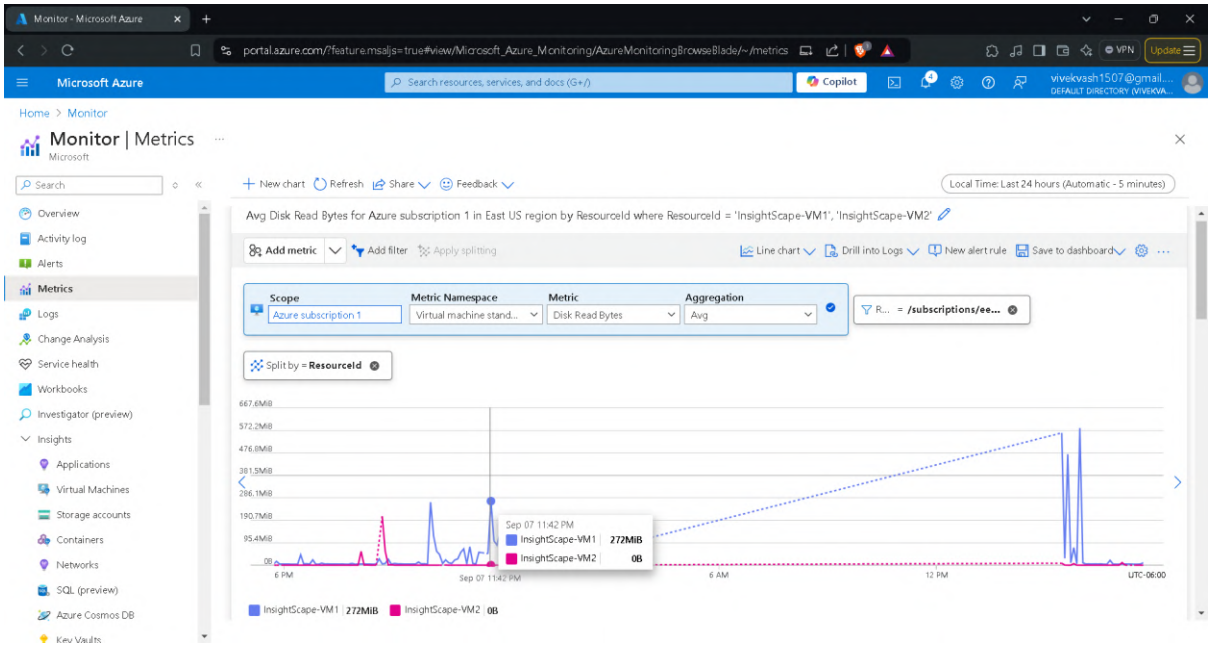
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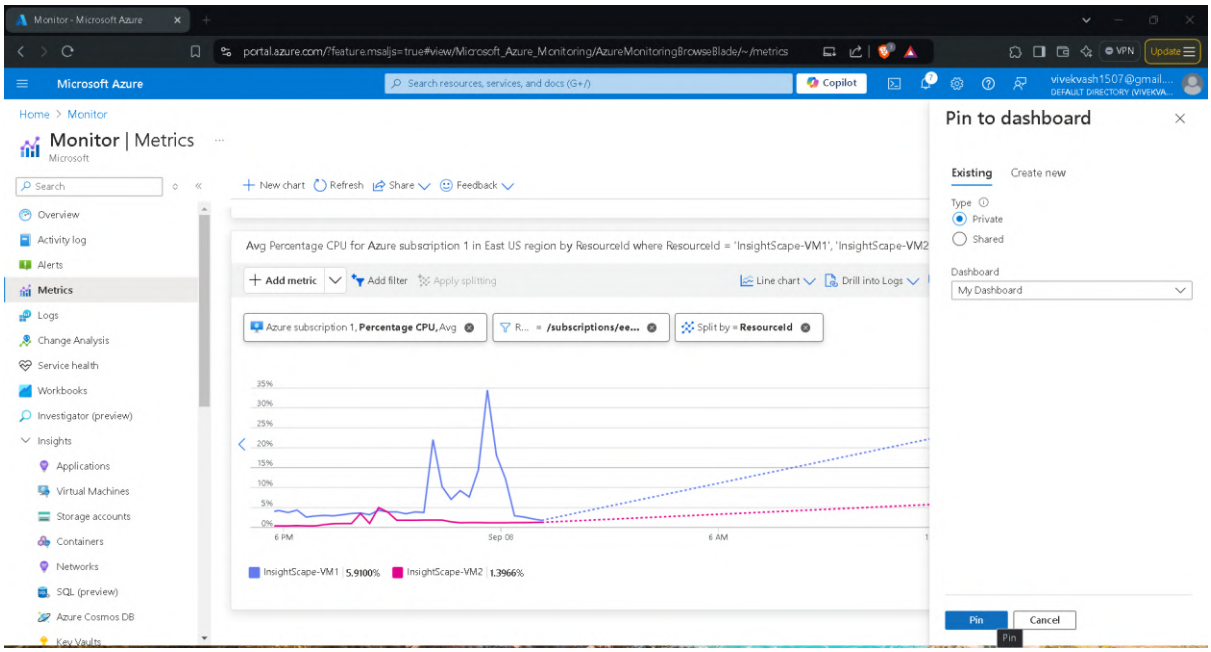
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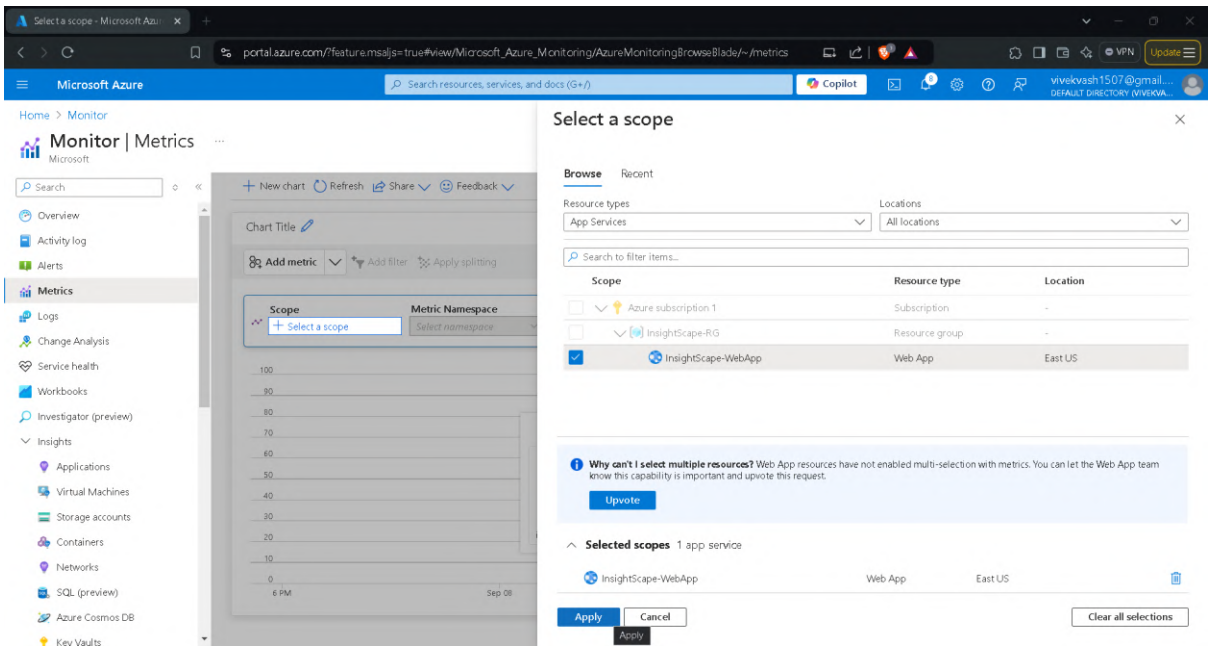
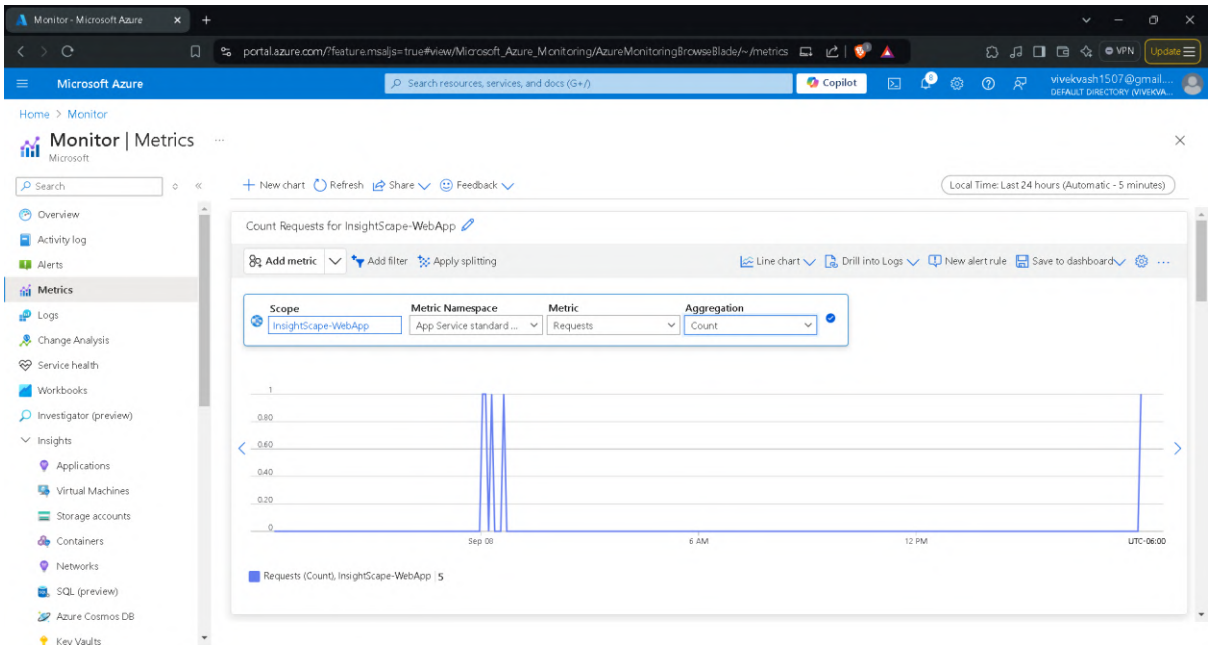
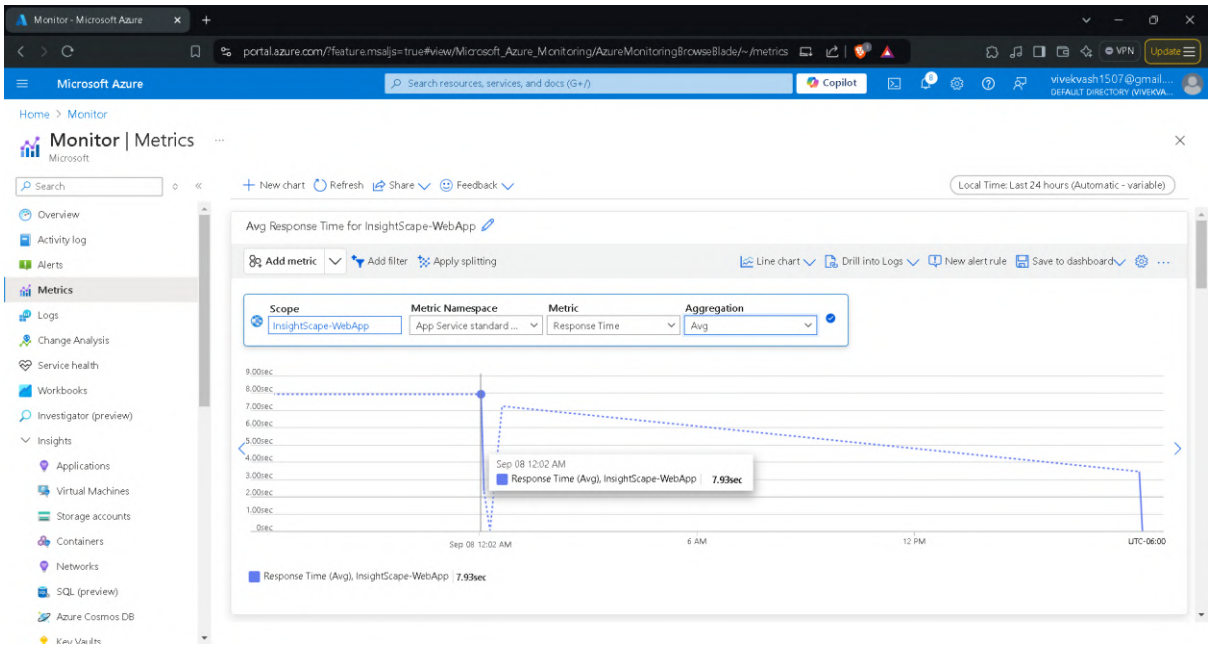
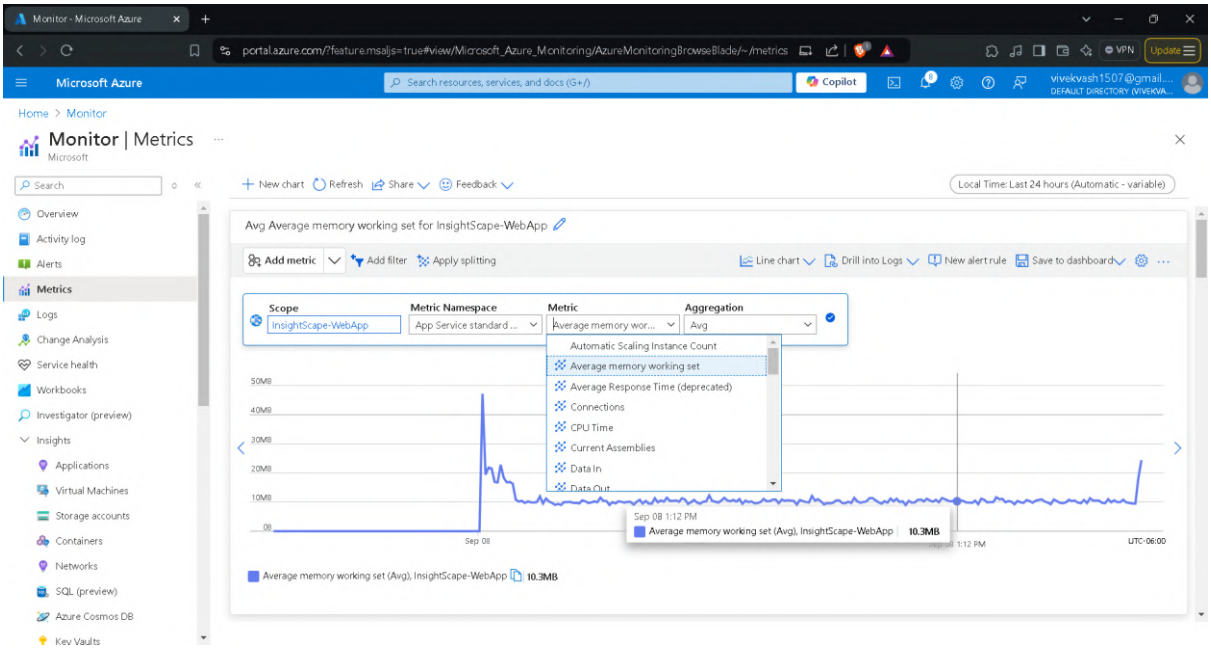
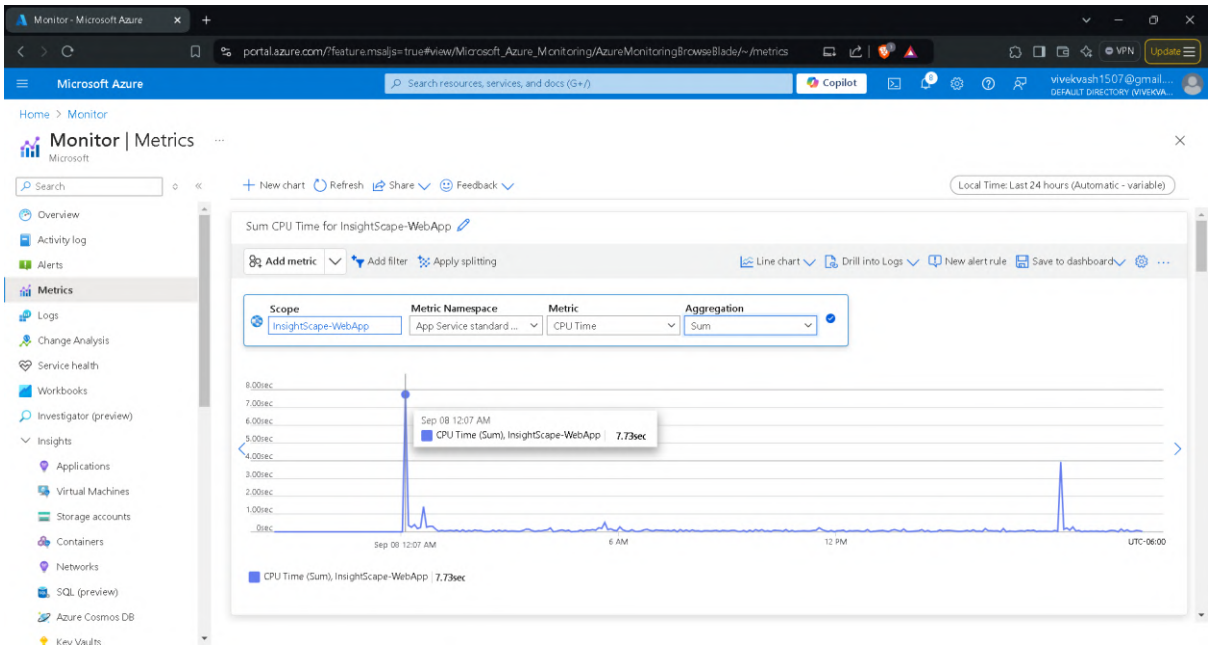
6 PM
Sep 08
6 AM
InsightScape-VM1 5.9100%
InsightScape-VM2 1.3966%
Pin to dashboard
Existing
Create new
Type
Private
Shared
Dashboard
My Dashboard
Pin
Cancel


Select a scope - Microsoft Azu
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Monitoring/AzureMonitoringBrowseBlade/~/metrics
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
Home > Monitor
Monitor | Metrics
Microsoft
New chart
Refresh
Share
Feedback
Chart Title
Add metric
Add filter
Apply splitting
Scope
Select a scope
Metric Namespace
Overview
Activity log
Alerts
Metrics
Logs
Change Analysis
Service health
Workbooks
Investigator (preview)
Insights
Applications
Virtual Machines
Storage accounts
Containers
Networks
SQL (preview)
Azure Cosmos DB
Key Vaults
Select a scope
Browse
Recent
Resource types
App Services
Locations
All locations
Search to filter items...
Scope
Resource type
Location
Azure subscription 1
Subscription
InsightScape-RG
Resource group
InsightScape-WebApp
Web App
East US
Why can't I select multiple resources? Web App resources have not enabled multi-selection with metrics. You can let the Web App team know this capability is important and upvote this request.
Upvote
Selected scopes 1 app service
InsightScape-WebApp
Web App
East US
Apply
Cancel
Clear all selections


Monitor - Microsoft Azure
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Monitoring/AzureMonitoringBrowseBlade/~/metrics
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
Home > Monitor
Monitor | Metrics
Microsoft
New chart
Refresh
Share
Feedback
Local Time: Last 24 hours (Automatic - 5 minutes)
Count Requests for InsightScape-WebApp
Add metric
Add filter
Apply splitting
Line chart
Drill into Logs
New alert rule
Save to dashboard
Scope
InsightScape-WebApp
Metric Namespace
App Service standard ...
Metric
Requests
Aggregation
Count
Overview
Activity log
Alerts
Metrics
Logs
Change Analysis
Service health
Workbooks
Investigator (preview)
Insights
Applications
Virtual Machines
Storage accounts
Containers
Networks
SQL (preview)
Azure Cosmos DB
Key Vaults
Sep 08
6 AM
12 PM
UTC-06:00
Requests (Count), InsightScape-WebApp 5


Monitor - Microsoft Azure
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Monitoring/AzureMonitoringBrowseBlade/~/metrics
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
Home > Monitor
Monitor | Metrics
Microsoft
New chart
Refresh
Share
Feedback
Local Time: Last 24 hours (Automatic - variable)
Avg Response Time for InsightScape-WebApp
Add metric
Add filter
Apply splitting
Line chart
Drill into Logs
New alert rule
Save to dashboard
Scope
InsightScape-WebApp
Metric Namespace
App Service standard ...
Metric
Response Time
Aggregation
Avg
Overview
Activity log
Alerts
Metrics
Logs
Change Analysis
Service health
Workbooks
Investigator (preview)
Insights
Applications
Virtual Machines
Storage accounts
Containers
Networks
SQL (preview)
Azure Cosmos DB
Key Vaults
9.00sec
8.00sec
7.00sec
6.00sec
5.00sec
4.00sec
3.00sec
2.00sec
1.00sec
0sec
Sep 08 12:02 AM
Response Time (Avg), InsightScape-WebApp 7.93sec
Sep 08 12:02 AM
6 AM
12 PM
UTC-06:00
Response Time (Avg), InsightScape-WebApp 7.93sec


Monitor - Microsoft Azure
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Monitoring/AzureMonitoringBrowseBlade/~/metrics
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
Home > Monitor
Monitor | Metrics
Microsoft
New chart
Refresh
Share
Feedback
Local Time: Last 24 hours (Automatic - variable)
Avg Average memory working set for InsightScape-WebApp
Add metric
Add filter
Apply splitting
Line chart
Drill into Logs
New alert rule
Save to dashboard
Scope
InsightScape-WebApp
Metric Namespace
App Service standard ...
Metric
Average memory wor...
Aggregation
Avg
Automatic Scaling Instance Count
Average memory working set
Average Response Time (deprecated)
Connections
CPU Time
Current Assemblies
Data In
Data Out
Overview
Activity log
Alerts
Metrics
Logs
Change Analysis
Service health
Workbooks
Investigator (preview)
Insights
Applications
Virtual Machines
Storage accounts
Containers
Networks
SQL (preview)
Azure Cosmos DB
Key Vaults
50MB
40MB
30MB
20MB
10MB
0B
Sep 08
Sep 08 1:12 PM
Average memory working set (Avg), InsightScape-WebApp 10.3MB
Sep 08 1:12 PM
UTC-06:00
Average memory working set (Avg), InsightScape-WebApp 10.3MB


Monitor - Microsoft Azure
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Monitoring/AzureMonitoringBrowseBlade/~/metrics
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
Home > Monitor
Monitor | Metrics
Microsoft
New chart
Refresh
Share
Feedback
Local Time: Last 24 hours (Automatic - variable)
Sum CPU Time for InsightScape-WebApp
Add metric
Add filter
Apply splitting
Line chart
Drill into Logs
New alert rule
Save to dashboard
Scope
InsightScape-WebApp
Metric Namespace
App Service standard ...
Metric
CPU Time
Aggregation
Sum
Overview
Activity log
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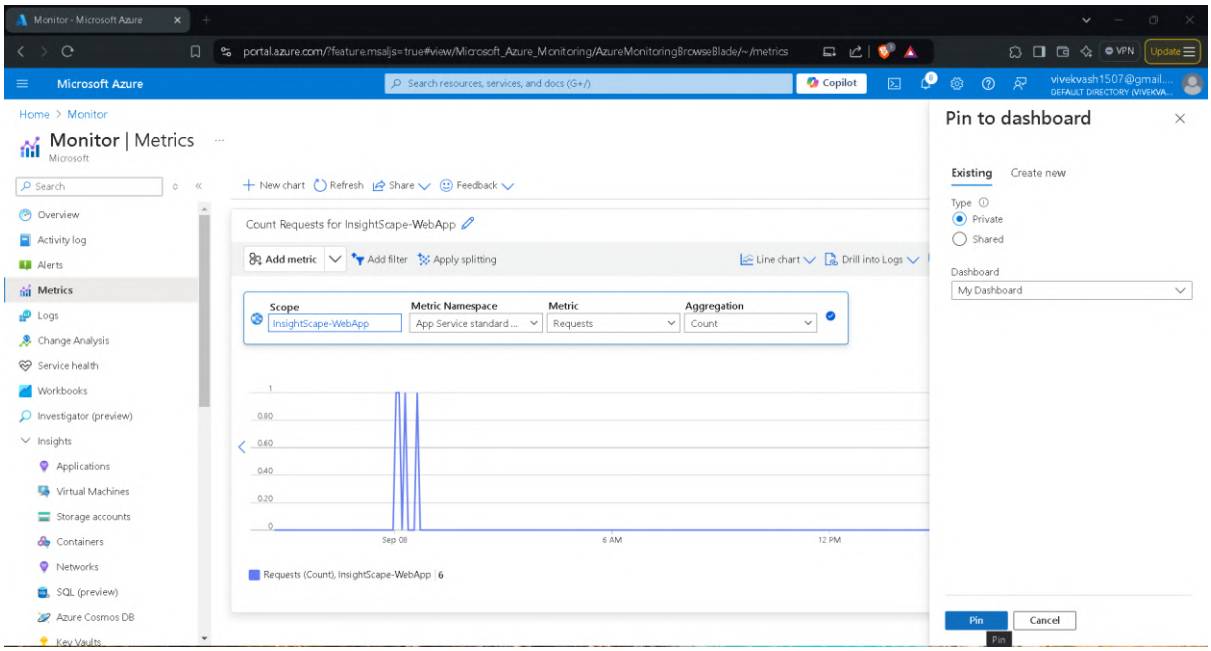
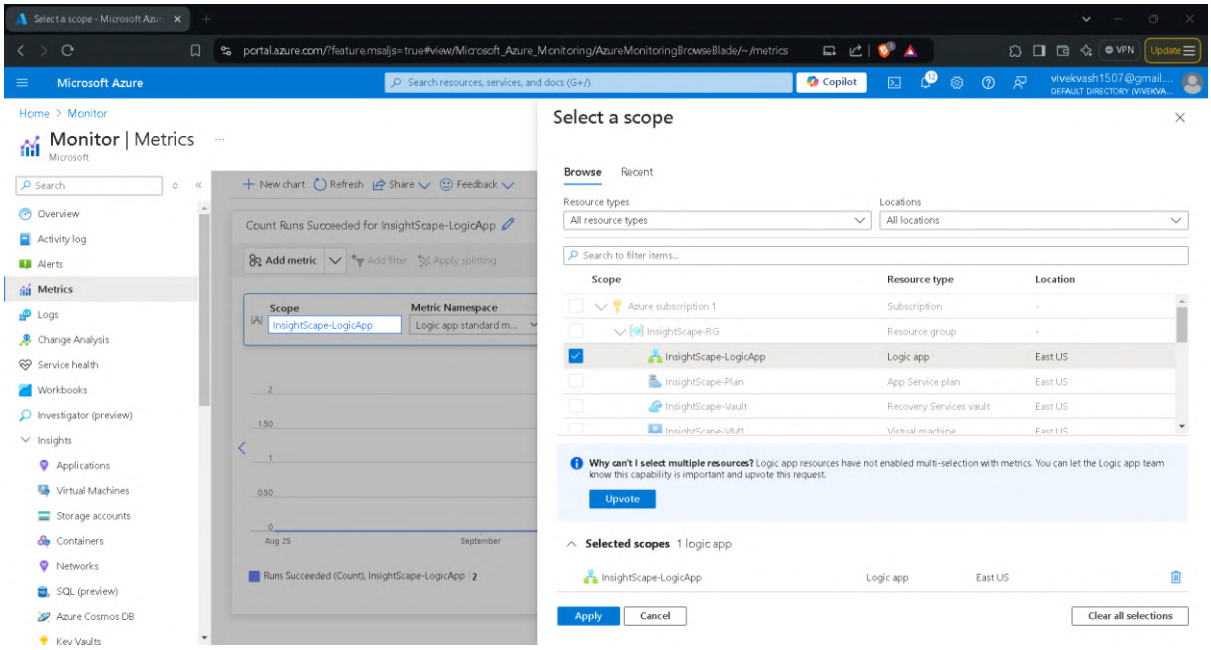
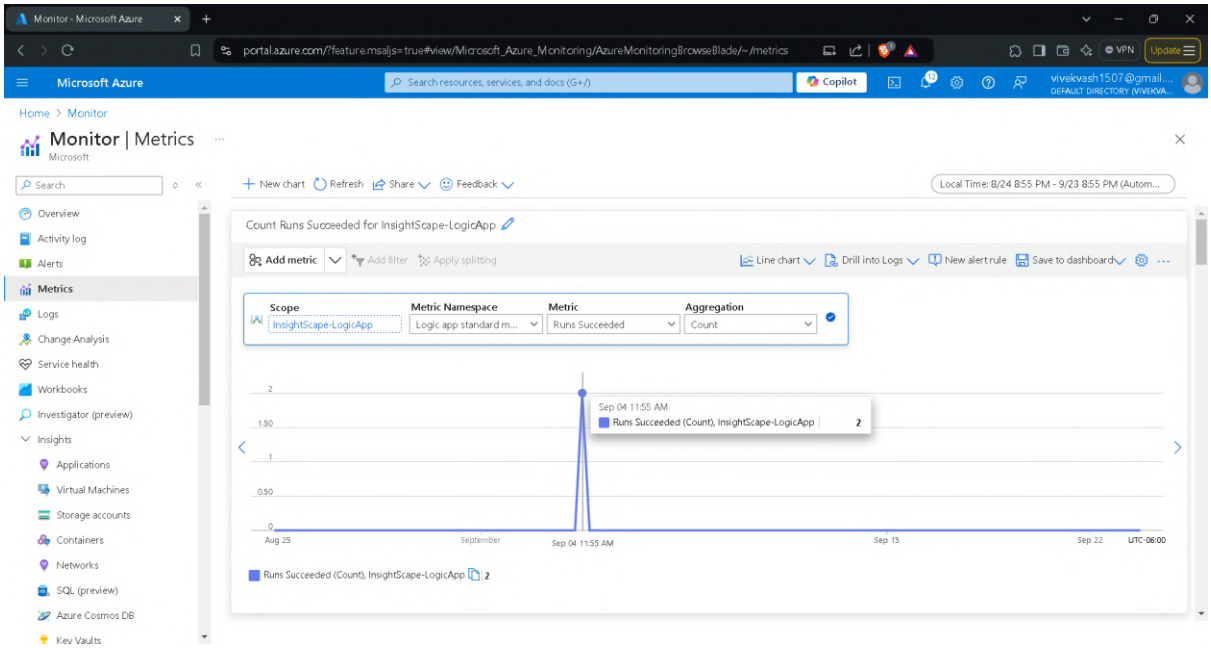
Metrics
Logs
Change Analysis
Service health
Workbooks
Investigator (preview)
Insights
Applications
Virtual Machines
Storage accounts
Containers
Networks
SQL (preview)
Azure Cosmos DB
Key Vaults
Sep 08 12:07 AM
CPU Time (Sum), InsightScape-WebApp 7.73sec
6 AM
12 PM
UTC-06:00


Monitor - Microsoft Azure
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Monitoring/AzureMonitoringBrowseBlade/~/metrics
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
Home > Monitor
Monitor | Metrics
Microsoft
Count Requests for InsightScape-WebApp
Scope
InsightScape-WebApp
Metric Namespace
App Service standard ...
Metric
Requests
Aggregation
Count
Requests (Count), InsightScape-WebApp 6
Sep 08
6 AM
12 PM
Pin to dashboard
Existing
Create new
Type
Private
Shared
Dashboard
My Dashboard
Pin
Cancel


Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
Home > Monitor
Monitor | Metrics
Microsoft
Count Runs Succeeded for InsightScape-LogicApp
Scope
InsightScape-LogicApp
Metric Namespace
Logic app standard m...
Runs Succeeded (Count), InsightScape-LogicApp 2
Aug 25
September
Select a scope
Browse
Recent
Resource types
All resource types
Locations
All locations
Search to filter items...
Scope
Resource type
Location
Azure subscription 1
Subscription
InsightScape-RG
Resource group
InsightScape-LogicApp
Logic app
East US
InsightScape-Plan
App Service plan
East US
InsightScape-Vault
Recovery Services vault
East US
Why can't I select multiple resources? Logic app resources have not enabled multi-selection with metrics. You can let the Logic app team know this capability is important and upvote this request.
Upvote
Selected scopes 1 logic app
InsightScape-LogicApp
Logic app
East US
Apply
Cancel
Clear all selections


Monitor - Microsoft Azure
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Monitoring/AzureMonitoringBrowseBlade/~/metrics
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
Home > Monitor
Monitor | Metrics
Microsoft
New chart
Refresh
Share
Feedback
Local Time: 8/24 8:55 PM - 9/23 8:55 PM (Autom...
Count Runs Succeeded for InsightScape-LogicApp
Add metric
Add filter
Apply splitting
Line chart
Drill into Logs
New alert rule
Save to dashboard
Scope
Metric Namespace
Metric
Aggregation
InsightScape-LogicApp
Logic app standard m...
Runs Succeeded
Count
Sep 04 11:55 AM
Runs Succeeded (Count), InsightScape-LogicApp 2
Aug 25
September
Sep 15
Sep 22
UTC-06:00
Runs Succeeded (Count), InsightScape-LogicApp 2
Overview
Activity log
Alerts
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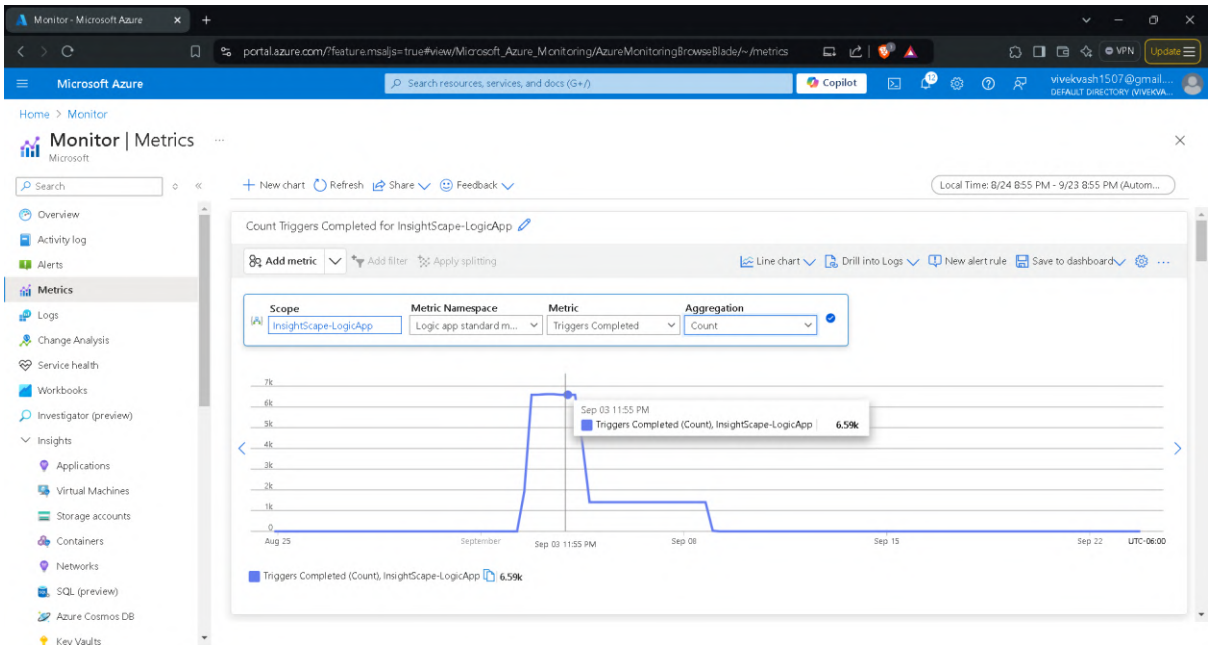
Change Analysis
Service health
Workbooks
Investigator (preview)
Insights
Applications
Virtual Machines
Storage accounts
Containers
Networks
SQL (preview)
Azure Cosmos DB
Key Vaults


Monitor - Microsoft Azure
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Monitoring/AzureMonitoringBrowseBlade/~/metrics
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
Home > Monitor
Monitor | Metrics
Microsoft
New chart
Refresh
Share
Feedback
Local Time: 8/24 8:55 PM - 9/23 8:55 PM (Autom...
Count Triggers Completed for InsightScape-LogicApp
Add metric
Add filter
Apply splitting
Line chart
Drill into Logs
New alert rule
Save to dashboard
Scope
Metric Namespace
Metric
Aggregation
InsightScape-LogicApp
Logic app standard m...
Triggers Completed
Count
Sep 03 11:55 PM
Triggers Completed (Count), InsightScape-LogicApp 6.59k
Aug 25
September
Sep 08
Sep 15
Sep 22
UTC-06:00
Triggers Completed (Count), InsightScape-LogicApp 6.59k
Overview
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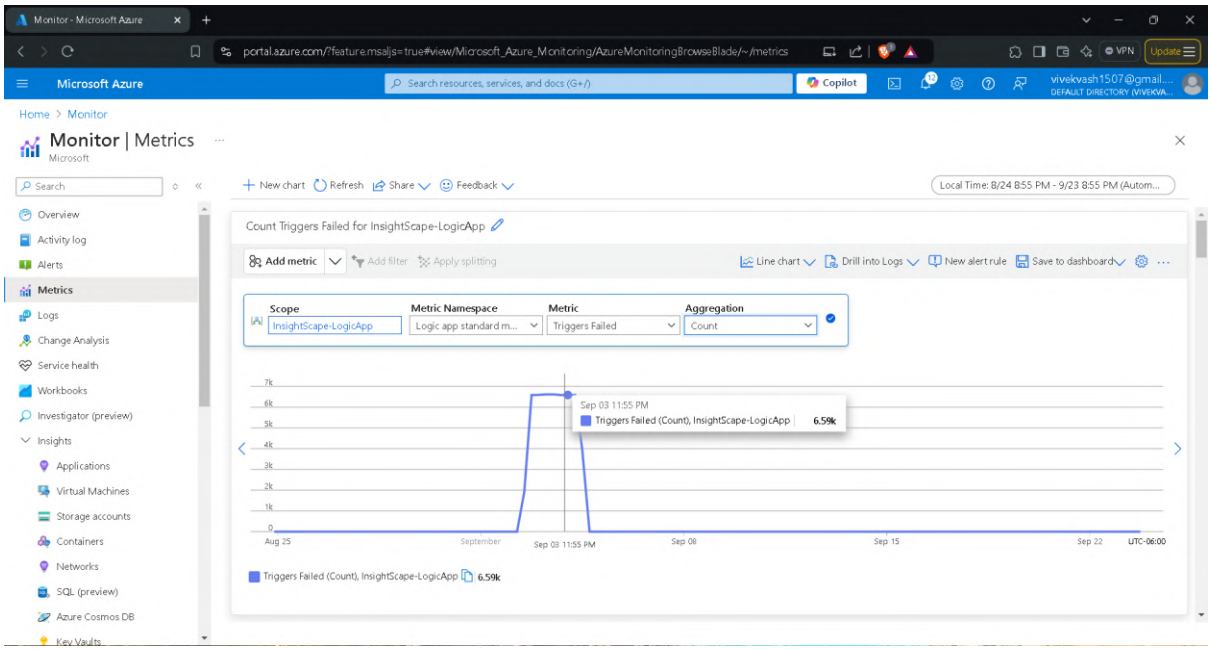
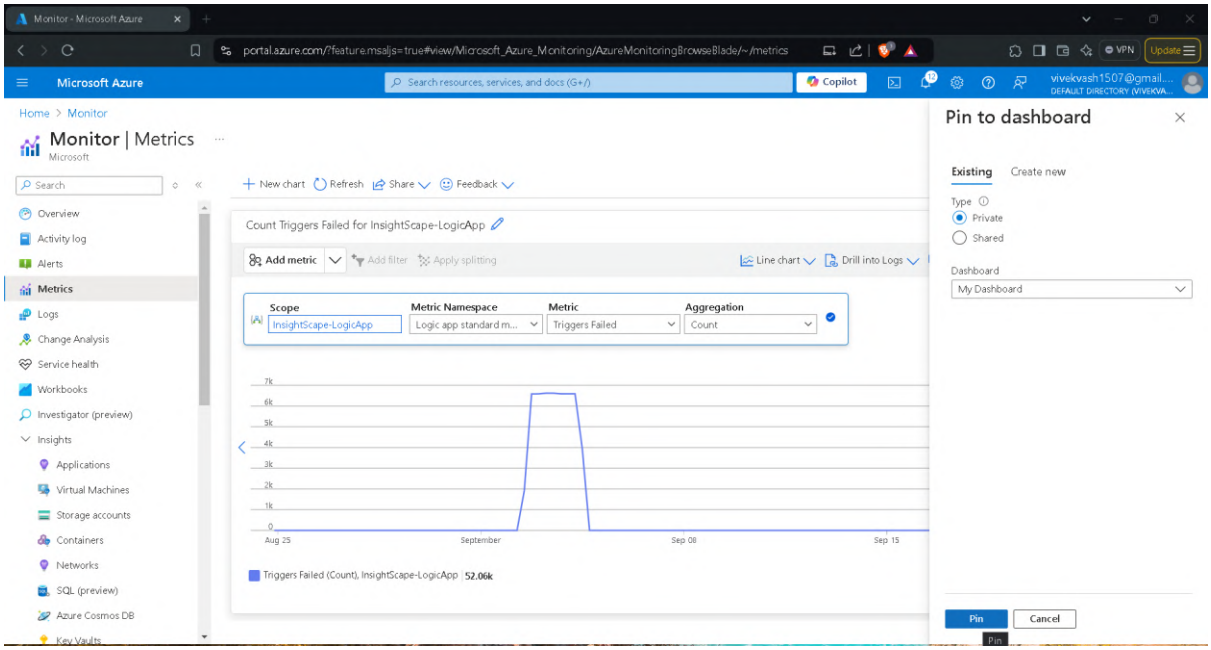
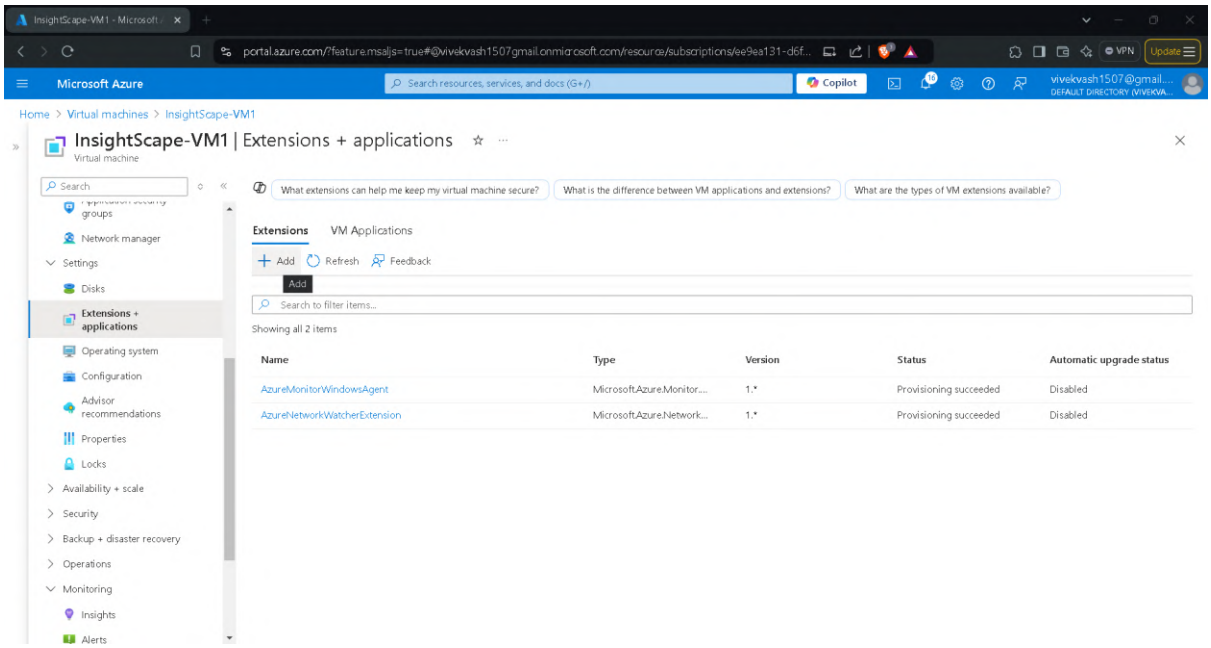
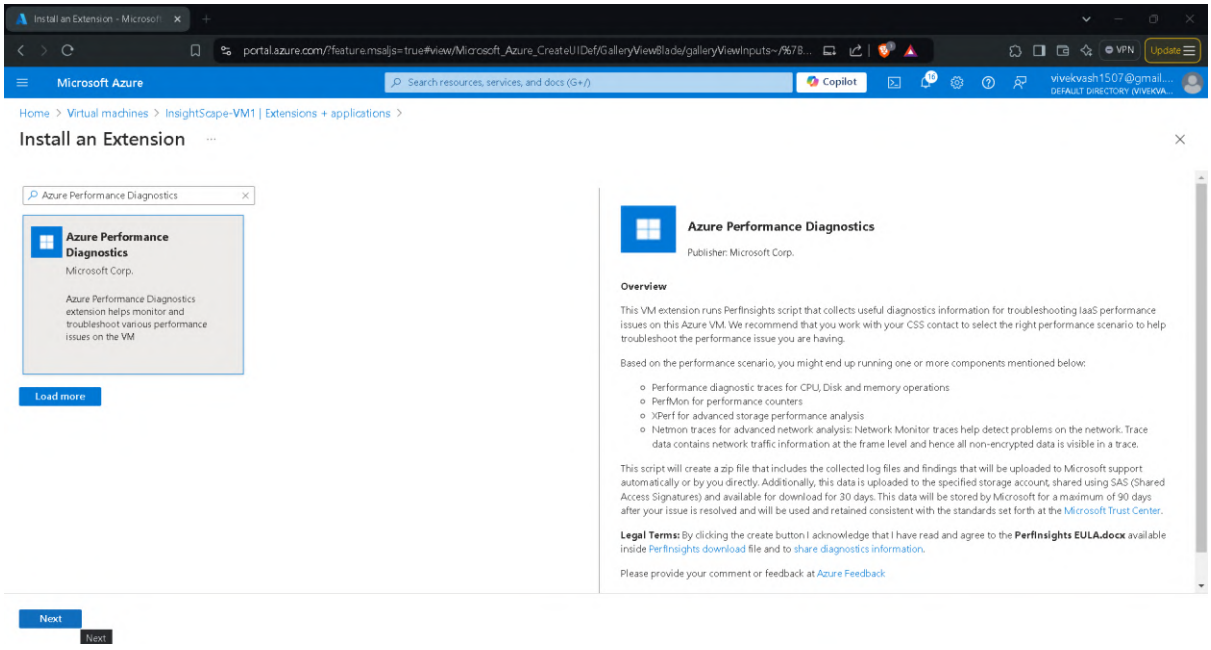
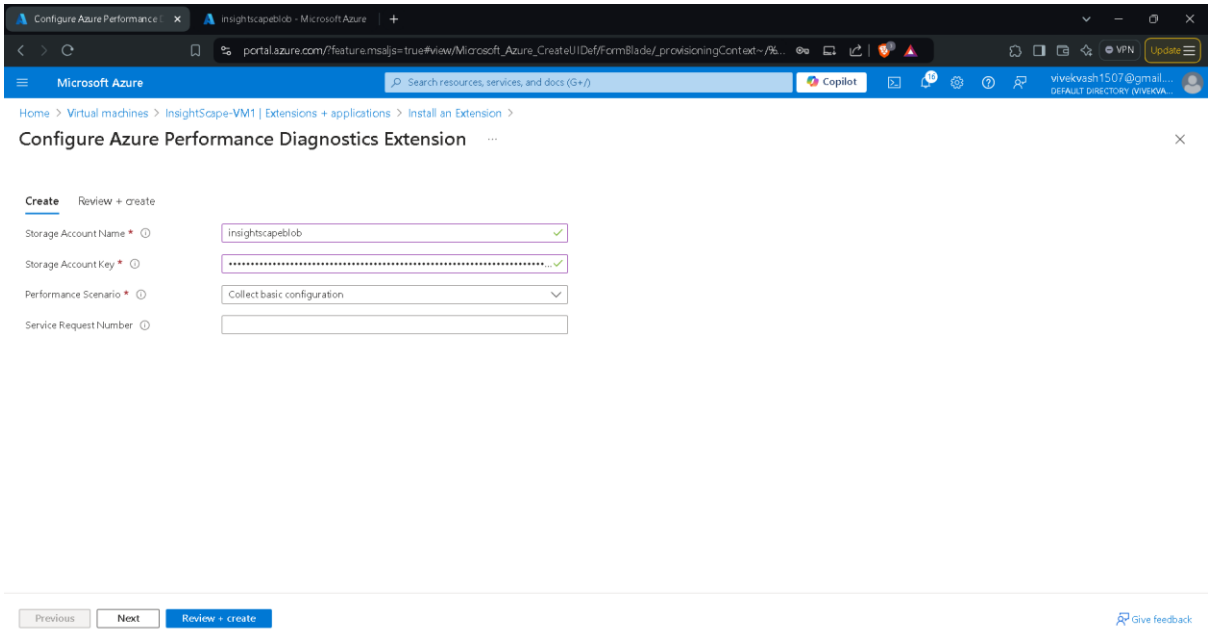
Change Analysis
Service health
Workbooks
Investigator (preview)
Insights
Applications
Virtual Machines
Storage accounts
Containers
Networks
SQL (preview)
Azure Cosmos DB
Key Vaults

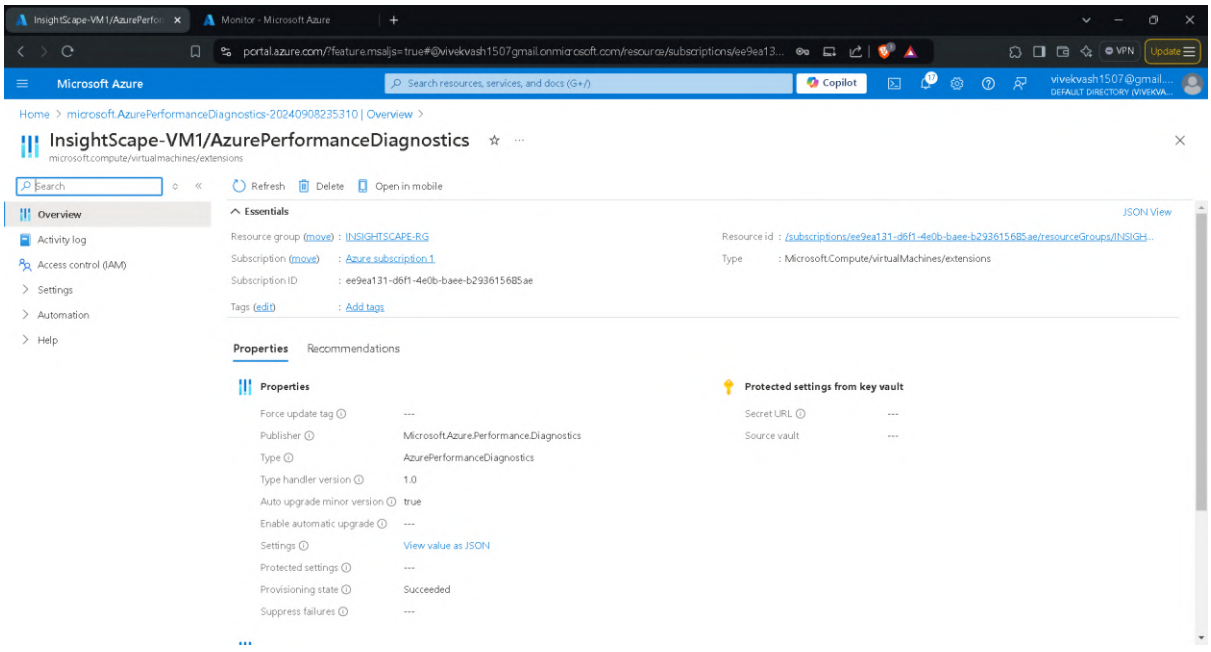

Monitor - Microsoft Azure
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Monitoring/AzureMonitoringBrowseBlade/~/metrics
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
Home > Monitor
Monitor | Metrics
Microsoft
New chart
Refresh
Share
Feedback
Local Time: 8/24 8:55 PM - 9/23 8:55 PM (Autom...
Count Triggers Failed for InsightScape-LogicApp
Add metric
Add filter
Apply splitting
Line chart
Drill into Logs
New alert rule
Save to dashboard
Scope
Metric Namespace
Metric
Aggregation
InsightScape-LogicApp
Logic app standard m...
Triggers Failed
Count
Sep 03 11:55 PM
Triggers Failed (Count), InsightScape-LogicApp 6.59k
Aug 25
September
Sep 08
Sep 15
Sep 22
UTC-06:00
Triggers Failed (Count), InsightScape-LogicApp 6.59k
Overview
Activity log
Alerts
Metrics
Logs
Change Analysis
Service health
Workbooks
Investigator (preview)
Insights
Applications
Virtual Machines
Storage accounts
Containers
Networks
SQL (preview)
Azure Cosmos DB
Key Vaults

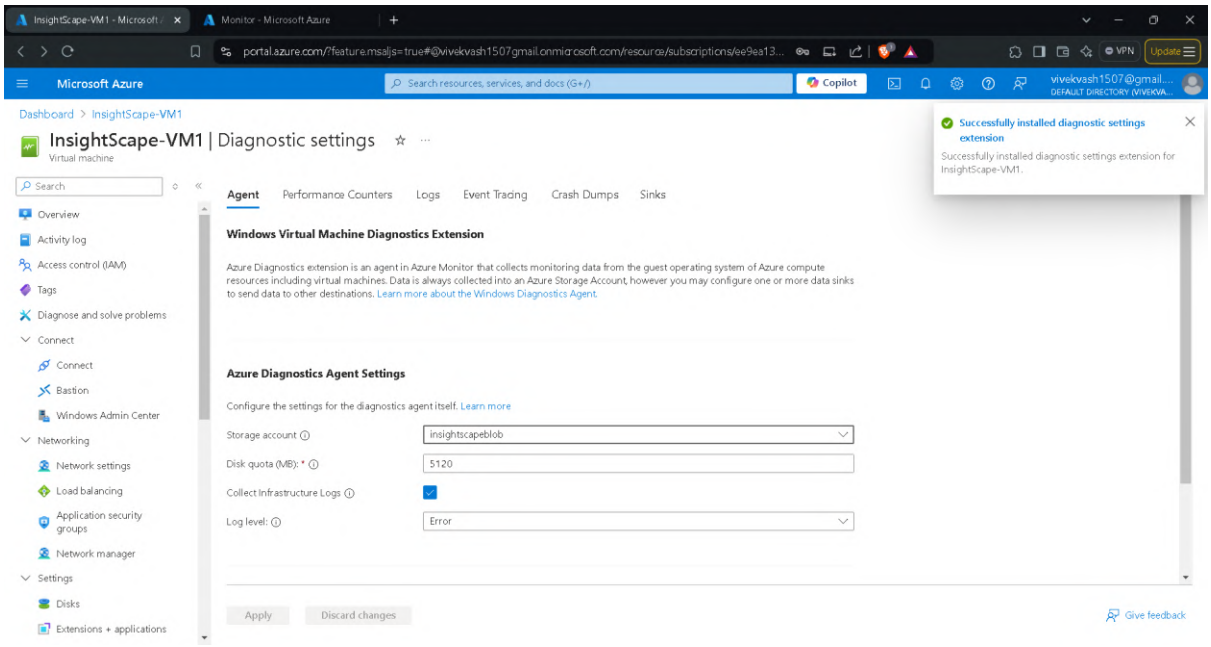

Monitor - Microsoft Azure
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Monitoring/AzureMonitoringBrowseBlade/~/metrics
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
Home > Monitor
Monitor | Metrics
Microsoft
New chart
Refresh
Share
Feedback
Overview
Activity log
Alerts
Metrics
Logs
Change Analysis
Service health
Workbooks
Investigator (preview)
Insights
Applications
Virtual Machines
Storage accounts
Containers
Networks
SQL (preview)
Azure Cosmos DB
Key Vaults
Count Triggers Failed for InsightScape-LogicApp
Add metric
Add filter
Apply splitting
Line chart
Drill into Logs
Scope
InsightScape-LogicApp
Metric Namespace
Logic app standard m...
Metric
Triggers Failed
Aggregation
Count
7k
6k
5k
4k
3k
2k
1k
0
Aug 25
September
Sep 08
Sep 15
Triggers Failed (Count), InsightScape-LogicApp 52.06k
Pin to dashboard
Existing
Create new
Type
Private
Shared
Dashboard
My Dashboard
Pin
Cancel

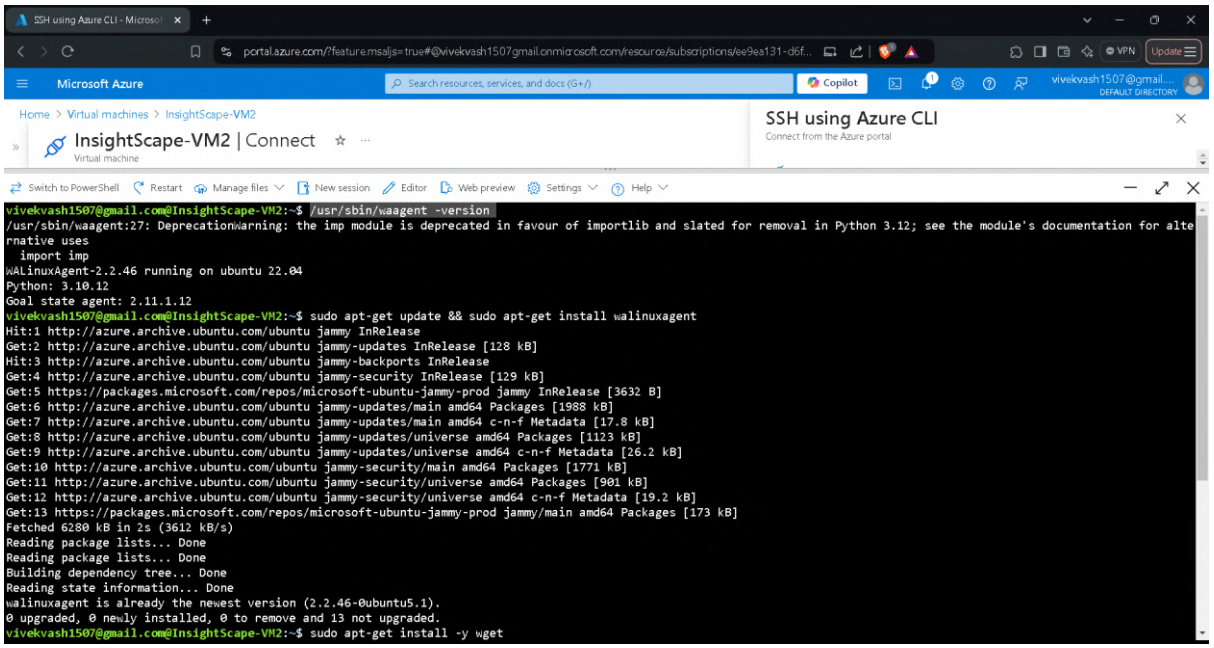

InsightScape-VM1 - Microsoft...
portal.azure.com/?feature.msaljs=true#@vivekvash1507gmail.onmicrosoft.com/resource/subscriptions/ee9ea131-d6f...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
Home > Virtual machines > InsightScape-VM1
InsightScape-VM1 | Extensions + applications
Virtual machine
What extensions can help me keep my virtual machine secure?
What is the difference between VM applications and extensions?
What are the types of VM extensions available?
Network manager
Settings
Disks
Extensions + applications
Operating system
Configuration
Advisor recommendations
Properties
Locks
Availability + scale
Security
Backup + disaster recovery
Operations
Monitoring
Insights
Alerts
Extensions
VM Applications
Add
Refresh
Feedback
Search to filter items...
Showing all 2 items
Name
Type
Version
Status
Automatic upgrade status
AzureMonitorWindowsAgent
Microsoft.Azure.Monitor...
1.*
Provisioning succeeded
Disabled
AzureNetworkWatcherExtension
Microsoft.Azure.Network...
1.*
Provisioning succeeded
Disabled

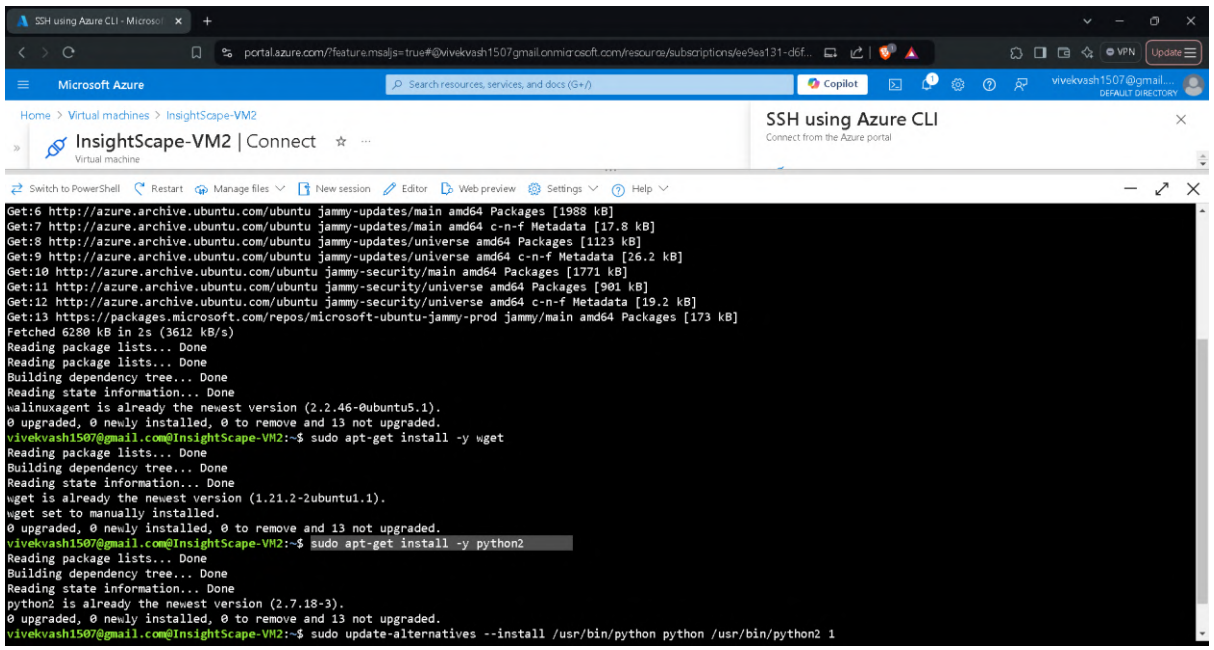

Install an Extension - Microsoft...
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_CreateUIDef/GalleryViewBlade/galleryViewInputs~/%7B...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
Home > Virtual machines > InsightScape-VM1 | Extensions + applications >
Install an Extension
Azure Performance Diagnostics
Azure Performance Diagnostics
Microsoft Corp.
Azure Performance Diagnostics extension helps monitor and troubleshoot various performance issues on the VM
Load more
Azure Performance Diagnostics
Publisher: Microsoft Corp.
Overview
This VM extension runs PerfInsights script that collects useful diagnostics information for troubleshooting IaaS performance issues on this Azure VM. We recommend that you work with your CSS contact to select the right performance scenario to help troubleshoot the performance issue you are having.
Based on the performance scenario, you might end up running one or more components mentioned below:
Performance diagnostic traces for CPU, Disk and memory operations
PerfMon for performance counters
XPerf for advanced storage performance analysis
Netmon traces for advanced network analysis: Network Monitor traces help detect problems on the network. Trace data contains network traffic information at the frame level and hence all non-encrypted data is visible in a trace.
This script will create a zip file that includes the collected log files and findings that will be uploaded to Microsoft support automatically or by you directly. Additionally, this data is uploaded to the specified storage account, shared using SAS (Shared Access Signatures) and available for download for 30 days. This data will be stored by Microsoft for a maximum of 90 days after your issue is resolved and will be used and retained consistent with the standards set forth at the Microsoft Trust Center.
Legal Terms: By clicking the create button I acknowledge that I have read and agree to the PerfInsights EULA.docx available inside PerfInsights download file and to share diagnostics information.
Please provide your comment or feedback at Azure Feedback
Next
Next


Configure Azure Performance
insightscapeblob - Microsoft Azure
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_CreateUIDef/FormBlade/_provisioningContext~/%...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY (VIVEKVA...
Home > Virtual machines > InsightScape-VM1 | Extensions + applications > Install an Extension >
Configure Azure Performance Diagnostics Extension
Create
Review + create
Storage Account Name *
insightscapeblob
Storage Account Key *
Performance Scenario *
Collect basic configuration
Service Request Number
Previous
Next
Review + create
Give feedback


InsightScape-VM1/AzurePerfor
Monitor - Microsoft Azure
portal.azure.com/?feature.msaljs=true#@vivekvash1507gmail.onmicrosoft.com/resource/subscriptions/ee9ea13...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY (VIVEKVA...
Home > microsoft.AzurePerformanceDiagnostics-20240908235310 | Overview >
InsightScape-VM1/AzurePerformanceDiagnostics
microsoft.compute/virtualmachines/extensions
Search
Refresh
Delete
Open in mobile
Overview
Activity log
Access control (IAM)
Settings
Automation
Help
Essentials
JSON View
Resource group (move) : INSIGHTSCAPE-RG
Subscription (move) : Azure subscription 1
Subscription ID : ee9ea131-d6f1-4e0b-baee-b293615685ae
Tags (edit) : Add tags
Resource id : /subscriptions/ee9ea131-d6f1-4e0b-baee-b293615685ae/resourceGroups/INSIGH...
Type : Microsoft.Compute/virtualMachines/extensions
Properties
Recommendations
Properties
Force update tag
Publisher
Microsoft.Azure.Performance.Diagnostics
Type
AzurePerformanceDiagnostics
Type handler version
1.0
Auto upgrade minor version
true
Enable automatic upgrade
Settings
View value as JSON
Protected settings
Provisioning state
Succeeded
Suppress failures
Protected settings from key vault
Secret URL
Source vault


InsightScape-VM1 - Microsoft
Monitor - Microsoft Azure
portal.azure.com/?feature.msaljs=true#@vivekvash1507gmail.onmicrosoft.com/resource/subscriptions/ee9ea13...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY (VIVEKVA...
Dashboard > InsightScape-VM1
InsightScape-VM1 | Diagnostic settings
Virtual machine
Successfully installed diagnostic settings extension
Successfully installed diagnostic settings extension for InsightScape-VM1.
Search
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Connect
Connect
Bastion
Windows Admin Center
Networking
Network settings
Load balancing
Application security groups
Network manager
Settings
Disks
Extensions + applications
Agent
Performance Counters
Logs
Event Tracing
Crash Dumps
Sinks
Windows Virtual Machine Diagnostics Extension
Azure Diagnostics extension is an agent in Azure Monitor that collects monitoring data from the guest operating system of Azure compute resources including virtual machines. Data is always collected into an Azure Storage Account, however you may configure one or more data sinks to send data to other destinations. Learn more about the Windows Diagnostics Agent.
Azure Diagnostics Agent Settings
Configure the settings for the diagnostics agent itself. Learn more
Storage account
insightscapeblob
Disk quota (MB): *
5120
Collect Infrastructure Logs
Log level:
Error
Apply
Discard changes
Give feedback


SSH using Azure CLI - Microsoft Azure
Microsoft Azure
Home > Virtual machines > InsightScape-VM2
InsightScape-VM2 | Connect
Virtual machine
SSH using Azure CLI
Connect from the Azure portal
Switch to PowerShell
Restart
Manage files
New session
Editor
Web preview
Settings
Help
vivekvash1507@gmail.com@InsightScape-VM2:~$ /usr/sbin/waagent -version
/usr/sbin/waagent:27: DeprecationWarning: the imp module is deprecated in favour of importlib and slated for removal in Python 3.12; see the module's documentation for alte
rnative uses
import imp
WALinuxAgent-2.2.46 running on ubuntu 22.04
Python: 3.10.12
Goal state agent: 2.11.1.12
vivekvash1507@gmail.com@InsightScape-VM2:~$ sudo apt-get update && sudo apt-get install walinuxagent
Hit:1 http://azure.archive.ubuntu.com/ubuntu jammy InRelease
Get:2 http://azure.archive.ubuntu.com/ubuntu jammy-updates InRelease [128 kB]
Hit:3 http://azure.archive.ubuntu.com/ubuntu jammy-backports InRelease
Get:4 http://azure.archive.ubuntu.com/ubuntu jammy-security InRelease [129 kB]
Get:5 https://packages.microsoft.com/repos/microsoft-ubuntu-jammy-prod jammy InRelease [3632 B]
Get:6 http://azure.archive.ubuntu.com/ubuntu jammy-updates/main amd64 Packages [1988 kB]
Get:7 http://azure.archive.ubuntu.com/ubuntu jammy-updates/main amd64 c-n-f Metadata [17.8 kB]
Get:8 http://azure.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 Packages [1123 kB]
Get:9 http://azure.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 c-n-f Metadata [26.2 kB]
Get:10 http://azure.archive.ubuntu.com/ubuntu jammy-security/main amd64 Packages [1771 kB]
Get:11 http://azure.archive.ubuntu.com/ubuntu jammy-security/universe amd64 Packages [901 kB]
Get:12 http://azure.archive.ubuntu.com/ubuntu jammy-security/universe amd64 c-n-f Metadata [19.2 kB]
Get:13 https://packages.microsoft.com/repos/microsoft-ubuntu-jammy-prod jammy/main amd64 Packages [173 kB]
Fetched 6280 kB in 2s (3612 kB/s)
Reading package lists... Done
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
walinuxagent is already the newest version (2.2.46-0ubuntu5.1).
0 upgraded, 0 newly installed, 0 to remove and 13 not upgraded.
vivekvash1507@gmail.com@InsightScape-VM2:~$ sudo apt-get install -y wget


SSH using Azure CLI - Microsoft Azure
Microsoft Azure
Home > Virtual machines > InsightScape-VM2
InsightScape-VM2 | Connect
Virtual machine
SSH using Azure CLI
Connect from the Azure portal
Switch to PowerShell
Restart
Manage files
New session
Editor
Web preview
Settings
Help
Get:6 http://azure.archive.ubuntu.com/ubuntu jammy-updates/main amd64 Packages [1988 kB]
Get:7 http://azure.archive.ubuntu.com/ubuntu jammy-updates/main amd64 c-n-f Metadata [17.8 kB]
Get:8 http://azure.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 Packages [1123 kB]
Get:9 http://azure.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 c-n-f Metadata [26.2 kB]
Get:10 http://azure.archive.ubuntu.com/ubuntu jammy-security/main amd64 Packages [1771 kB]
Get:11 http://azure.archive.ubuntu.com/ubuntu jammy-security/universe amd64 Packages [901 kB]
Get:12 http://azure.archive.ubuntu.com/ubuntu jammy-security/universe amd64 c-n-f Metadata [19.2 kB]
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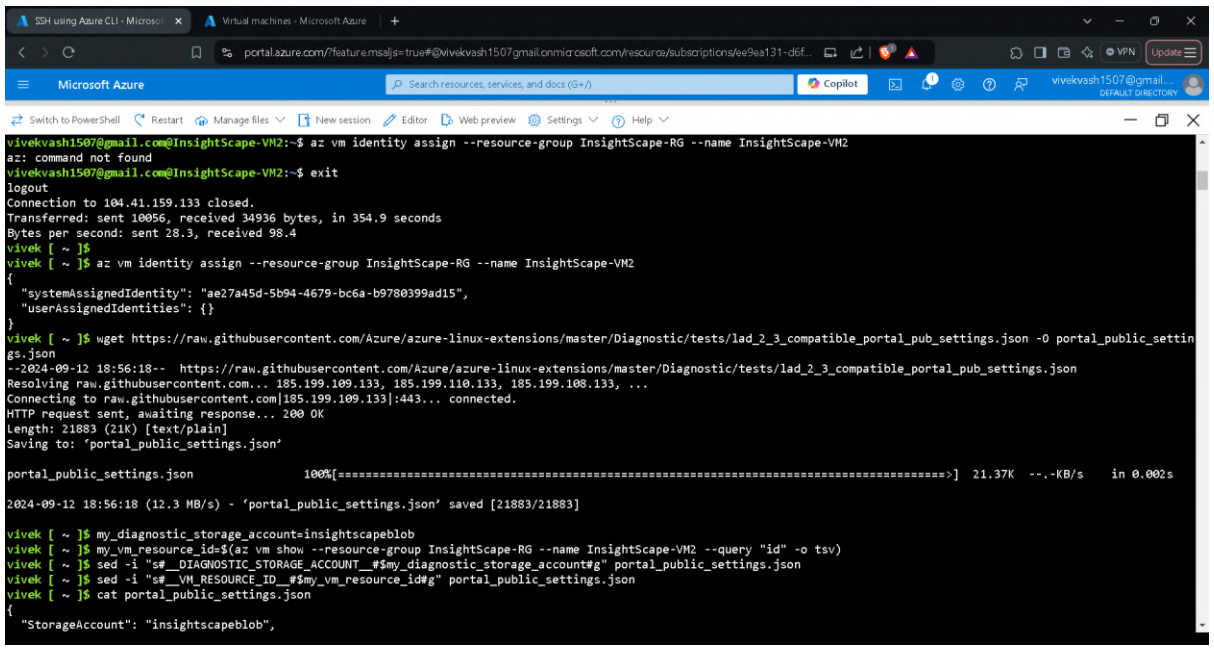
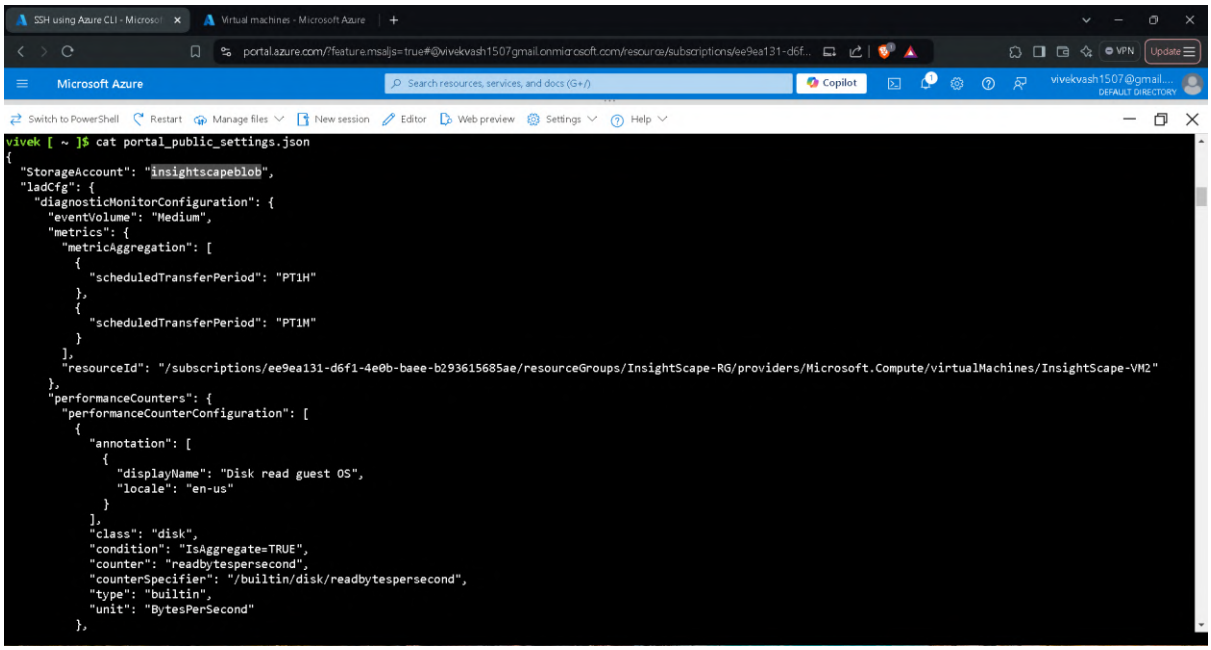
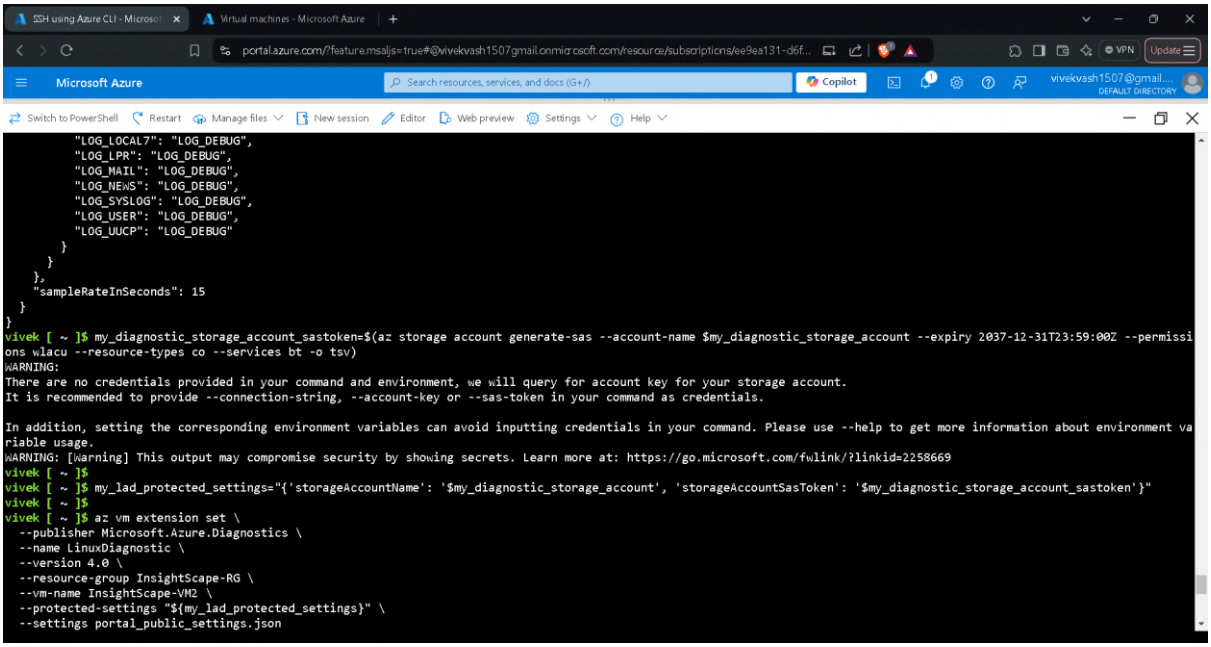
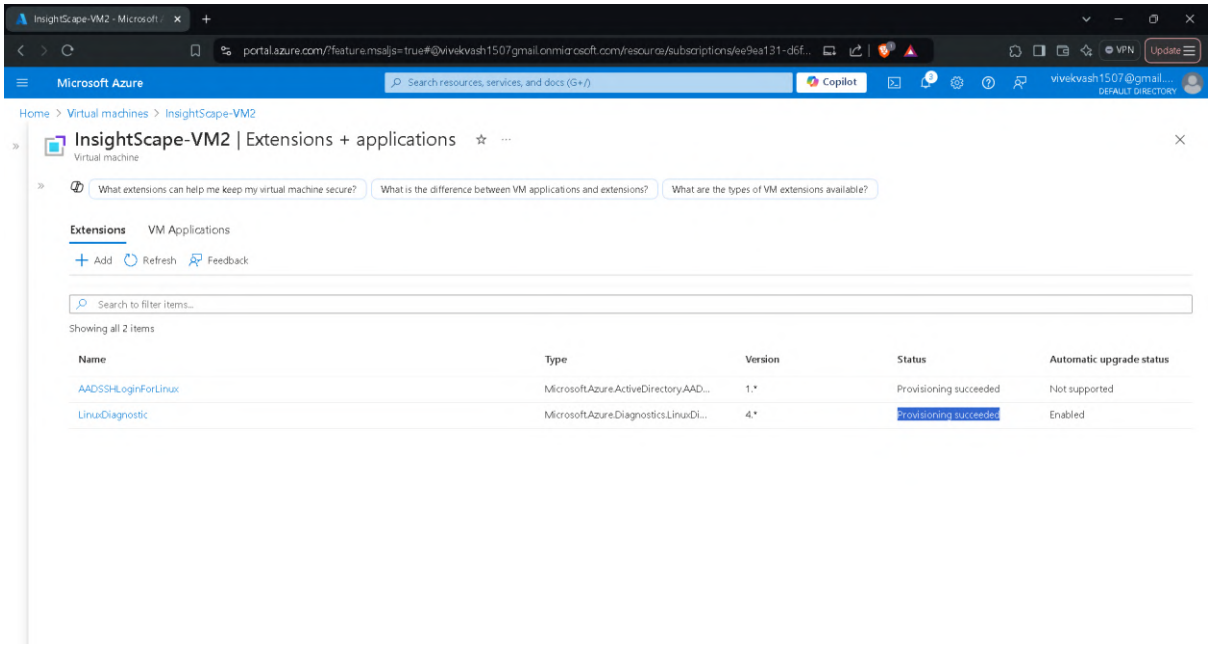
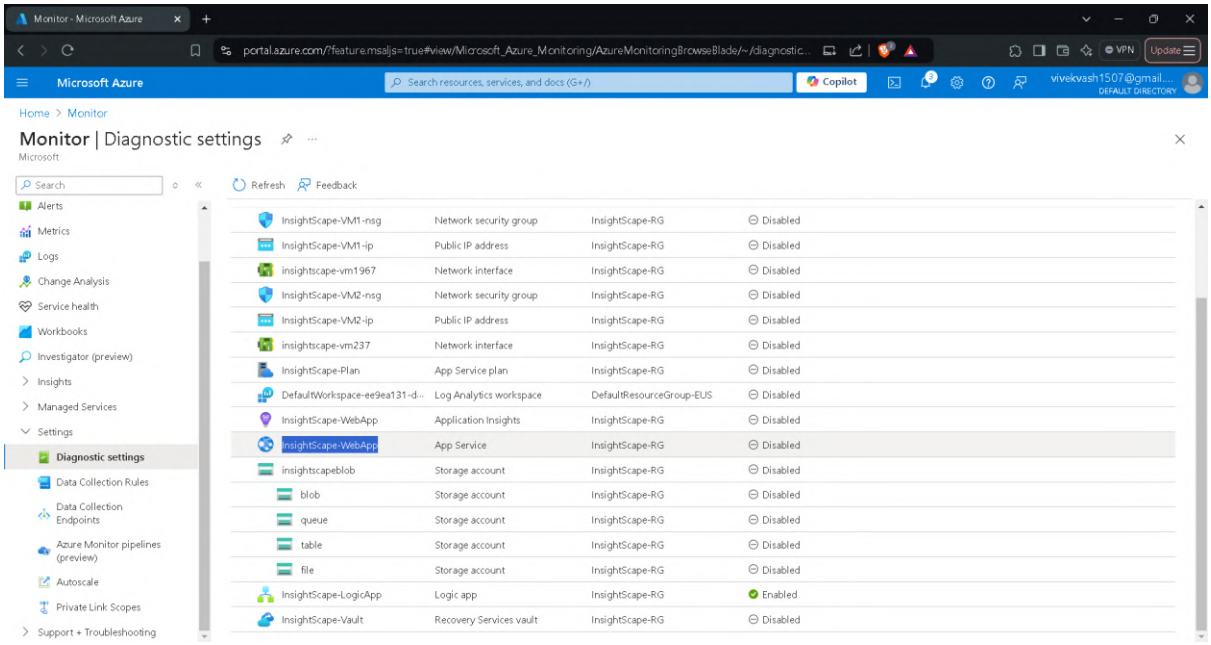
Reading package lists... Done
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
walinuxagent is already the newest version (2.2.46-0ubuntu5.1).
0 upgraded, 0 newly installed, 0 to remove and 13 not upgraded.
vivekvash1507@gmail.com@InsightScape-VM2:~$ sudo apt-get install -y wget
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
wget is already the newest version (1.21.2-2ubuntu1.1).
wget set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 13 not upgraded.
vivekvash1507@gmail.com@InsightScape-VM2:~$ sudo apt-get install -y python2
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
python2 is already the newest version (2.7.18-3).
0 upgraded, 0 newly installed, 0 to remove and 13 not upgraded.
vivekvash1507@gmail.com@InsightScape-VM2:~$ sudo update-alternatives --install /usr/bin/python python /usr/bin/python2 1

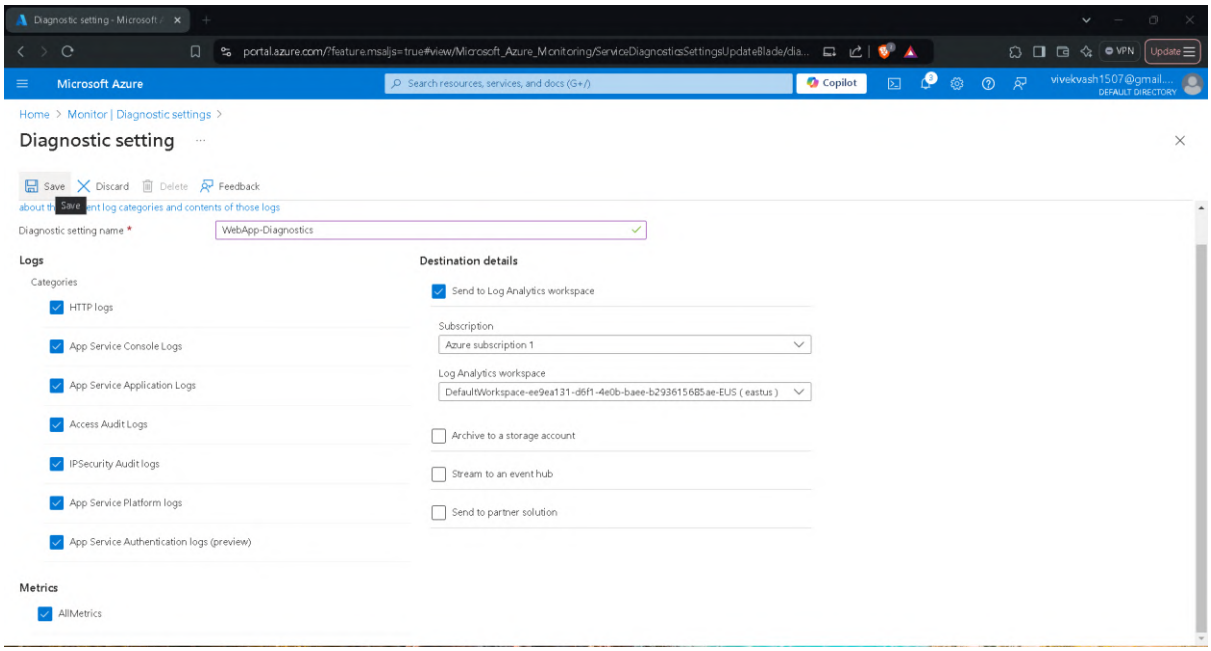

SSH using Azure CLI - Microsoft Azure
Virtual machines - Microsoft Azure
Microsoft Azure
Switch to PowerShell
Restart
Manage files
New session
Editor
Web preview
Settings
Help
vivekvash1507@gmail.com@InsightScape-VM2:~$ az vm identity assign --resource-group InsightScape-RG --name InsightScape-VM2
az: command not found
vivekvash1507@gmail.com@InsightScape-VM2:~$ exit
logout
Connection to 104.41.159.133 closed.
Transferred: sent 10056, received 34936 bytes, in 354.9 seconds
Bytes per second: sent 28.3, received 98.4
vivek [~]$
vivek [~]$ az vm identity assign --resource-group InsightScape-RG --name InsightScape-VM2
{
"systemAssignedIdentity": "ae27a45d-5b94-4679-bc6a-b9780399ad15",
"userAssignedIdentities": {}
}
vivek [~]$ wget https://raw.githubusercontent.com/Azure/azure-linux-extensions/master/Diagnostic/tests/lad_2_3_compatible_portal_pub_settings.json -O portal_public_settin
gs.json
--2024-09-12 18:56:18-- https://raw.githubusercontent.com/Azure/azure-linux-extensions/master/Diagnostic/tests/lad_2_3_compatible_portal_pub_settings.json
Resolving raw.githubusercontent.com... 185.199.109.133, 185.199.110.133, 185.199.108.133, ...
Connecting to raw.githubusercontent.com|185.199.109.133|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 21883 (21K) [text/plain]
Saving to: 'portal_public_settings.json'
portal_public_settings.json 100%[==========>] 21.37K --.-KB/s in 0.002s
2024-09-12 18:56:18 (12.3 MB/s) - 'portal_public_settings.json' saved [21883/21883]
vivek [~]$ my_diagnostic_storage_account=insightscapeblob
vivek [~]$ my_vm_resource_id=$(az vm show --resource-group InsightScape-RG --name InsightScape-VM2 --query "id" -o tsv)
vivek [~]$ sed -i "s#__DIAGNOSTIC_STORAGE_ACCOUNT__#$my_diagnostic_storage_account#g" portal_public_settings.json
vivek [~]$ sed -i "s#__VM_RESOURCE_ID__#$my_vm_resource_id#g" portal_public_settings.json
vivek [~]$ cat portal_public_settings.json
{
"StorageAccount": "insightscapeblob",

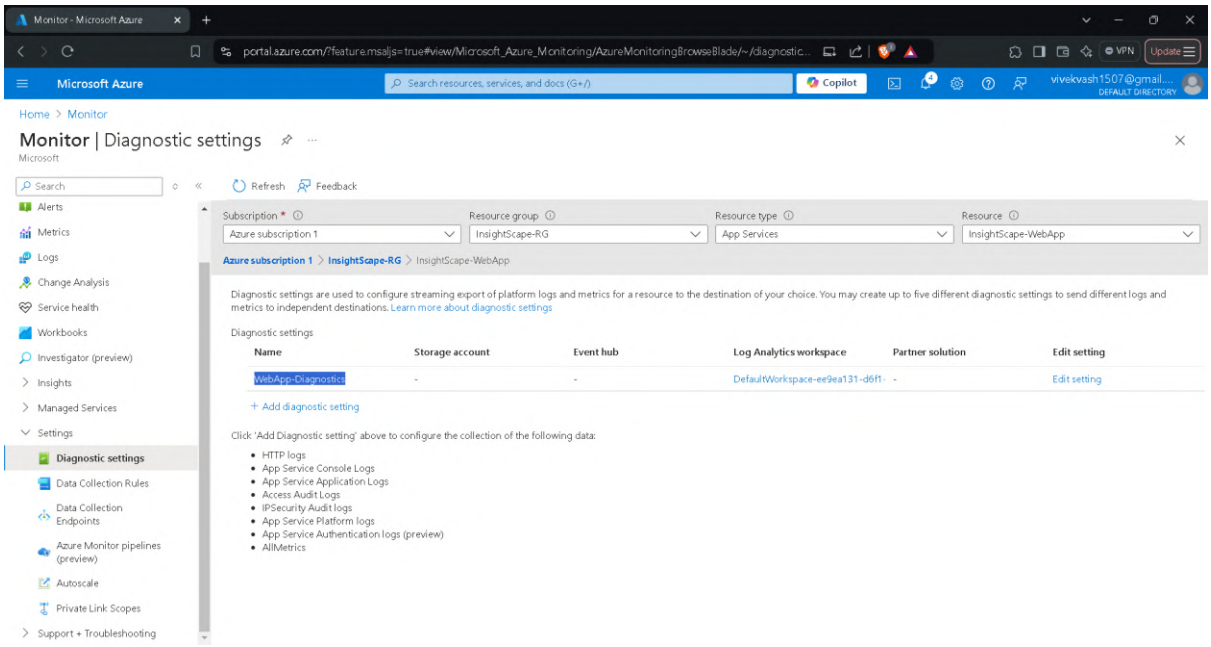

SSH using Azure CLI - Microsof
Virtual machines - Microsoft Azure
portal.azure.com/?feature.msaljs=true#@vivekvash1507gmail.onmicrosoft.com/resource/subscriptions/ee9ea131-d6f...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY
Switch to PowerShell
Restart
Manage files
New session
Editor
Web preview
Settings
Help
vivek [~]$ cat portal_public_settings.json
{
"StorageAccount": "insightscapeblob",
"ladCfg": {
"diagnosticMonitorConfiguration": {
"eventVolume": "Medium",
"metrics": {
"metricAggregation": [
{
"scheduledTransferPeriod": "PT1H"
},
{
"scheduledTransferPeriod": "PT1M"
}
],
"resourceId": "/subscriptions/ee9ea131-d6f1-4e0b-baee-b293615685ae/resourceGroups/InsightScape-RG/providers/Microsoft.Compute/virtualMachines/InsightScape-VM2"
},
"performanceCounters": {
"performanceCounterConfiguration": [
{
"annotation": [
{
"displayName": "Disk read guest OS",
"locale": "en-us"
}
],
"class": "disk",
"condition": "IsAggregate=TRUE",
"counter": "readbytespersecond",
"counterSpecifier": "/builtin/disk/readbytespersecond",
"type": "builtin",
"unit": "BytesPerSecond"
},

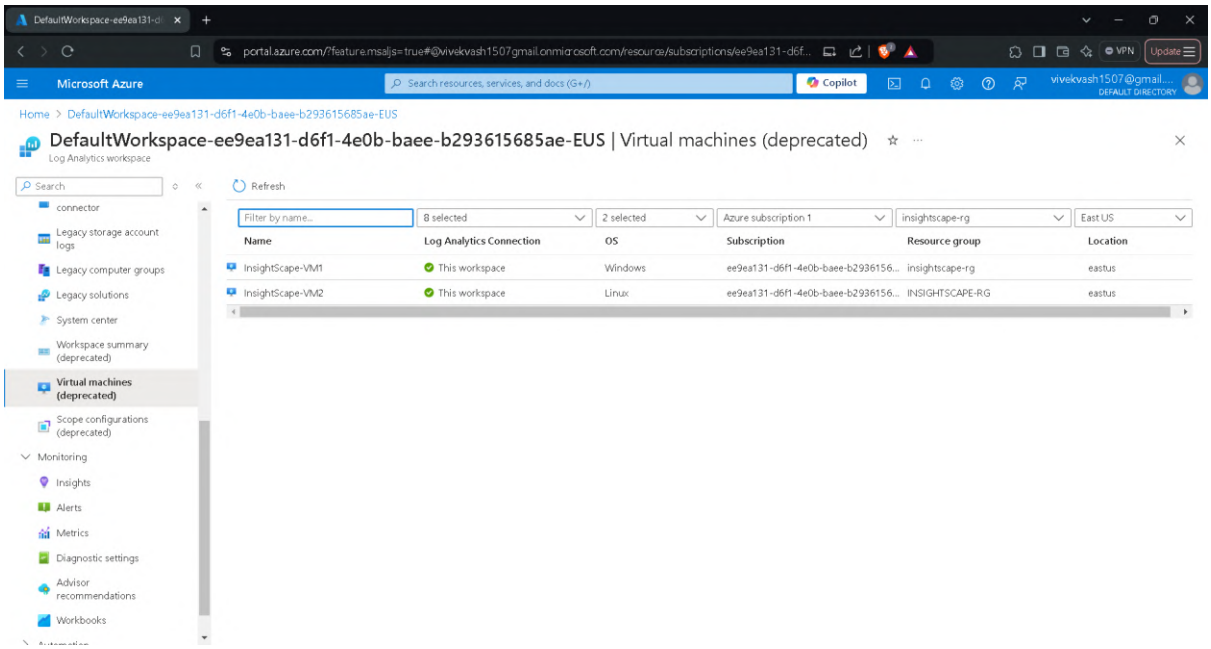

SSH using Azure CLI - Microsof
Virtual machines - Microsoft Azure
portal.azure.com/?feature.msaljs=true#@vivekvash1507gmail.onmicrosoft.com/resource/subscriptions/ee9ea131-d6f...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY
Switch to PowerShell
Restart
Manage files
New session
Editor
Web preview
Settings
Help
"LOG_LOCAL7": "LOG_DEBUG",
"LOG_LPR": "LOG_DEBUG",
"LOG_MAIL": "LOG_DEBUG",
"LOG_NEWS": "LOG_DEBUG",
"LOG_SYSLOG": "LOG_DEBUG",
"LOG_USER": "LOG_DEBUG",
"LOG_UUCP": "LOG_DEBUG"
}
}
},
"sampleRateInSeconds": 15
}
}
vivek [~]$ my_diagnostic_storage_account_sastoken=$(az storage account generate-sas --account-name $my_diagnostic_storage_account --expiry 2037-12-31T23:59:00Z --permissi
ons wlacu --resource-types co --services bt -o tsv)
WARNING:
There are no credentials provided in your command and environment, we will query for account key for your storage account.
It is recommended to provide --connection-string, --account-key or --sas-token in your command as credentials.
In addition, setting the corresponding environment variables can avoid inputting credentials in your command. Please use --help to get more information about environment va
riable usage.
WARNING: [Warning] This output may compromise security by showing secrets. Learn more at: https://go.microsoft.com/fwlink/?linkid=2258669
vivek [~]$
vivek [~]$ my_lad_protected_settings="{'storageAccountName': '$my_diagnostic_storage_account', 'storageAccountSasToken': '$my_diagnostic_storage_account_sastoken'}"
vivek [~]$
vivek [~]$ az vm extension set \
--publisher Microsoft.Azure.Diagnostics \
--name LinuxDiagnostic \
--version 4.0 \
--resource-group InsightScape-RG \
--vm-name InsightScape-VM2 \
--protected-settings "${my_lad_protected_settings}" \
--settings portal_public_settings.json

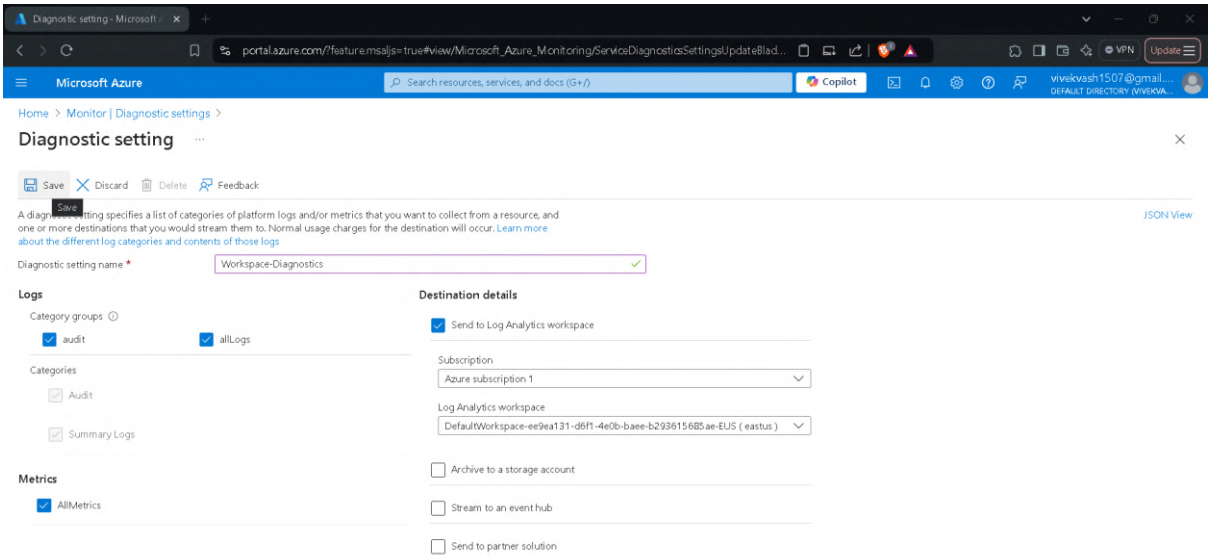

InsightScape-VM2 - Microsoft
portal.azure.com/?feature.msaljs=true#@vivekvash1507gmail.onmicrosoft.com/resource/subscriptions/ee9ea131-d6f...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY
Home > Virtual machines > InsightScape-VM2
InsightScape-VM2 | Extensions + applications
Virtual machine
What extensions can help me keep my virtual machine secure?
What is the difference between VM applications and extensions?
What are the types of VM extensions available?
Extensions
VM Applications
Add
Refresh
Feedback
Search to filter items...
Showing all 2 items
Name
Type
Version
Status
Automatic upgrade status
AADSSHLoginForLinux
Microsoft.Azure.ActiveDirectory.AAD...
1.*
Provisioning succeeded
Not supported
LinuxDiagnostic
Microsoft.Azure.Diagnostics.LinuxDi...
4.*
Provisioning succeeded
Enabled

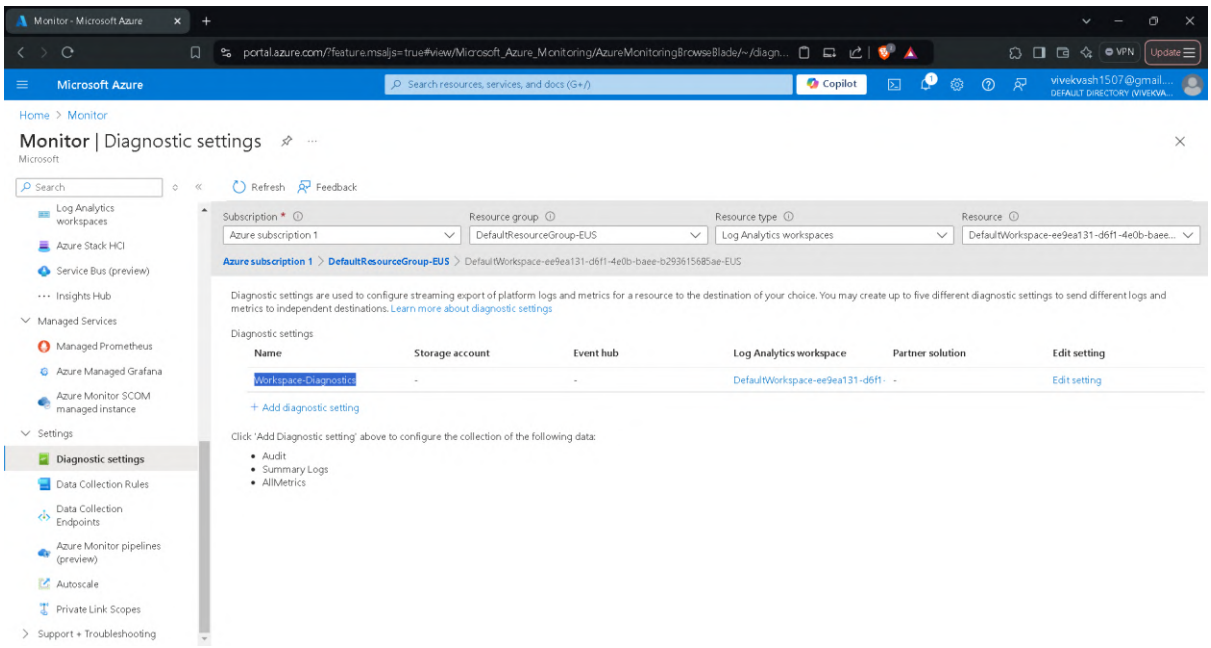

Monitor - Microsoft Azure
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Monitoring/AzureMonitoringBrowseBlade/~/diagnostic...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY
Home > Monitor
Monitor | Diagnostic settings
Microsoft
Search
Refresh
Feedback
Alerts
Metrics
Logs
Change Analysis
Service health
Workbooks
Investigator (preview)
Insights
Managed Services
Settings
Diagnostic settings
Data Collection Rules
Data Collection Endpoints
Azure Monitor pipelines (preview)
Autoscale
Private Link Scopes
Support + Troubleshooting
InsightScape-VM1-nsg Network security group InsightScape-RG Disabled
InsightScape-VM1-ip Public IP address InsightScape-RG Disabled
insightscape-vm1967 Network interface InsightScape-RG Disabled
InsightScape-VM2-nsg Network security group InsightScape-RG Disabled
InsightScape-VM2-ip Public IP address InsightScape-RG Disabled
insightscape-vm237 Network interface InsightScape-RG Disabled
InsightScape-Plan App Service plan InsightScape-RG Disabled
DefaultWorkspace-ee9ea131-d... Log Analytics workspace DefaultResourceGroup-EUS Disabled
InsightScape-WebApp Application Insights InsightScape-RG Disabled
InsightScape-WebApp App Service InsightScape-RG Disabled
insightscapeblob Storage account InsightScape-RG Disabled
blob Storage account InsightScape-RG Disabled
queue Storage account InsightScape-RG Disabled
table Storage account InsightScape-RG Disabled
file Storage account InsightScape-RG Disabled
InsightScape-LogicApp Logic app InsightScape-RG Enabled
InsightScape-Vault Recovery Services vault InsightScape-RG Disabled


Diagnostic setting - Microsoft...
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Monitoring/ServiceDiagnosticsSettingsUpdateBlade/dia...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY
Home > Monitor | Diagnostic settings >
Diagnostic setting
Save
Discard
Delete
Feedback
Diagnostic setting name *
WebApp-Diagnostics
Logs
Categories
HTTP logs
App Service Console Logs
App Service Application Logs
Access Audit Logs
IPSecurity Audit logs
App Service Platform logs
App Service Authentication logs (preview)
Metrics
AllMetrics
Destination details
Send to Log Analytics workspace
Subscription
Azure subscription 1
Log Analytics workspace
DefaultWorkspace-ee9ea131-d6f1-4e0b-baee-b293615685ae-EUS (eastus)
Archive to a storage account
Stream to an event hub
Send to partner solution


Monitor - Microsoft Azure
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Monitoring/AzureMonitoringBrowseBlade/~/diagnostic...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY
Home > Monitor
Monitor | Diagnostic settings
Microsoft
Search
Refresh
Feedback
Alerts
Metrics
Logs
Change Analysis
Service health
Workbooks
Investigator (preview)
Insights
Managed Services
Settings
Diagnostic settings
Data Collection Rules
Data Collection Endpoints
Azure Monitor pipelines (preview)
Autoscale
Private Link Scopes
Support + Troubleshooting
Subscription *
Azure subscription 1
Resource group
InsightScape-RG
Resource type
App Services
Resource
InsightScape-WebApp
Azure subscription 1 > InsightScape-RG > InsightScape-WebApp
Diagnostic settings are used to configure streaming export of platform logs and metrics for a resource to the destination of your choice. You may create up to five different diagnostic settings to send different logs and metrics to independent destinations. Learn more about diagnostic settings
Diagnostic settings
Name
Storage account
Event hub
Log Analytics workspace
Partner solution
Edit setting
WebApp-Diagnostics
DefaultWorkspace-ee9ea131-d6f1-
Edit setting
+ Add diagnostic setting
Click 'Add Diagnostic setting' above to configure the collection of the following data:
HTTP logs
App Service Console Logs
App Service Application Logs
Access Audit Logs
IPSecurity Audit logs
App Service Platform logs
App Service Authentication logs (preview)
AllMetrics


DefaultWorkspace-ee9ea131-d6f1-4e0b-baee-b293615685ae-EUS | Virtual machines (deprecated)
Log Analytics workspace
Refresh
Name
Log Analytics Connection
OS
Subscription
Resource group
Location
InsightScape-VM1
This workspace
Windows
ee9ea131-d6f1-4e0b-baee-b2936156...
insightscape-rg
eastus
InsightScape-VM2
This workspace
Linux
ee9ea131-d6f1-4e0b-baee-b2936156...
INSIGHTSCAPE-RG
eastus
Virtual machines (deprecated)
Monitoring
Insights
Alerts
Metrics
Diagnostic settings
Workbooks


Diagnostic setting
Save
Discard
Delete
Feedback
JSON View
Diagnostic setting name *
Workspace-Diagnostics
Logs
Category groups
audit
allLogs
Categories
Audit
Summary Logs
Metrics
AllMetrics
Destination details
Send to Log Analytics workspace
Subscription
Azure subscription 1
Log Analytics workspace
DefaultWorkspace-ee9ea131-d6f1-4e0b-baee-b293615685ae-EUS (eastus)
Archive to a storage account
Stream to an event hub
Send to partner solution


Monitor | Diagnostic settings
Microsoft
Refresh
Feedback
Subscription *
Resource group
Resource type
Resource
Azure subscription 1
DefaultResourceGroup-EUS
Log Analytics workspaces
Diagnostic settings are used to configure streaming export of platform logs and metrics for a resource to the destination of your choice. You may create up to five different diagnostic settings to send different logs and metrics to independent destinations. Learn more about diagnostic settings
Diagnostic settings
Name
Storage account
Event hub
Log Analytics workspace
Partner solution
Edit setting
Workspace-Diagnostics
DefaultWorkspace-ee9ea131-d6f1-
Edit setting
Add diagnostic setting
Click 'Add Diagnostic setting' above to configure the collection of the following data:
Audit
Summary Logs
AllMetrics
Diagnostic settings

3) Monitor Resource Health

In this phase, my purpose and plan were to monitor the Resource Health of each of the main resources I had deployed: Virtual Machines, WebApp, and Logic App.

Virtual Machines Health Monitoring:

- I went to Resource Health under Service Health in Azure Monitor.
- I selected Virtual Machine as the resource type. After doing this, both InsightScape-VM1 and InsightScape-VM2 were listed.
- For the sake of this project, I clicked on InsightScape-VM1 to monitor the health of the VM.

WebApp Health Monitoring:

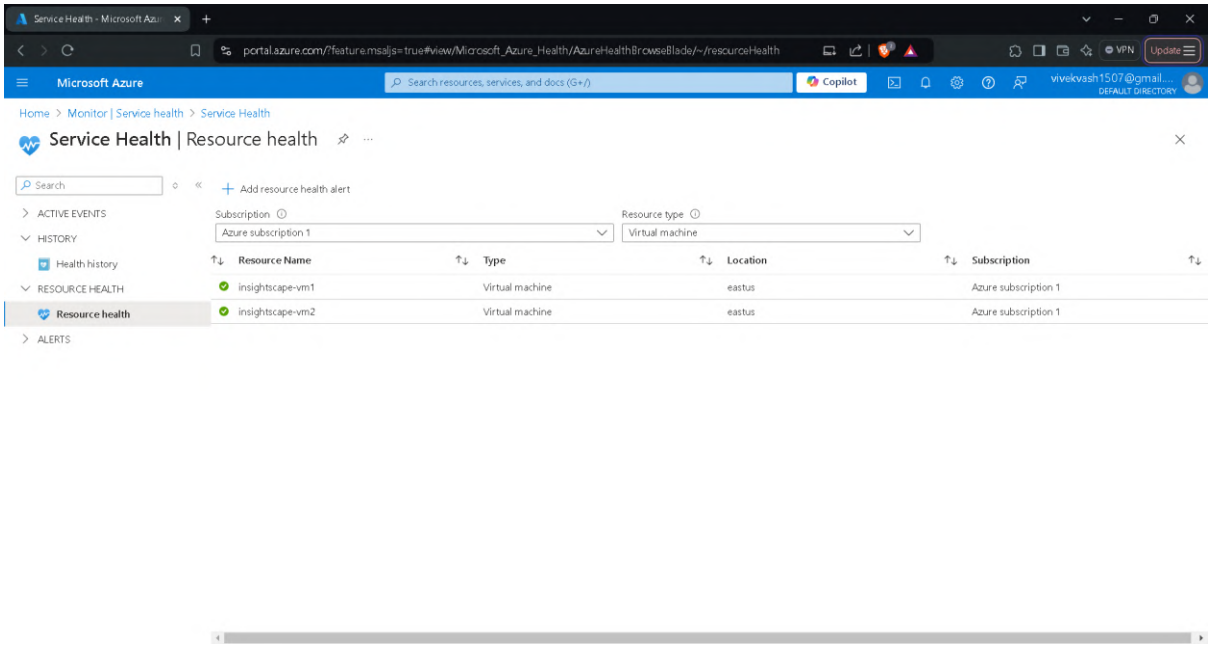
- Next, I monitored the WebApp by selecting Website as the resource type in the Resource Health tab.
- InsightScape-WebApp was listed, and I clicked on it. Upon inspecting the health, I noticed a Critical Risk alert for Health Check Failure.
- To fix this, I configured and enabled the health check, which resolved the alert. This process demonstrated that I was capable of using the Resource Health Service for the WebApp, even though I did not address all alerts as I needed to proceed with the project.

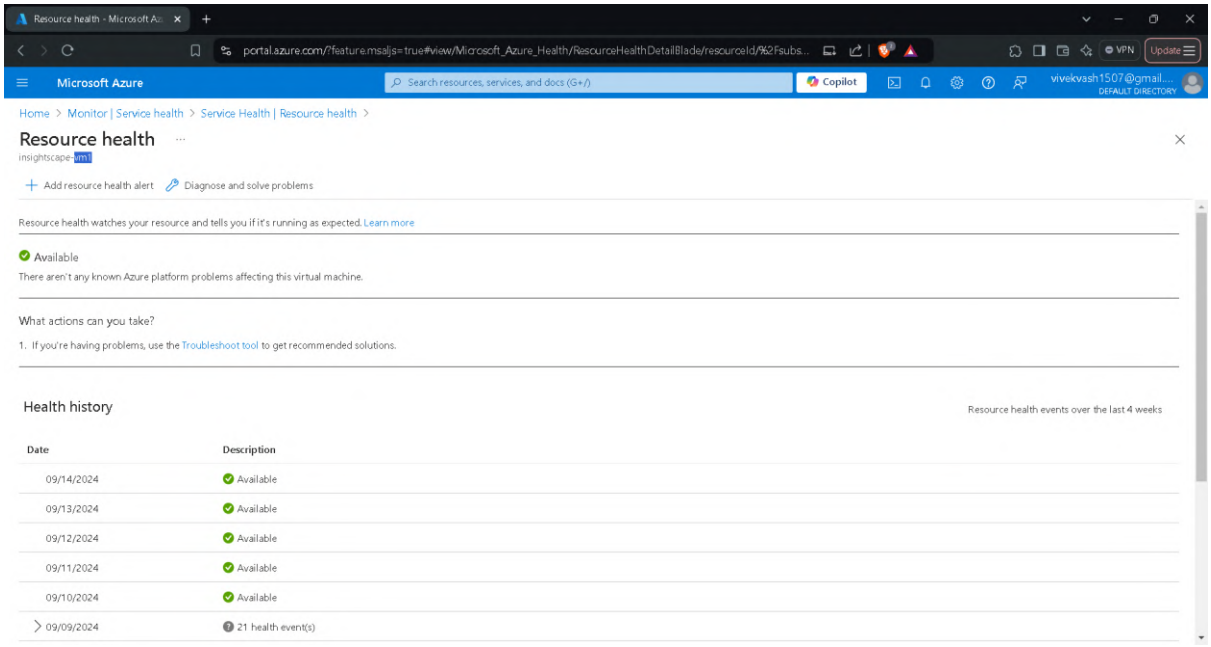
Logic App Health Monitoring:

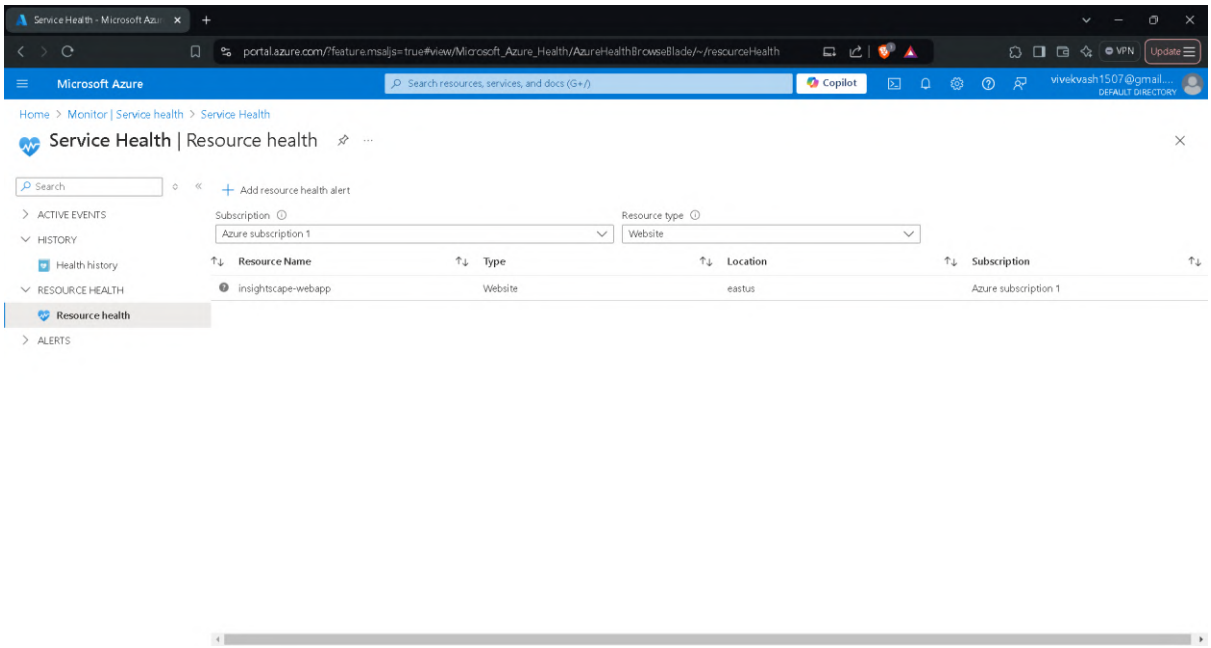
- For InsightScape-LogicApp, I used two methods to monitor health:
    1. Run History Tab: I navigated to the Run History tab under Development Tools in InsightScape-LogicApp. As I had already verified in the initial phases of the project, there were two successful runs.
    2. Metrics Tab: Then, I went to the Metrics tab under the Monitoring section of InsightScape-LogicApp. I selected Actions Failed as the metric and Count as the aggregation. The graph showed 0 in the metrics chart, indicating that no actions had failed.

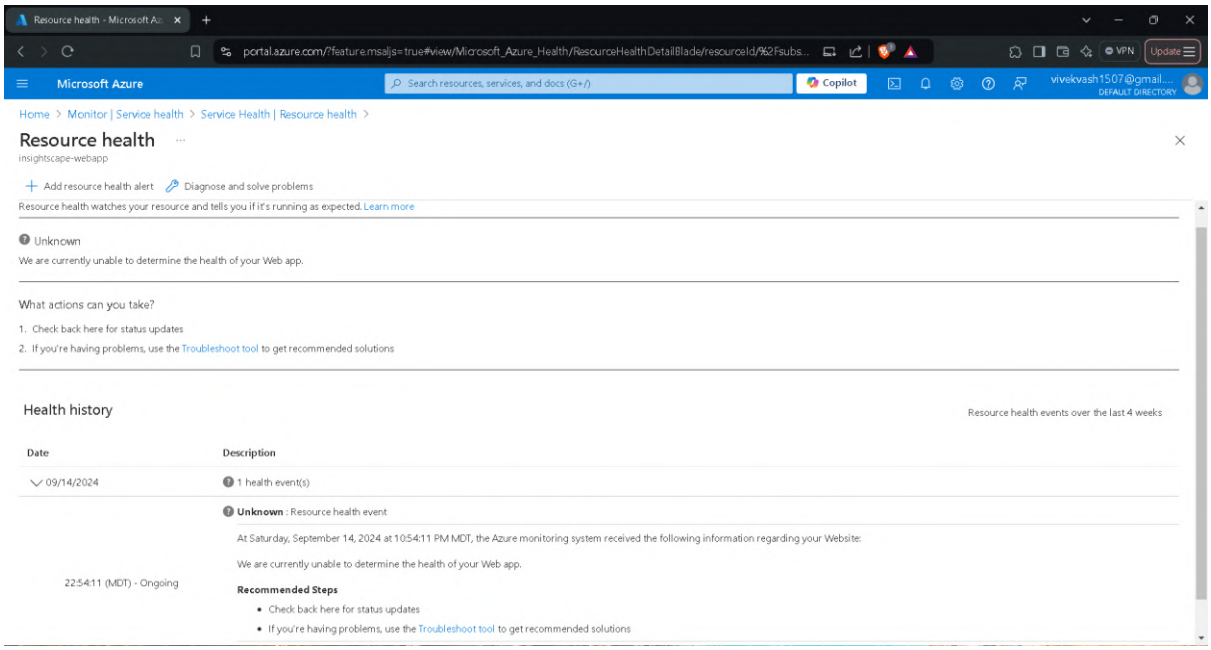
With this, the entire Step 2: Azure Monitor Integration phase was successfully and thoroughly completed.

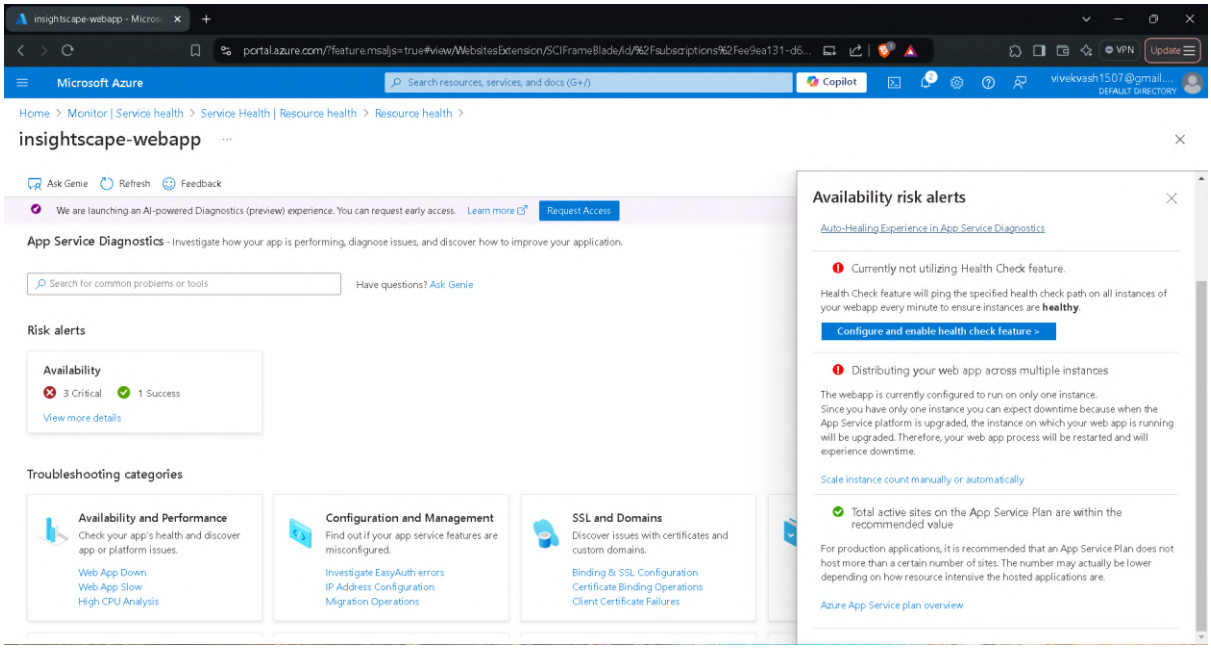
Screenshots

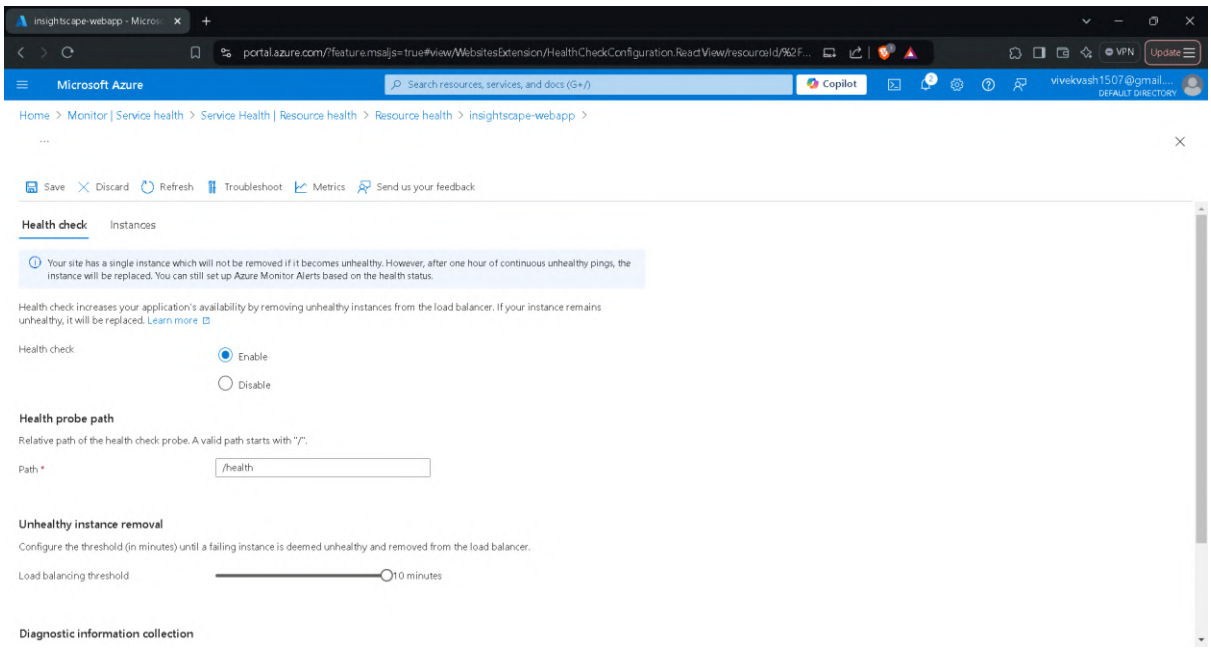


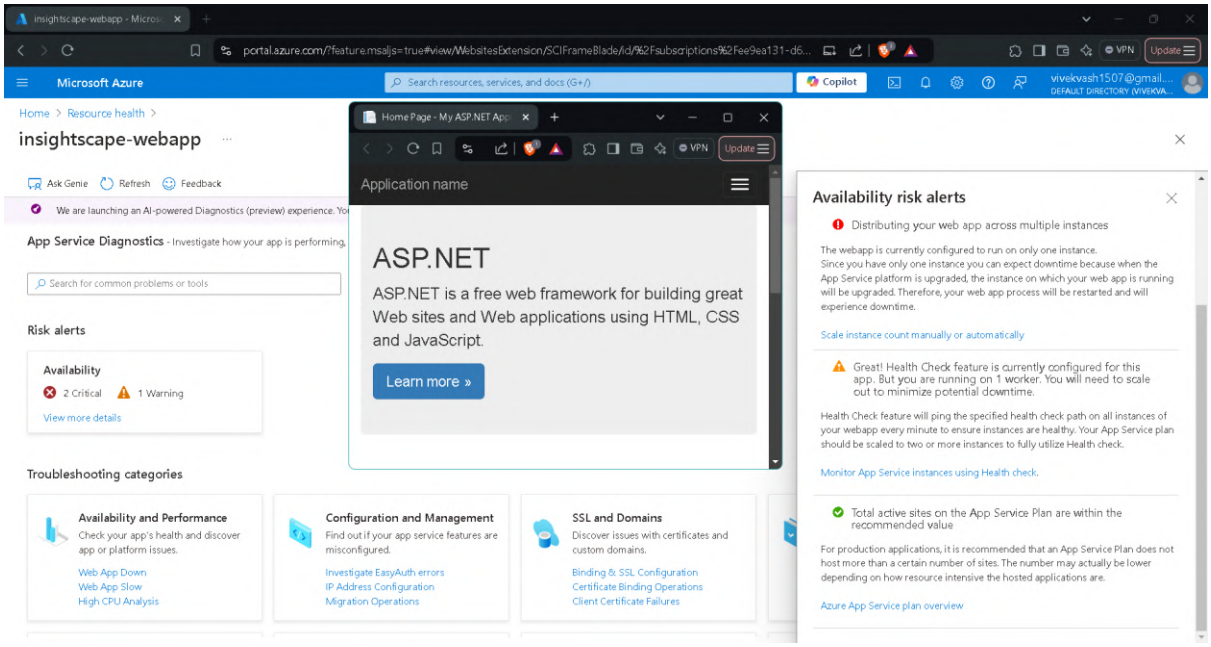


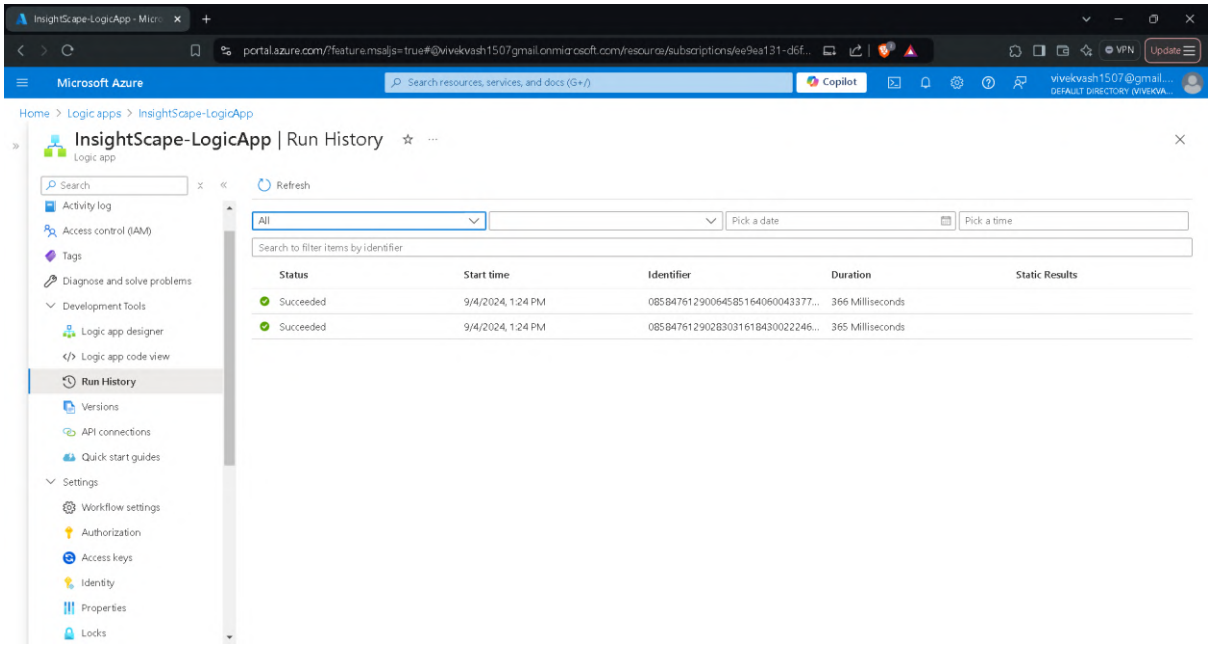


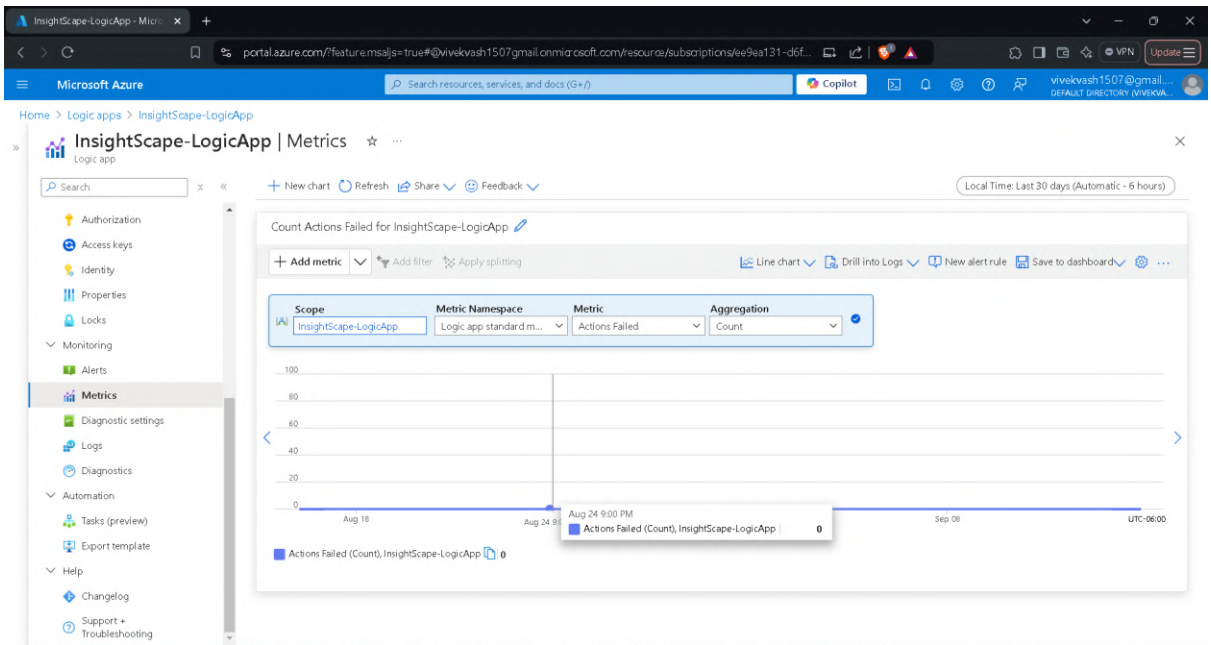

Resource health - Microsoft Az
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Health/ResourceHealthDetailBlade/resourceId/%2Fsubs...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY
Home > Monitor | Service health > Service Health | Resource health >
Resource health
insightscape-webapp
Add resource health alert
Diagnose and solve problems
Resource health watches your resource and tells you if it's running as expected. Learn more
Unknown
We are currently unable to determine the health of your Web app.
What actions can you take?
1. Check back here for status updates
2. If you're having problems, use the Troubleshoot tool to get recommended solutions
Health history
Resource health events over the last 4 weeks
Date
Description
09/14/2024
1 health event(s)
Unknown : Resource health event
At Saturday, September 14, 2024 at 10:54:11 PM MDT, the Azure monitoring system received the following information regarding your Website:
We are currently unable to determine the health of your Web app.
22:54:11 (MDT) - Ongoing
Recommended Steps
Check back here for status updates
If you're having problems, use the Troubleshoot tool to get recommended solutions


insightscape-webapp - Micros
portal.azure.com/?feature.msaljs=true#view/WebsitesExtension/SCIFrameBlade/id/%2Fsubscriptions%2Fee9ea131-d6...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY
Home > Monitor | Service health > Service Health | Resource health > Resource health >
insightscape-webapp
Ask Genie
Refresh
Feedback
We are launching an AI-powered Diagnostics (preview) experience. You can request early access.
Learn more
Request Access
App Service Diagnostics - Investigate how your app is performing, diagnose issues, and discover how to improve your application.
Search for common problems or tools
Have questions? Ask Genie
Risk alerts
Availability
3 Critical
1 Success
View more details
Troubleshooting categories
Availability and Performance
Check your app's health and discover app or platform issues.
Web App Down
Web App Slow
High CPU Analysis
Configuration and Management
Find out if your app service features are misconfigured.
Investigate EasyAuth errors
IP Address Configuration
Migration Operations
SSL and Domains
Discover issues with certificates and custom domains.
Binding & SSL Configuration
Certificate Binding Operations
Client Certificate Failures
Availability risk alerts
Auto-Healing Experience in App Service Diagnostics
Currently not utilizing Health Check feature.
Health Check feature will ping the specified health check path on all instances of your webapp every minute to ensure instances are healthy.
Configure and enable health check feature >
Distributing your web app across multiple instances
The webapp is currently configured to run on only one instance.
Since you have only one instance you can expect downtime because when the App Service platform is upgraded, the instance on which your web app is running will be upgraded. Therefore, your web app process will be restarted and will experience downtime.
Scale instance count manually or automatically
Total active sites on the App Service Plan are within the recommended value
For production applications, it is recommended that an App Service Plan does not host more than a certain number of sites. The number may actually be lower depending on how resource intensive the hosted applications are.
Azure App Service plan overview


insightscape-webapp - Micros
portal.azure.com/?feature.msaljs=true#view/WebsitesExtension/HealthCheckConfiguration.ReactView/resourceId/%2F...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY
Home > Monitor | Service health > Service Health | Resource health > Resource health > insightscape-webapp >
Save
Discard
Refresh
Troubleshoot
Metrics
Send us your feedback
Health check
Instances
Your site has a single instance which will not be removed if it becomes unhealthy. However, after one hour of continuous unhealthy pings, the instance will be replaced. You can still set up Azure Monitor Alerts based on the health status.
Health check increases your application's availability by removing unhealthy instances from the load balancer. If your instance remains unhealthy, it will be replaced. Learn more
Health check
Enable
Disable
Health probe path
Relative path of the health check probe. A valid path starts with "/".
Path *
/health
Unhealthy instance removal
Configure the threshold (in minutes) until a failing instance is deemed unhealthy and removed from the load balancer.
Load balancing threshold
10 minutes
Diagnostic information collection


Microsoft Azure
Home > Resource health >
insightscape-webapp
Ask Genie
Refresh
Feedback
App Service Diagnostics - Investigate how your app is performing,
Search for common problems or tools
Risk alerts
Availability
2 Critical
1 Warning
View more details
Troubleshooting categories
Availability and Performance
Check your app's health and discover app or platform issues.
Web App Down
Web App Slow
High CPU Analysis
Configuration and Management
Find out if your app service features are misconfigured.
Investigate EasyAuth errors
IP Address Configuration
Migration Operations
SSL and Domains
Discover issues with certificates and custom domains.
Binding & SSL Configuration
Certificate Binding Operations
Client Certificate Failures
Application name
ASP.NET
ASP.NET is a free web framework for building great Web sites and Web applications using HTML, CSS and JavaScript.
Learn more »
Availability risk alerts
Distributing your web app across multiple instances
The webapp is currently configured to run on only one instance.
Since you have only one instance you can expect downtime because when the App Service platform is upgraded, the instance on which your web app is running will be upgraded. Therefore, your web app process will be restarted and will experience downtime.
Scale instance count manually or automatically
Great! Health Check feature is currently configured for this app. But you are running on 1 worker. You will need to scale out to minimize potential downtime.
Health Check feature will ping the specified health check path on all instances of your webapp every minute to ensure instances are healthy. Your App Service plan should be scaled to two or more instances to fully utilize Health check.
Monitor App Service instances using Health check.
Total active sites on the App Service Plan are within the recommended value
For production applications, it is recommended that an App Service Plan does not host more than a certain number of sites. The number may actually be lower depending on how resource intensive the hosted applications are.
Azure App Service plan overview


Microsoft Azure
Home > Logic apps > InsightScape-LogicApp
InsightScape-LogicApp | Run History
Logic app
Refresh
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Development Tools
Logic app designer
Logic app code view
Run History
Versions
API connections
Quick start guides
Settings
Workflow settings
Authorization
Access keys
Identity
Properties
Locks
Pick a date
Pick a time
Search to filter items by identifier
Status
Start time
Identifier
Duration
Static Results
Succeeded
9/4/2024, 1:24 PM
366 Milliseconds
Succeeded
9/4/2024, 1:24 PM
365 Milliseconds


Microsoft Azure
Home > Logic apps > InsightScape-LogicApp
InsightScape-LogicApp | Metrics
Logic app
New chart
Refresh
Share
Feedback
Local Time: Last 30 days (Automatic - 6 hours)
Count Actions Failed for InsightScape-LogicApp
Add metric
Add filter
Apply splitting
Line chart
Drill into Logs
New alert rule
Save to dashboard
Scope
Metric Namespace
Metric
Aggregation
InsightScape-LogicApp
Logic app standard m...
Actions Failed
Count
Authorization
Access keys
Identity
Properties
Locks
Monitoring
Alerts
Metrics
Diagnostic settings
Logs
Diagnostics
Automation
Tasks (preview)
Export template
Help
Changelog
Support + Troubleshooting
Aug 18
Sep 08
UTC-06:00
Actions Failed (Count), InsightScape-LogicApp 0

Log Analytics Workspace

In this phase of the project, my goal was to work with the Log Analytics Workspace and utilize KQL Queries for each of the main resources I have set up (VMs, WebApp, and Logic App).

a) Confirm Resource Linkage to Log Analytics Workspace

To begin with, I needed to confirm the linkage of each resource (VMs, WebApp, and Logic App) to the Log Analytics Workspace. In order to do this for each resource, I went to the Logs tab in Azure Monitor and ran the following KQL Queries:

For VMs:

```
// Availability rate
// Calculate the availability rate of each connected computer.
Heartbeat
// bin_at is used to set the time grain to 1 hour, starting exactly 24
hours ago
| summarize heartbeatPerHour = count() by bin_at(TimeGenerated, 1h,
ago(24h)), Computer
| extend availablePerHour = iff(heartbeatPerHour > 0, true, false)
| summarize totalAvailableHours = countif(availablePerHour == true) by
Computer
| extend availabilityRate = totalAvailableHours * 100.0 / 24
```

For WebApp:

```
// App logs for each App Service
// Breakdown of log levels for each App Service.
// To create an alert for this query, click '+ New alert rule'
AppServiceAppLogs
| project CustomLevel, _ResourceId
| summarize count() by CustomLevel, _ResourceId
```

For Logic App:

```
AzureDiagnostics
| where ResourceProvider == "MICROSOFT.LOGIC"
| where Category == "WorkflowRuntime"
| where status_s == "Failed"
| where OperationName == "workflowActionCompleted" or OperationName ==
"workflowTriggerCompleted"
| extend ResourceName = coalesce(resource_actionName_s,
resource_triggerName_s)
| extend ResourceCategory = substring(OperationName, 34,
strlen(OperationName) - 43)
| summarize dcount(resource_runId_s) by code_s, resource_workflowName_s,
ResourceCategory, ResourceName, _ResourceId
| project ResourceCategory, ResourceName, FailureCount =
dcount_resource_runId_s, ErrorCode = code_s, LogicAppName =
resource_workflowName_s, _ResourceId
```

```
| order by FailureCount desc
```

After confirming the resource linkage, I proceeded to run KQL queries and monitor the results and charts for each resource (VMs, WebApp, and Logic App).

b) KQL Queries and Monitoring Setup for Each Resource

1. Virtual Machines:

High CPU Utilization:

```
InsightsMetrics
| where Origin == "vm.azm.ms"
| where Namespace == "Processor"
| where Name == "UtilizationPercentage"
| summarize avg(Val) by bin(TimeGenerated, 5m), Computer
| render timechart
```

- **Explanation**: This query monitors the average CPU usage of virtual machines over 5-minute intervals. It helps identify periods of high CPU utilization for VMs to manage workload performance effectively.

Memory Utilization:

```
InsightsMetrics
| where Origin == "vm.azm.ms"
| where Namespace == "Memory"
| where Name == "AvailableMB"
| summarize avg(Val) by bin(TimeGenerated, 5m), Computer
| render timechart
```

- **Explanation**: This query shows the available memory for VMs over time, helping to track memory usage trends.

Disk Space Utilization:

```
InsightsMetrics
| where Origin == "vm.azm.ms"
| where Namespace == "LogicalDisk"
| where Name == "FreeSpacePercentage"
| summarize avg(Val) by bin(TimeGenerated, 5m), Computer
| render timechart
```

- **Explanation**: This query calculates the percentage of available disk space, allowing us to see how efficiently storage is being used by VMs.

VM Uptime:

```
Heartbeat
| where TimeGenerated > ago(1h)
| summarize count() by Computer, bin(TimeGenerated, 5m)
| render timechart
```

- **Explanation**: This query monitors the uptime of VMs by counting the number of heartbeats received, useful for checking VM availability.

After running these KQL queries, I pinned each of them to my dashboard.

2. WebApp:

Top Slow Requests:

```
requests
| order by duration desc
| top 10 by duration
| project name, duration, url, timestamp
```

- **Explanation**: This query lists the top 10 slowest requests by duration, useful for identifying and optimizing slow-performing endpoints.

Server Response Time By URL:

```
requests
| summarize avg(duration) by bin(timestamp, 5m), url
| render timechart
```

- **Explanation**: This query monitors the average server response time for different URLs over time, aiding in identifying response time issues.

Operations By Request Count and Duration:

```
requests
| summarize RequestsCount = sum(itemCount), AverageDuration =
avg(duration), percentiles(duration, 50, 95, 99) by operation_Name
| order by RequestsCount desc
```

- **Explanation**: This query provides insights into the number of requests and average request duration for each operation, helping to prioritize optimization efforts.

Total Successful Requests Over Time:

```
requests
| where success == "True"
| summarize total_success = count() by bin(timestamp, 5m)
| render timechart
```

- **Explanation**: This query tracks the total number of successful requests over time, helping to understand the reliability of the web app.

After running these KQL queries, I pinned each of them to my dashboard.

3. Logic App:

Workflow Trigger and Action Execution Count:

```
AzureDiagnostics
```

```
| where ResourceProvider == "MICROSOFT.LOGIC"
| where Category == "WorkflowRuntime"
| where OperationName has "workflowTriggerStarted" or OperationName has
"workflowActionStarted"
| summarize dcount(resource_runId_s) by OperationName,
resource_workflowName_s
```

- **Explanation**: This query shows the count of workflow trigger and action executions, helping to track the activity level of Logic Apps.

Trigger Failures:

```
AzureDiagnostics
| where ResourceProvider == "MICROSOFT.LOGIC"
| where Category == "WorkflowRuntime"
| where OperationName contains "workflowTriggerCompleted" and status_s ==
"Failed"
| summarize count() by resource_workflowName_s, resource_triggerName_s
```

- **Explanation**: This query lists the number of failed triggers, helping to quickly identify workflows that need attention.

Total Workflow Runs Over Time:

```
AzureDiagnostics
| where ResourceProvider == "MICROSOFT.LOGIC"
| where Category == "WorkflowRuntime"
| summarize totalRuns = count() by resource_workflowName_s,
bin(TimeGenerated, 1h)
| render timechart
```

- **Explanation**: This query monitors the total number of workflow runs over time, giving an overview of Logic App activity.

Failed Runs by Error Code:

```
AzureDiagnostics
| where ResourceProvider == "MICROSOFT.LOGIC"
| where Category == "WorkflowRuntime"
| where status_s == "Failed"
| summarize errorCodeCount = count() by code_s
| order by errorCodeCount desc
```

- **Explanation**: This query lists error codes for failed Logic App runs, allowing us to prioritize error resolution.

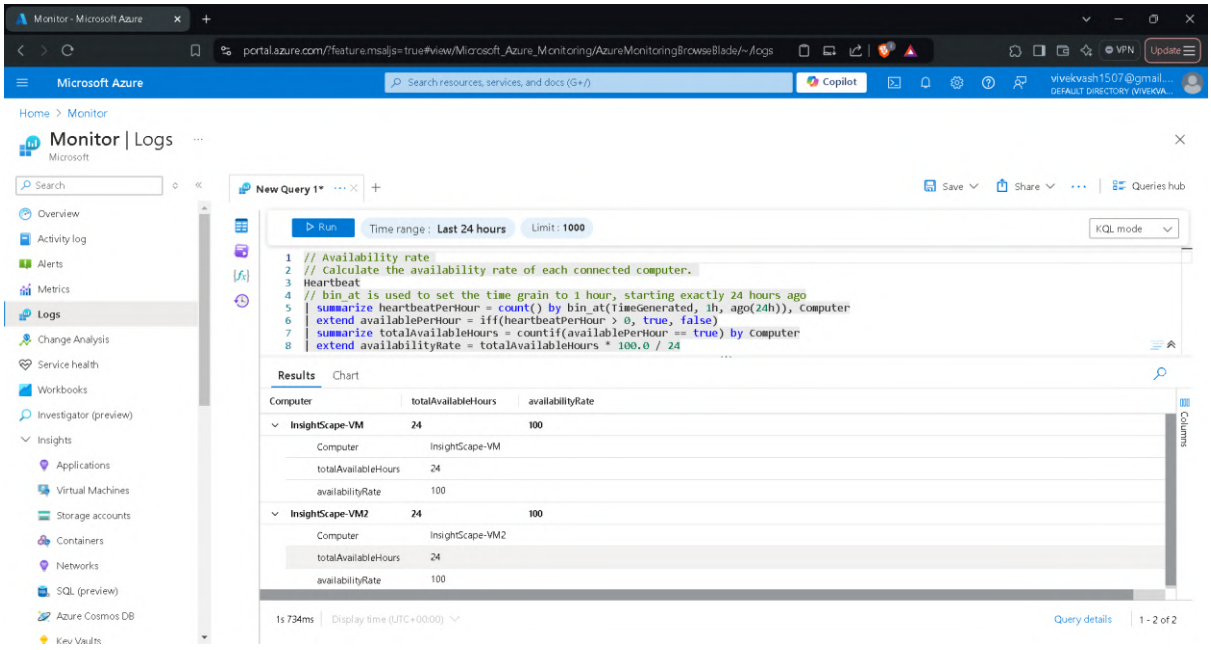
After running these KQL queries, I pinned each of them to my dashboard.

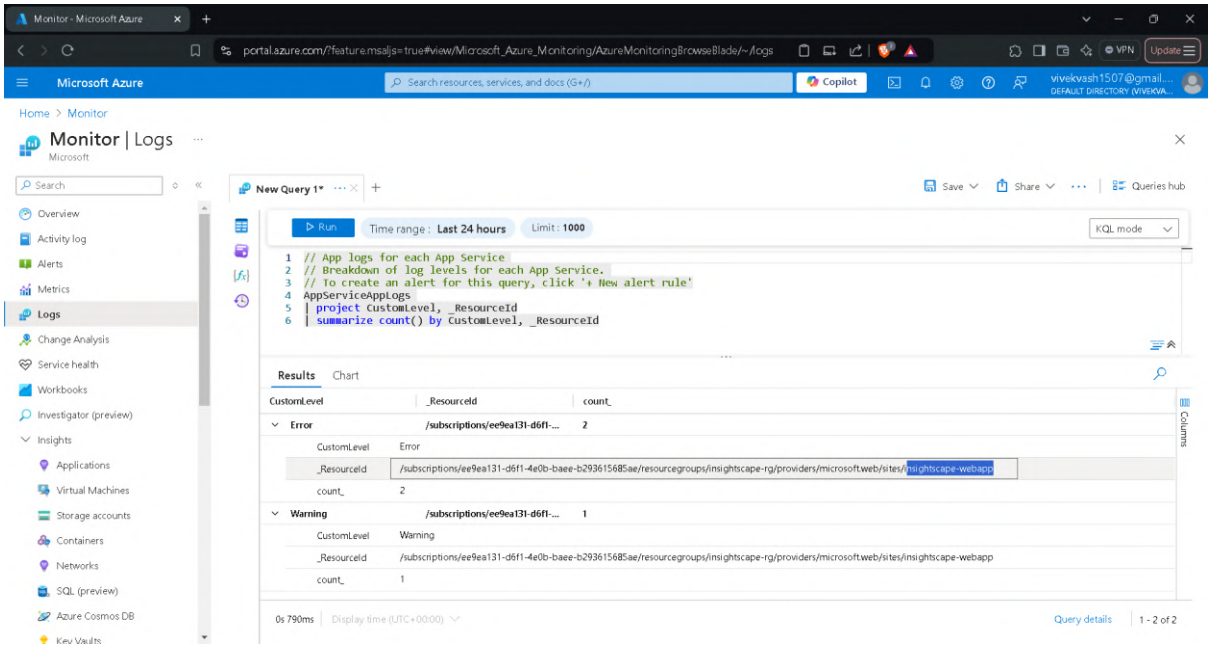
c) Dashboard Visualization

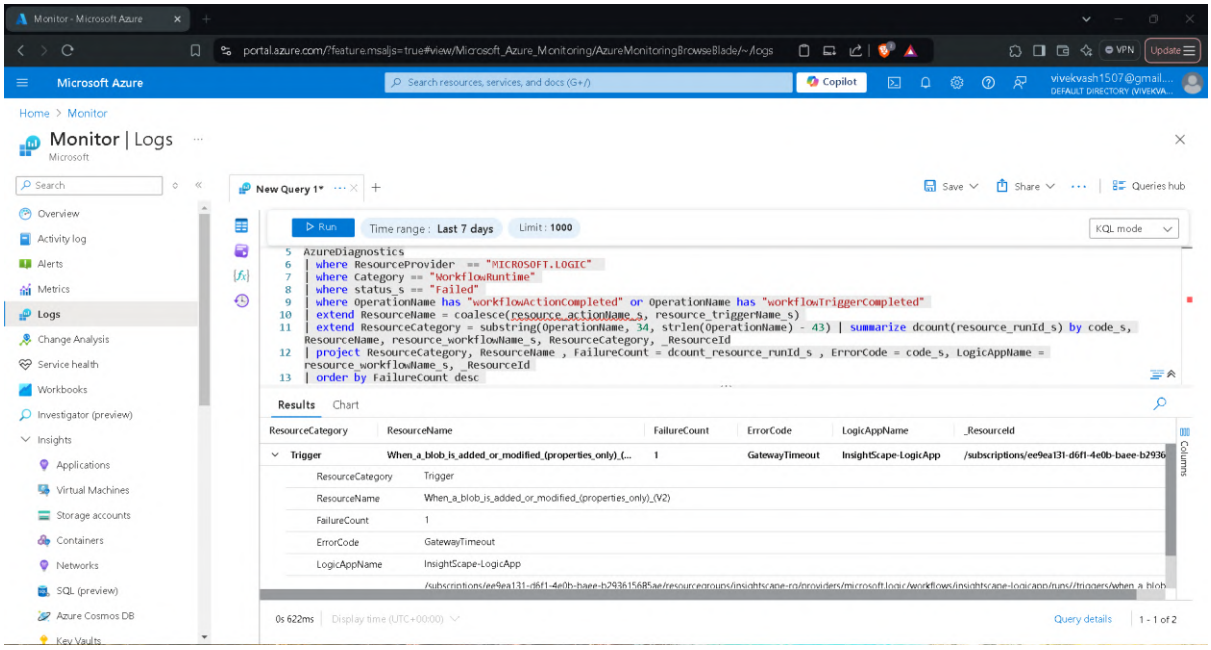
After completing the query setup, I went to my private dashboard in the Azure Portal and monitored and visualized the KQL query charts for each resource (VMs, WebApp, and Logic App).

With this, the entire **Step 3: Log Analytics Workspace** phase of the project was successfully completed.

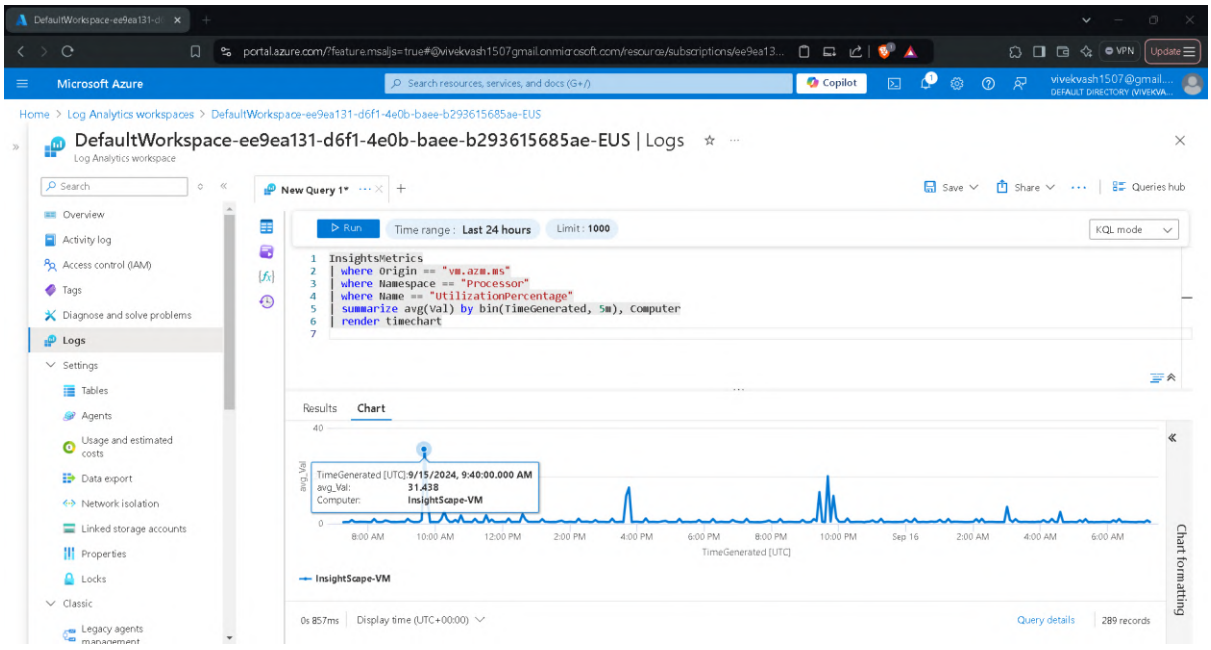
Screenshots

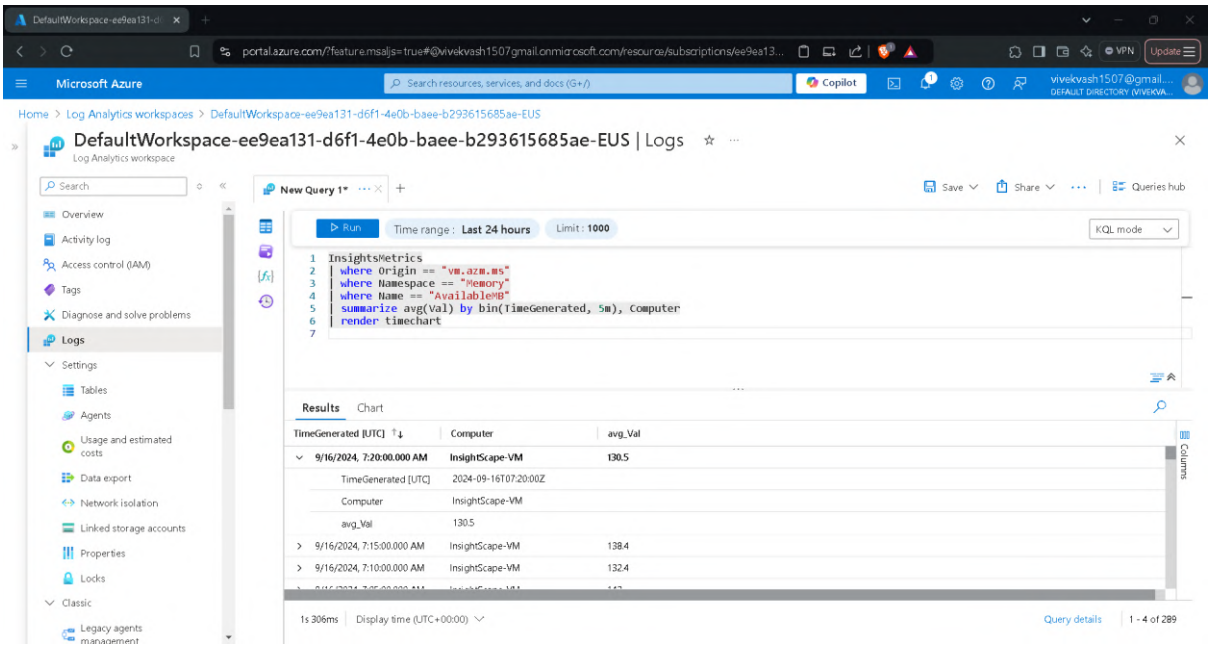


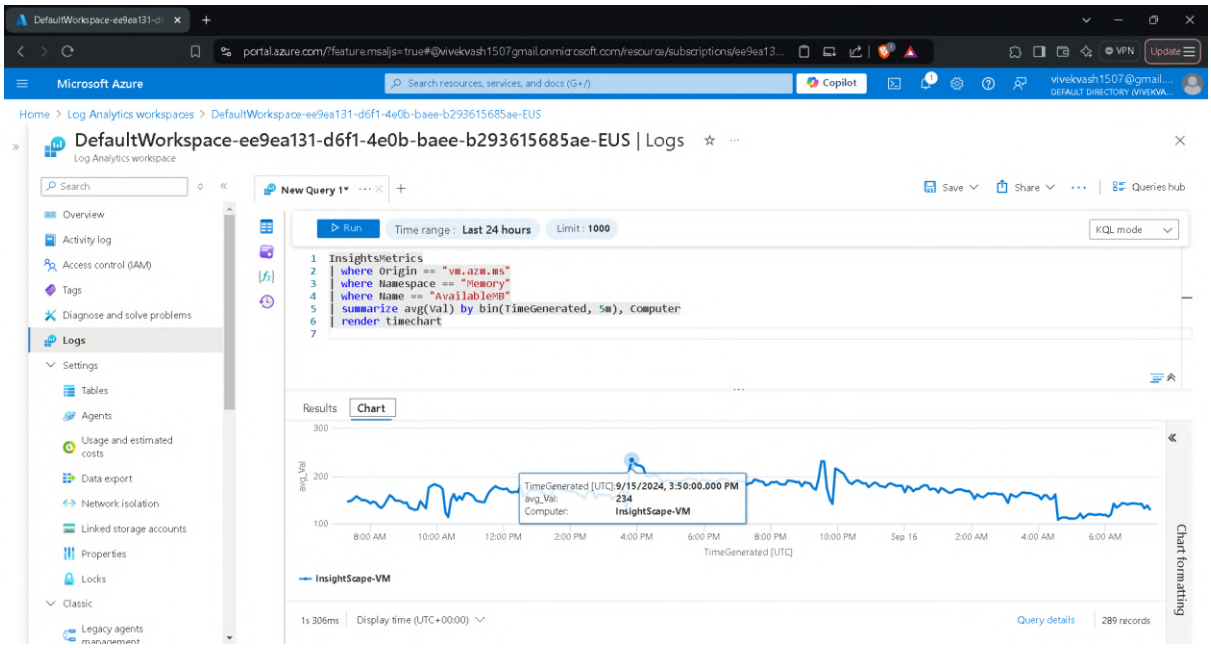


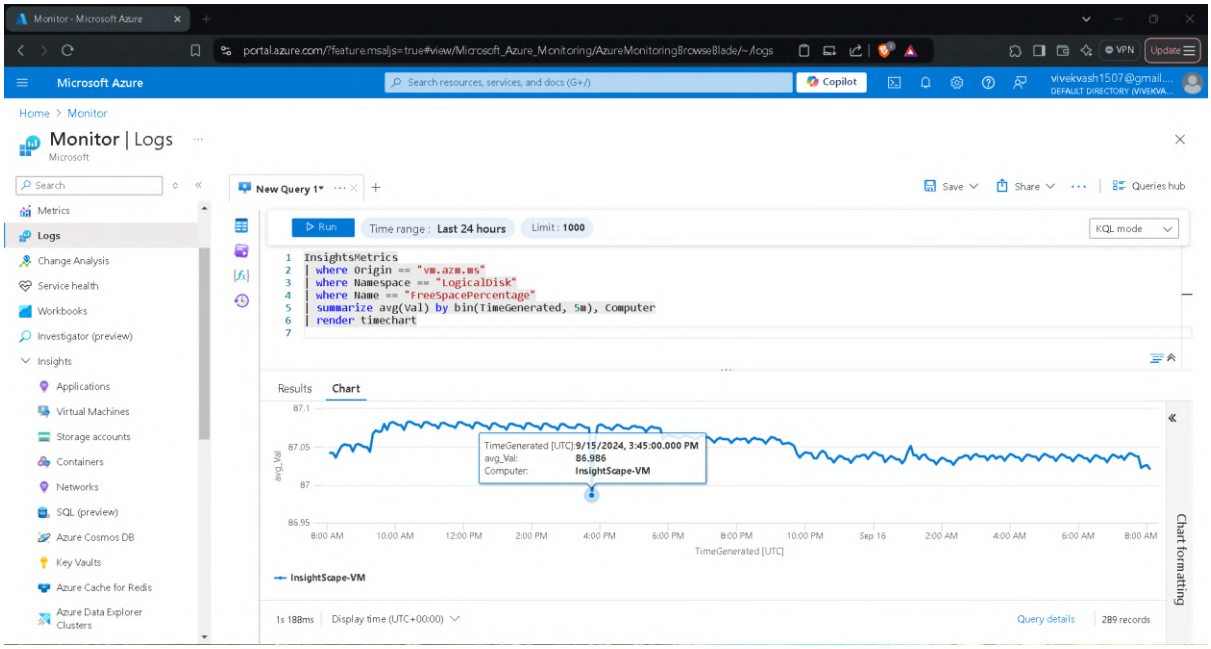


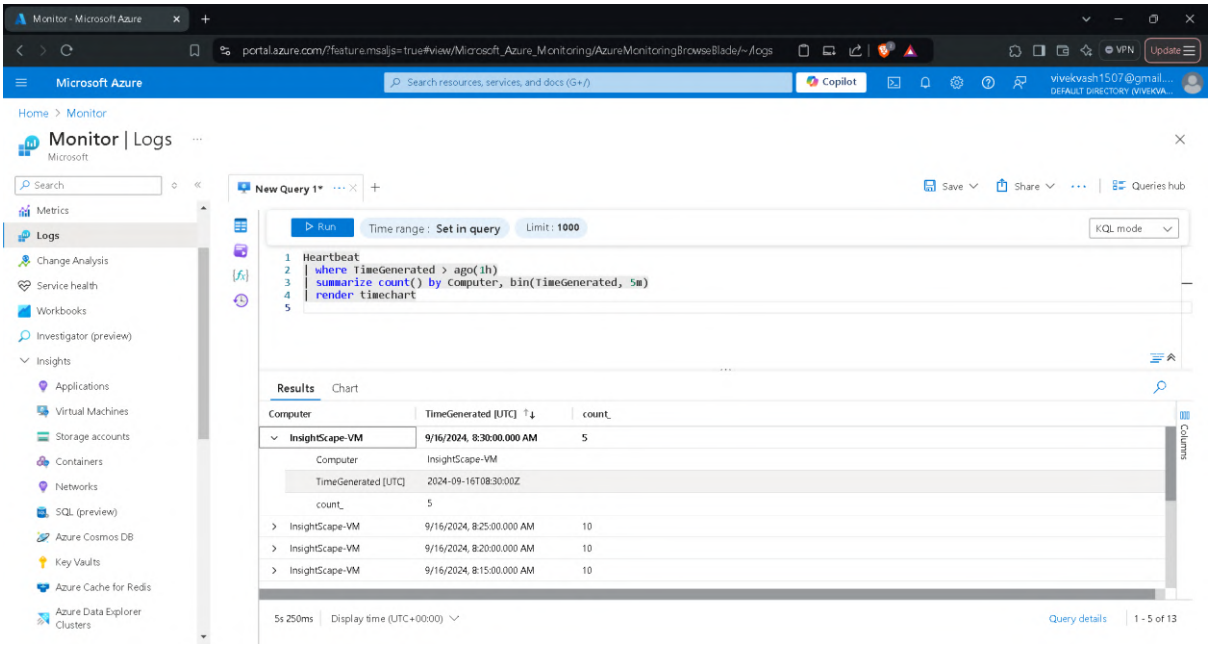
VM-KQL Queries

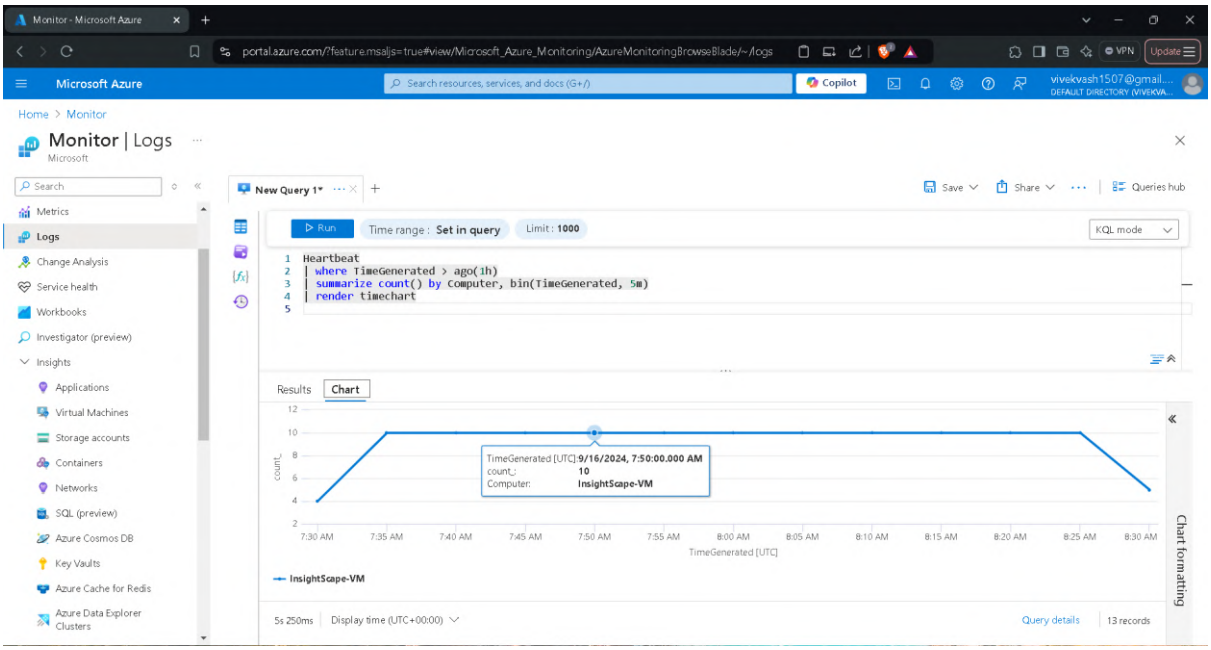


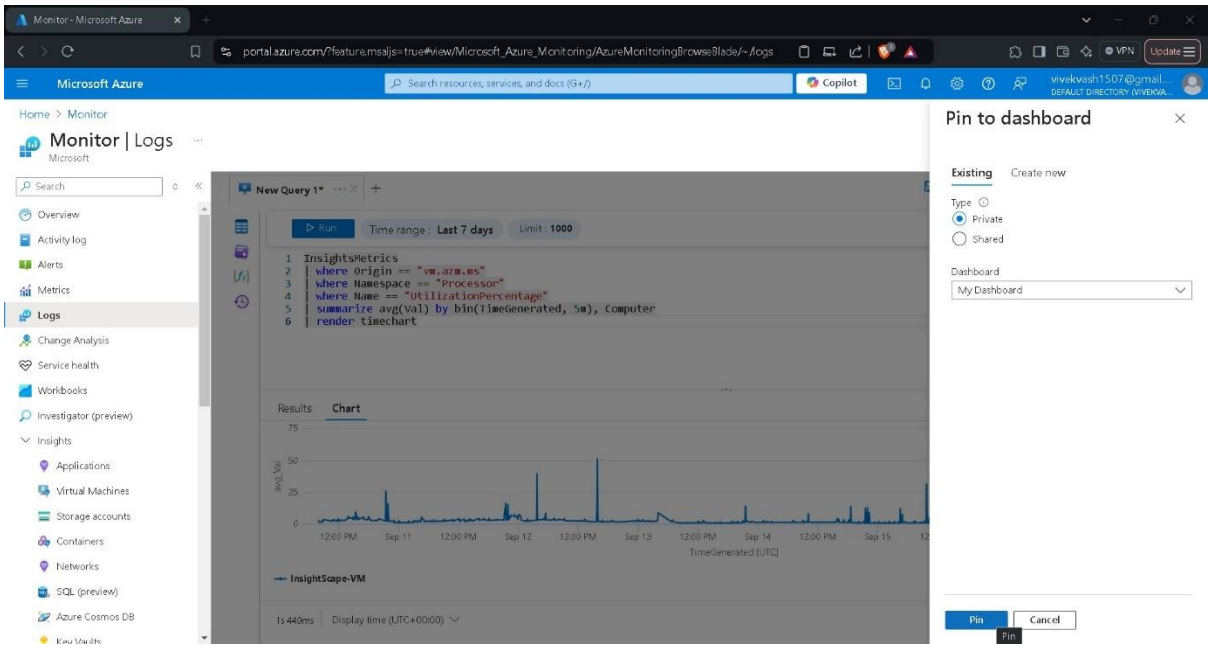



Microsoft Azure
Home > Log Analytics workspaces > DefaultWorkspace-ee9ea131-d6f1-4e0b-baee-b293615685ae-EUS
DefaultWorkspace-ee9ea131-d6f1-4e0b-baee-b293615685ae-EUS | Logs
Log Analytics workspace
New Query 1*
Run
Time range : Last 24 hours
Limit : 1000
KQL mode
InsightsMetrics
| where Origin == "vm.azm.ms"
| where Namespace == "Memory"
| where Name == "AvailableMB"
| summarize avg(Val) by bin(TimeGenerated, 5m), Computer
| render timechart
Results
Chart
TimeGenerated [UTC]: 9/15/2024, 3:50:00.000 PM
avg_Val: 234
Computer: InsightScape-VM
InsightScape-VM
1s 306ms
Display time (UTC+00:00)
Query details
289 records
Chart formatting

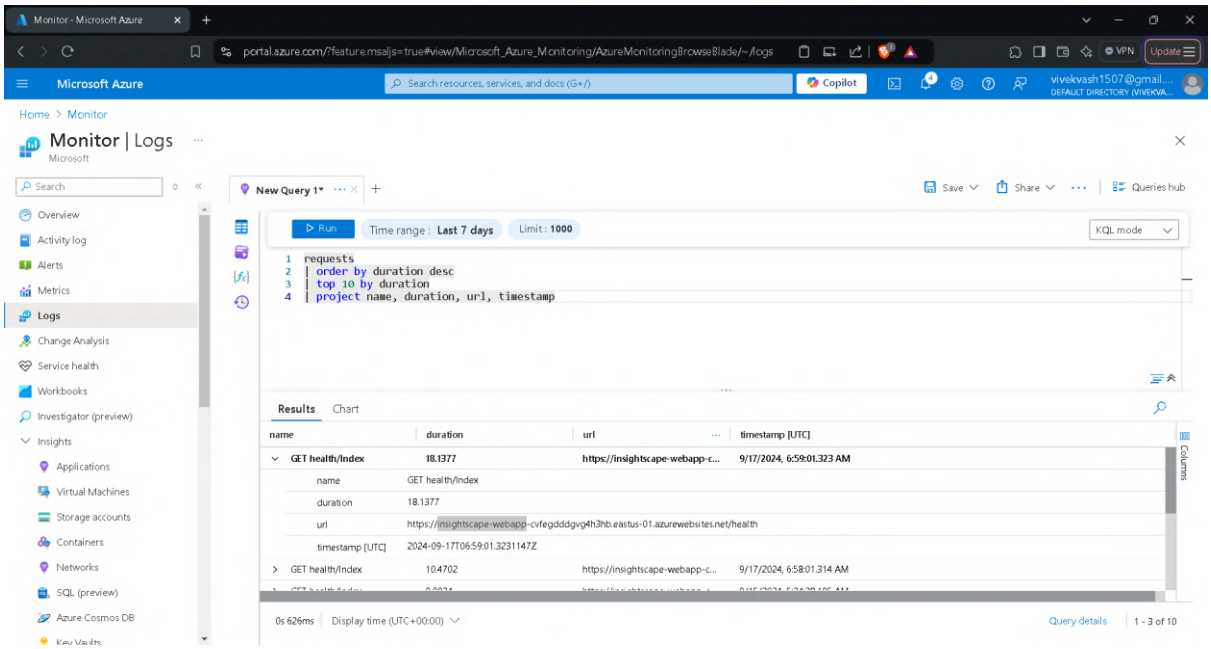

Microsoft Azure
Home > Monitor
Monitor | Logs
Microsoft
New Query 1*
Run
Time range : Last 24 hours
Limit : 1000
KQL mode
InsightsMetrics
| where Origin == "vm.azm.ms"
| where Namespace == "LogicalDisk"
| where Name == "FreeSpacePercentage"
| summarize avg(Val) by bin(TimeGenerated, 5m), Computer
| render timechart
Results
Chart
TimeGenerated [UTC]: 9/15/2024, 3:45:00.000 PM
avg_Val: 86.986
Computer: InsightScape-VM
InsightScape-VM
1s 188ms
Display time (UTC+00:00)
Query details
289 records
Chart formatting

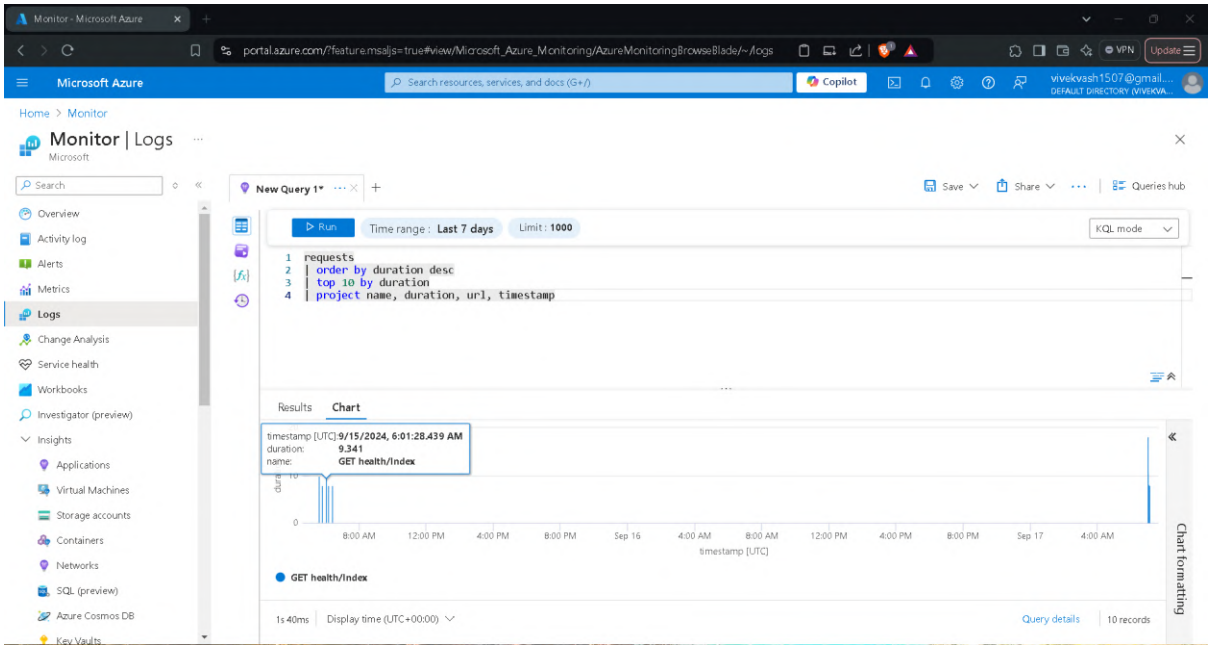

Microsoft Azure
Home > Monitor
Monitor | Logs
Microsoft
New Query 1*
Run
Time range : Set in query
Limit : 1000
KQL mode
Heartbeat
| where TimeGenerated > ago(1h)
| summarize count() by Computer, bin(TimeGenerated, 5m)
| render timechart
Results
Chart
Computer
TimeGenerated [UTC]
count_
InsightScape-VM 9/16/2024, 8:30:00.000 AM 5
Computer InsightScape-VM
TimeGenerated [UTC] 2024-09-16T08:30:00Z
count_ 5
InsightScape-VM 9/16/2024, 8:25:00.000 AM 10
InsightScape-VM 9/16/2024, 8:20:00.000 AM 10
InsightScape-VM 9/16/2024, 8:15:00.000 AM 10
5s 250ms
Display time (UTC+00:00)
Query details
1 - 5 of 13
Columns

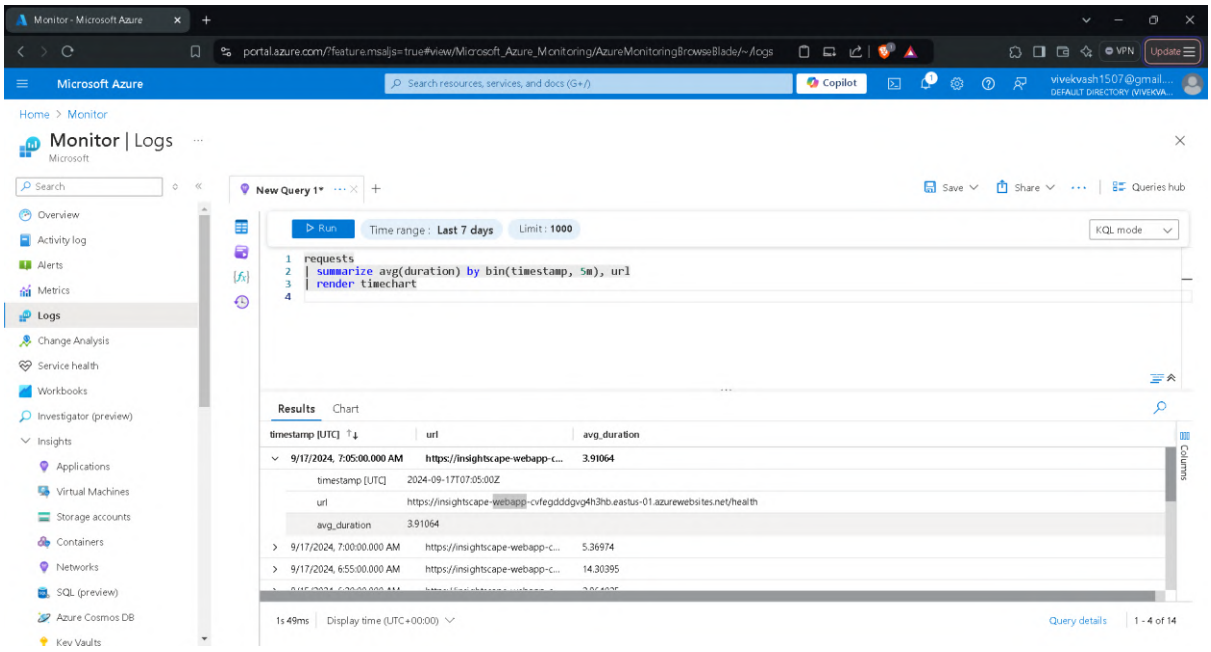


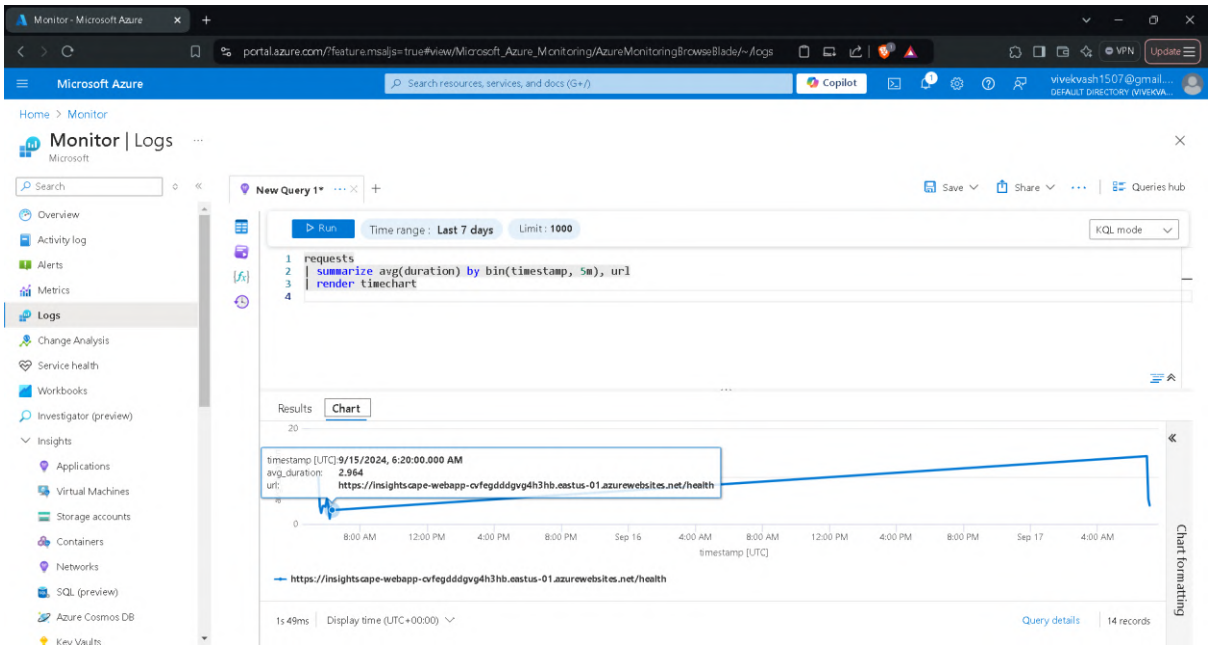


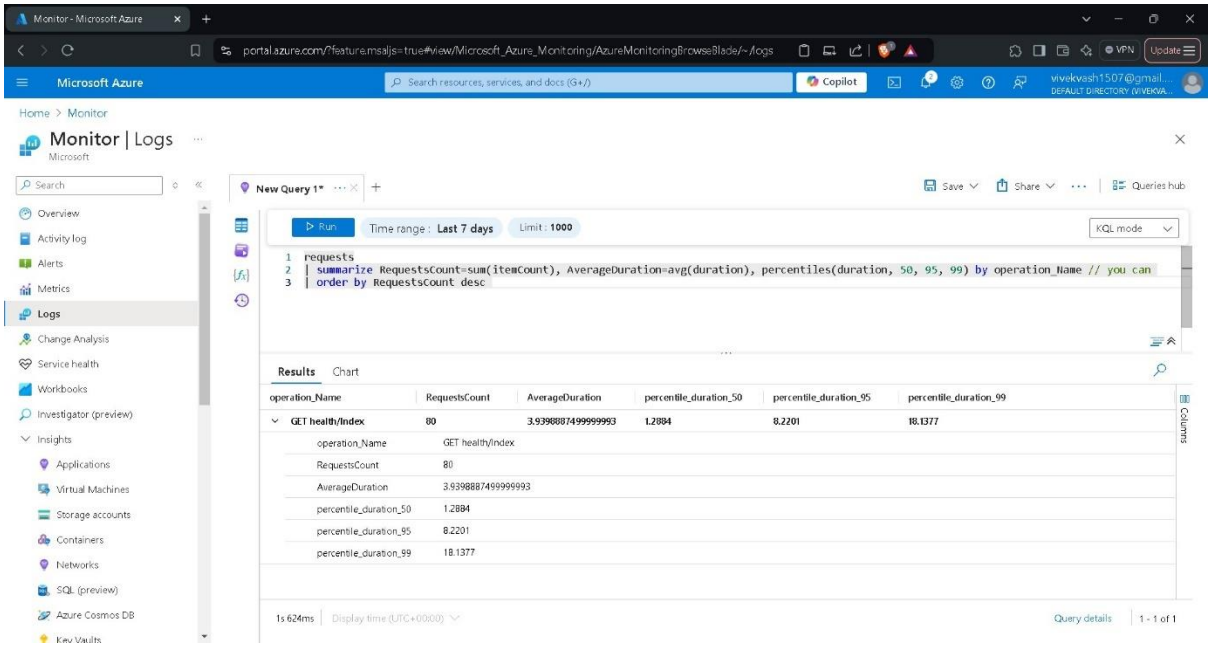
WebApp-KQL Queries

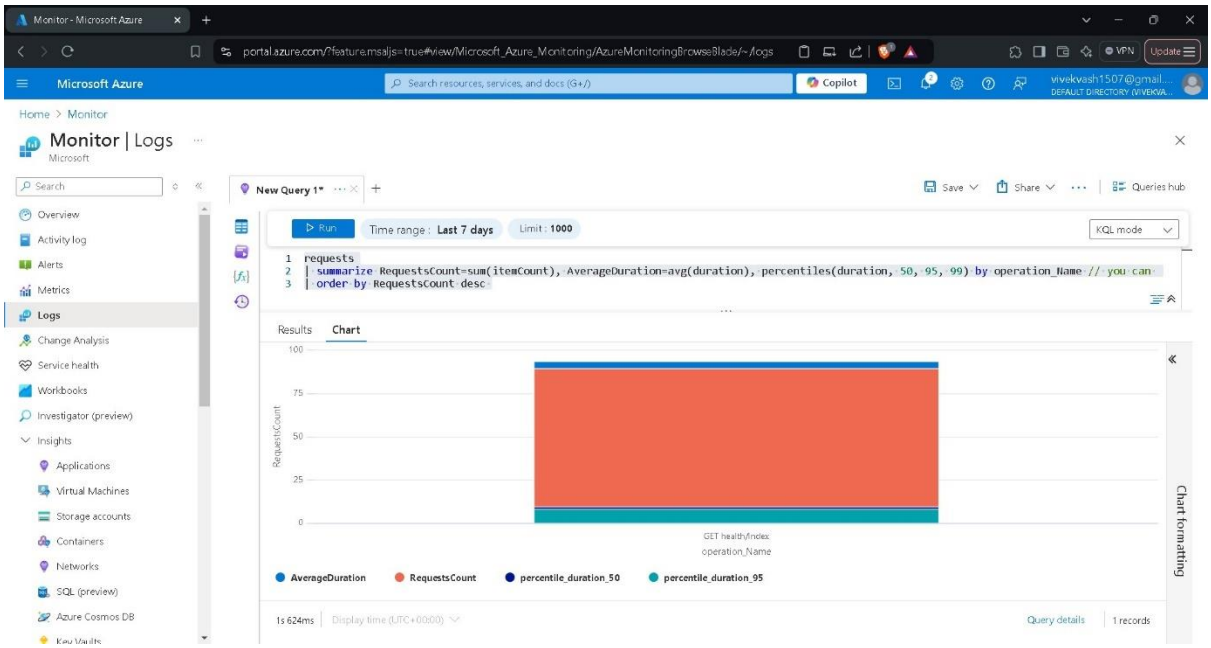


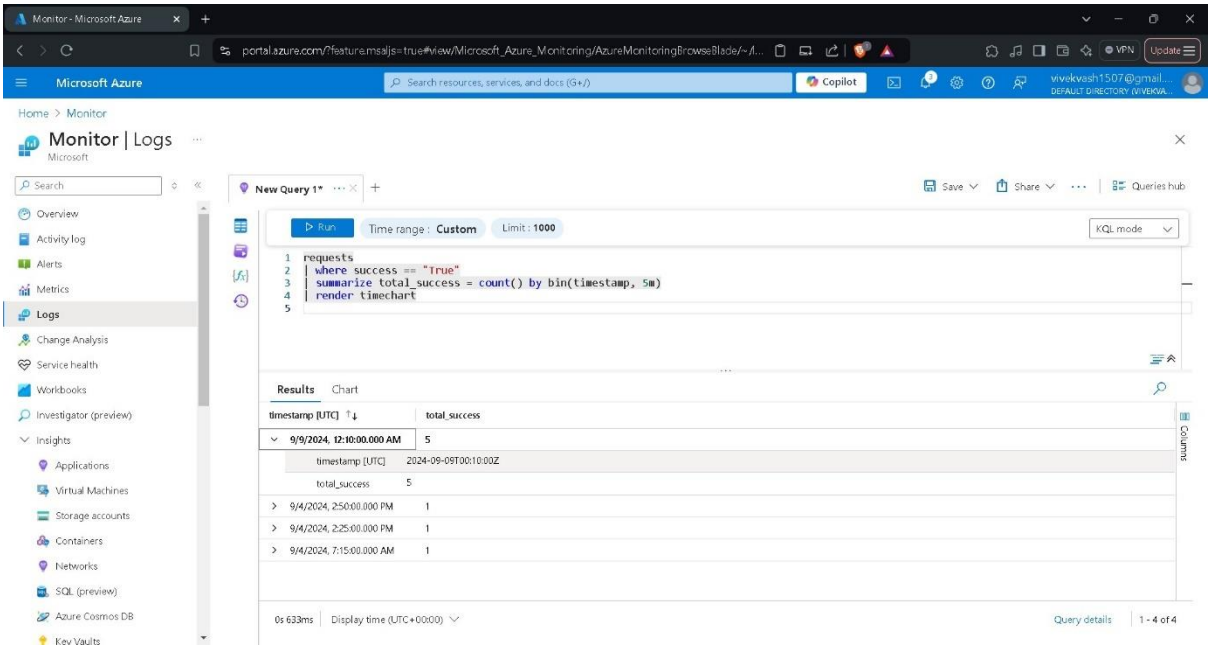

Monitor - Microsoft Azure
Microsoft Azure
Home > Monitor
Monitor | Logs
Microsoft
New Query 1*
Run
Time range : Last 7 days
Limit : 1000
KQL mode
1 requests
2 | order by duration desc
3 | top 10 by duration
4 | project name, duration, url, timestamp
Results
Chart
timestamp [UTC] 9/15/2024, 6:01:28.439 AM
duration: 9.341
name: GET health/Index
GET health/Index
1s 40ms
Display time (UTC+00:00)
Query details
10 records
Chart formatting

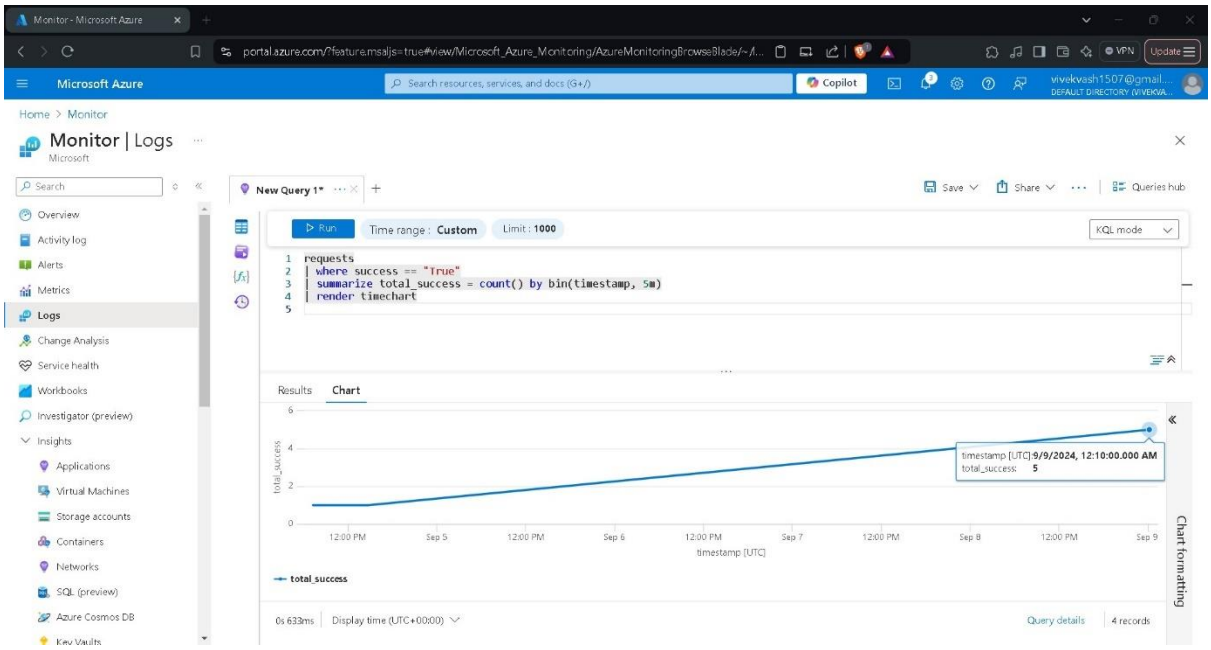

Monitor - Microsoft Azure
Microsoft Azure
Home > Monitor
Monitor | Logs
Microsoft
New Query 1*
Run
Time range : Last 7 days
Limit : 1000
KQL mode
1 requests
2 | summarize avg(duration) by bin(timestamp, 5m), url
3 | render timechart
4
Results
Chart
timestamp [UTC]
url
avg_duration
9/17/2024, 7:05:00.000 AM
https://insightscape-webapp-c...
3.91064
timestamp [UTC] 2024-09-17T07:05:00Z
url https://insightscape-webapp-cvfegdddgvg4h3hb.eastus-01.azurewebsites.net/health
avg_duration 3.91064
9/17/2024, 7:00:00.000 AM 5.36974
9/17/2024, 6:55:00.000 AM 14.30395
1s 49ms
Display time (UTC+00:00)
Query details
1 - 4 of 14
Columns

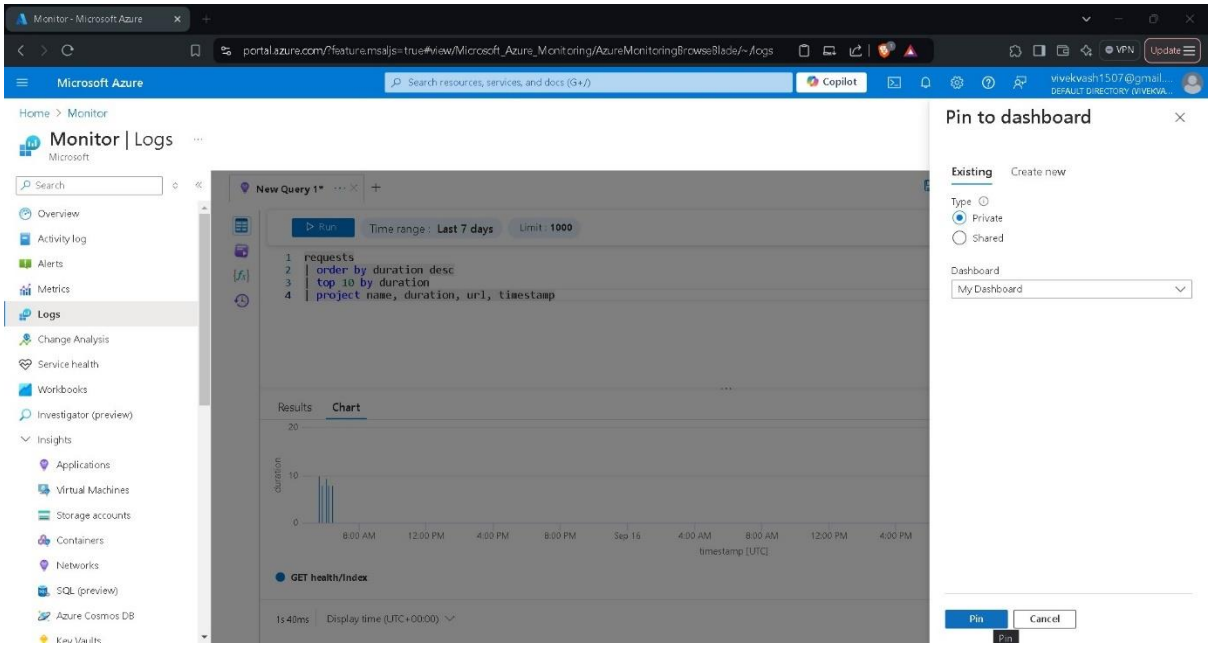

Monitor - Microsoft Azure
Microsoft Azure
Home > Monitor
Monitor | Logs
Microsoft
New Query 1*
Run
Time range : Last 7 days
Limit : 1000
KQL mode
1 requests
2 | summarize avg(duration) by bin(timestamp, 5m), url
3 | render timechart
4
Results
Chart
timestamp [UTC] 9/15/2024, 6:20:00.000 AM
avg_duration: 2.964
url: https://insightscape-webapp-cvfegdddgvg4h3hb.eastus-01.azurewebsites.net/health
timestamp [UTC]
https://insightscape-webapp-cvfegdddgvg4h3hb.eastus-01.azurewebsites.net/health
1s 49ms
Display time (UTC+00:00)
Query details
14 records
Chart formatting


Monitor - Microsoft Azure
Microsoft Azure
Home > Monitor
Monitor | Logs
Microsoft
New Query 1*
Run
Time range : Last 7 days
Limit : 1000
KQL mode
1 requests
2 | summarize RequestsCount=sum(itemCount), AverageDuration=avg(duration), percentiles(duration, 50, 95, 99) by operation_Name // you can
3 | order by RequestsCount desc
Results
Chart
operation_Name
RequestsCount
AverageDuration
percentile_duration_50
percentile_duration_95
percentile_duration_99
GET health/index
80
3.9398887499999993
1.2884
8.2201
18.1377
1s 624ms
Query details
1 - 1 of 1

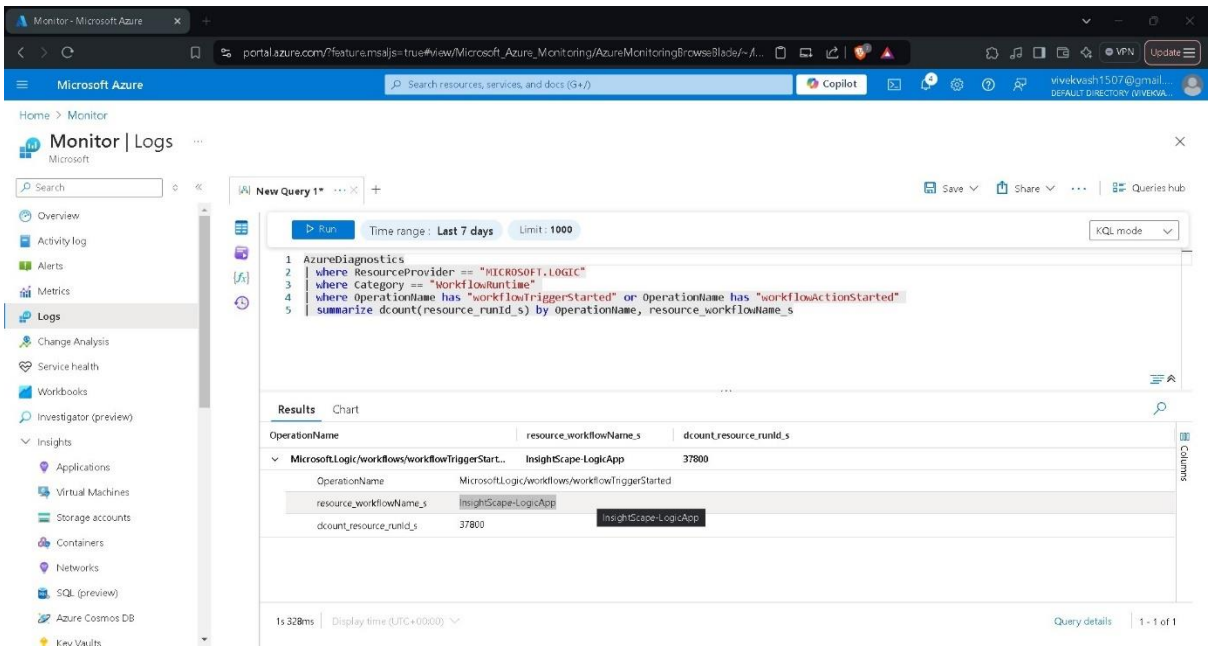

Monitor - Microsoft Azure
Microsoft Azure
Home > Monitor
Monitor | Logs
Microsoft
New Query 1*
Run
Time range : Last 7 days
Limit : 1000
KQL mode
1 requests
2 | summarize RequestsCount=sum(itemCount), AverageDuration=avg(duration), percentiles(duration, 50, 95, 99) by operation_Name // you can
3 | order by RequestsCount desc
Results
Chart
RequestsCount
operation_Name
GET health/index
AverageDuration
RequestsCount
percentile_duration_50
percentile_duration_95
Chart formatting
1s 624ms
Query details
1 records

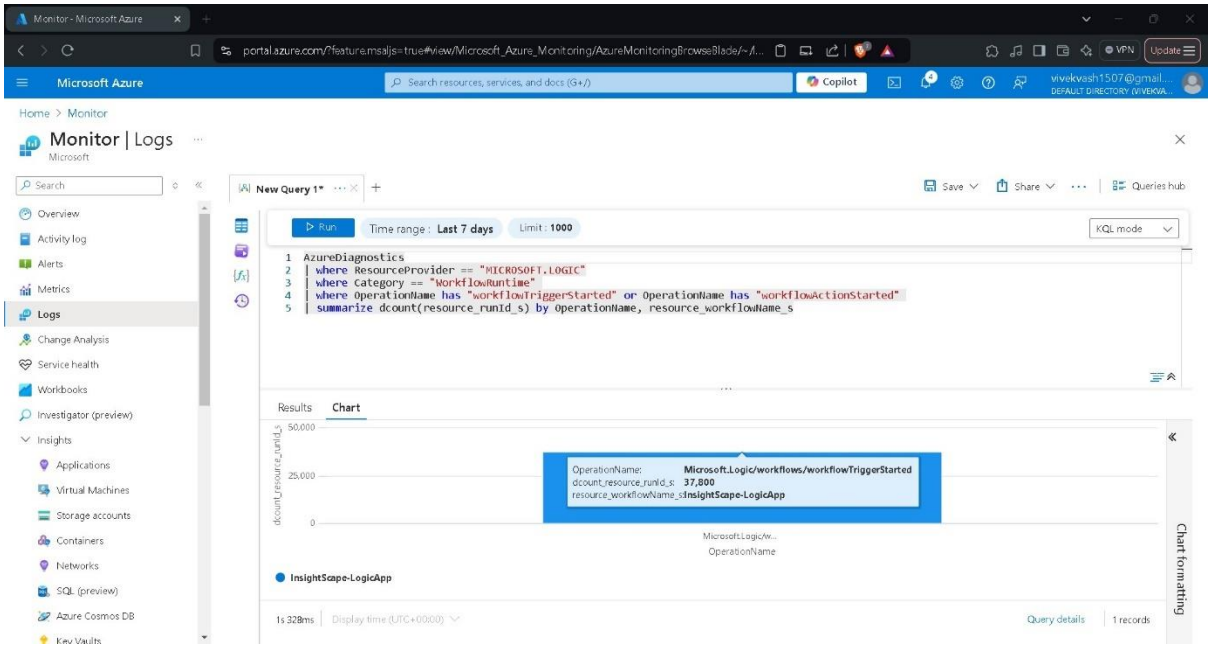

Monitor - Microsoft Azure
Microsoft Azure
Home > Monitor
Monitor | Logs
Microsoft
New Query 1*
Run
Time range : Custom
Limit : 1000
KQL mode
1 requests
2 | where success == "True"
3 | summarize total_success = count() by bin(timestamp, 5m)
4 | render timechart
Results
Chart
timestamp [UTC]
total_success
9/9/2024, 12:10:00.000 AM
5
2024-09-09T00:10:00Z
9/4/2024, 2:50:00.000 PM
1
9/4/2024, 2:25:00.000 PM
1
9/4/2024, 7:15:00.000 AM
1
0s 633ms
Query details
1 - 4 of 4

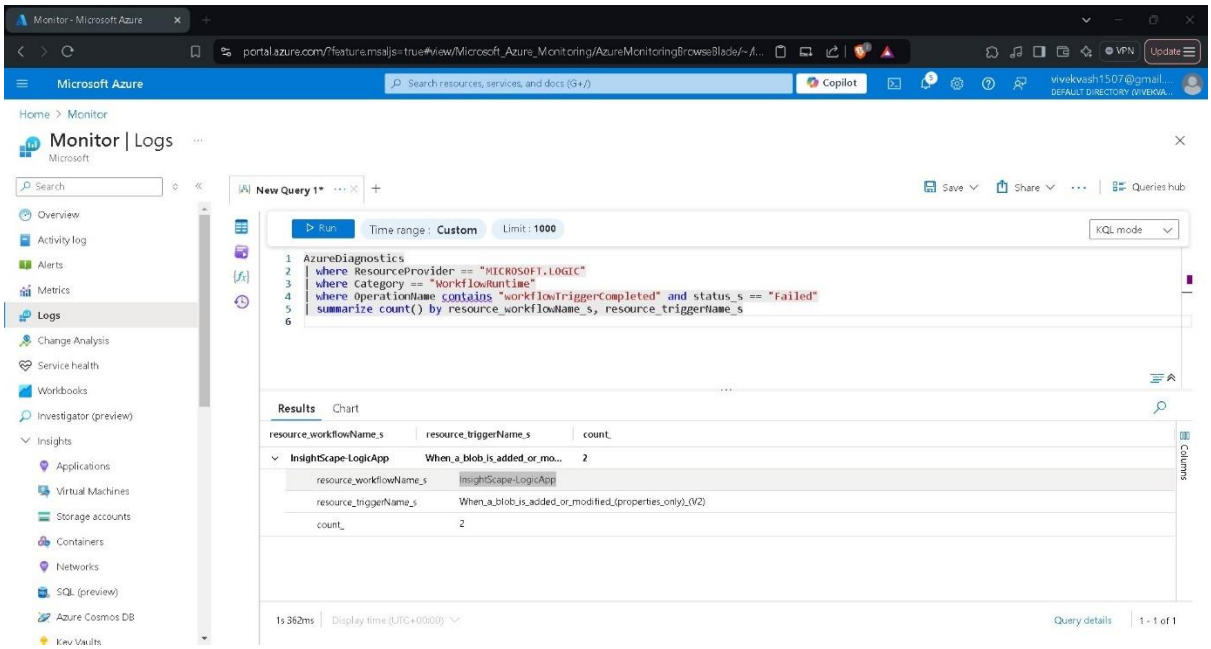


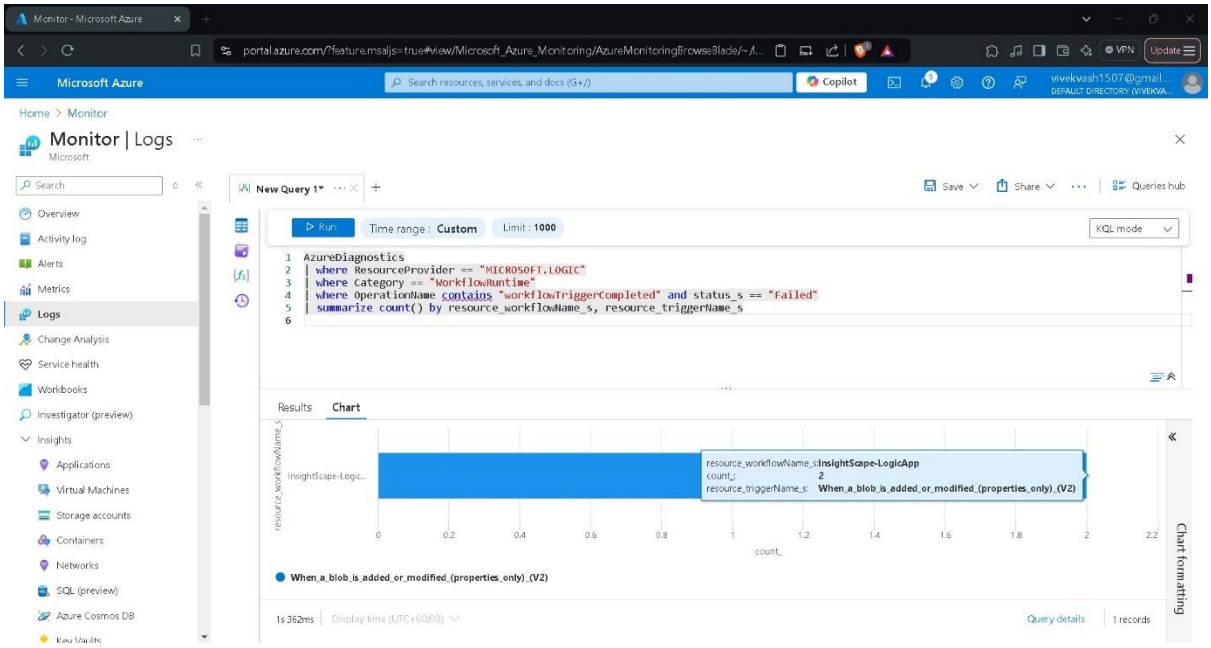


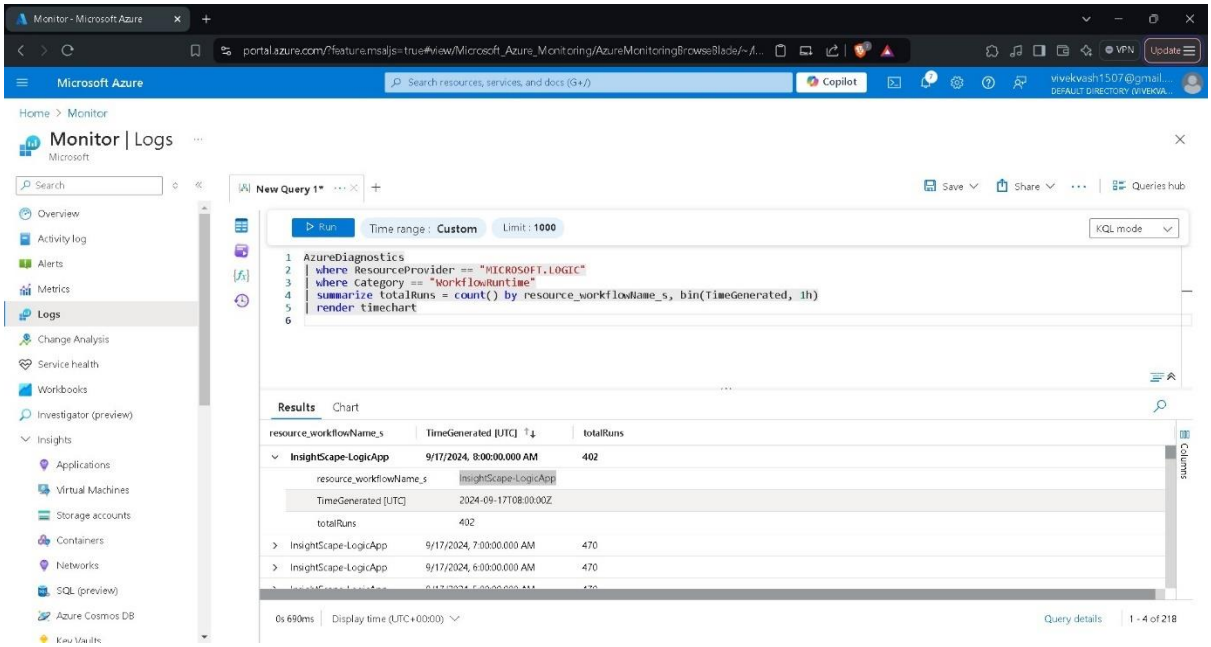
Logic App-KQL Queries

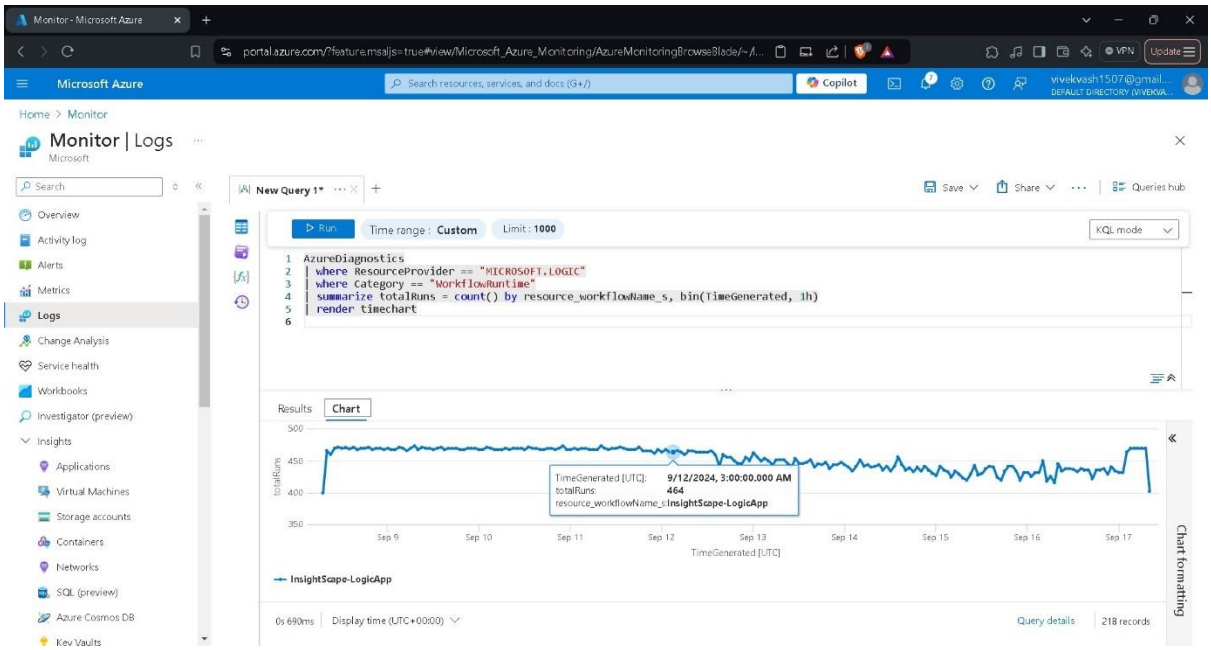


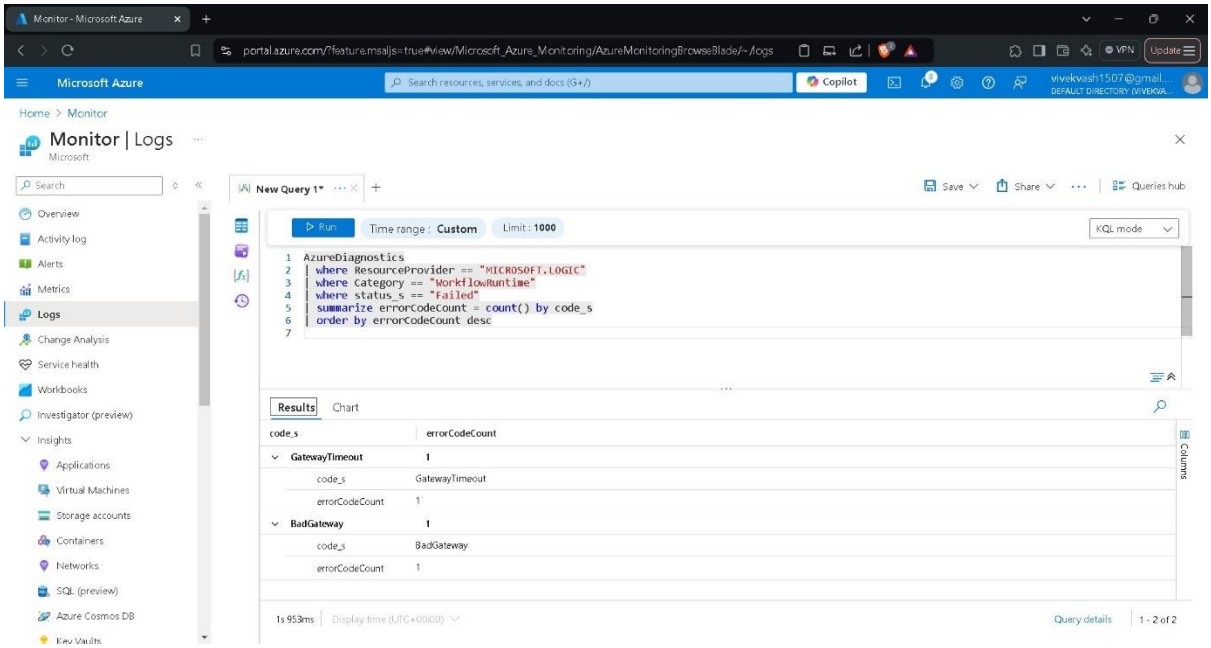

Monitor - Microsoft Azure
Microsoft Azure
Home > Monitor
Monitor | Logs
Microsoft
New Query 1*
Run
Time range : Last 7 days
Limit : 1000
KQL mode
Save
Share
Queries hub
1 AzureDiagnostics
2 | where ResourceProvider == "MICROSOFT.LOGIC"
3 | where Category == "WorkflowRuntime"
4 | where OperationName has "workflowTriggerStarted" or OperationName has "workflowActionStarted"
5 | summarize dcount(resource_runId_s) by OperationName, resource_workflowName_s
Results
Chart
OperationName: Microsoft.Logic/workflows/workflowTriggerStarted
dcount_resource_runId_s: 37,800
resource_workflowName_s: InsightScape-LogicApp
InsightScape-LogicApp
Chart formatting
1s 328ms
Query details
1 records

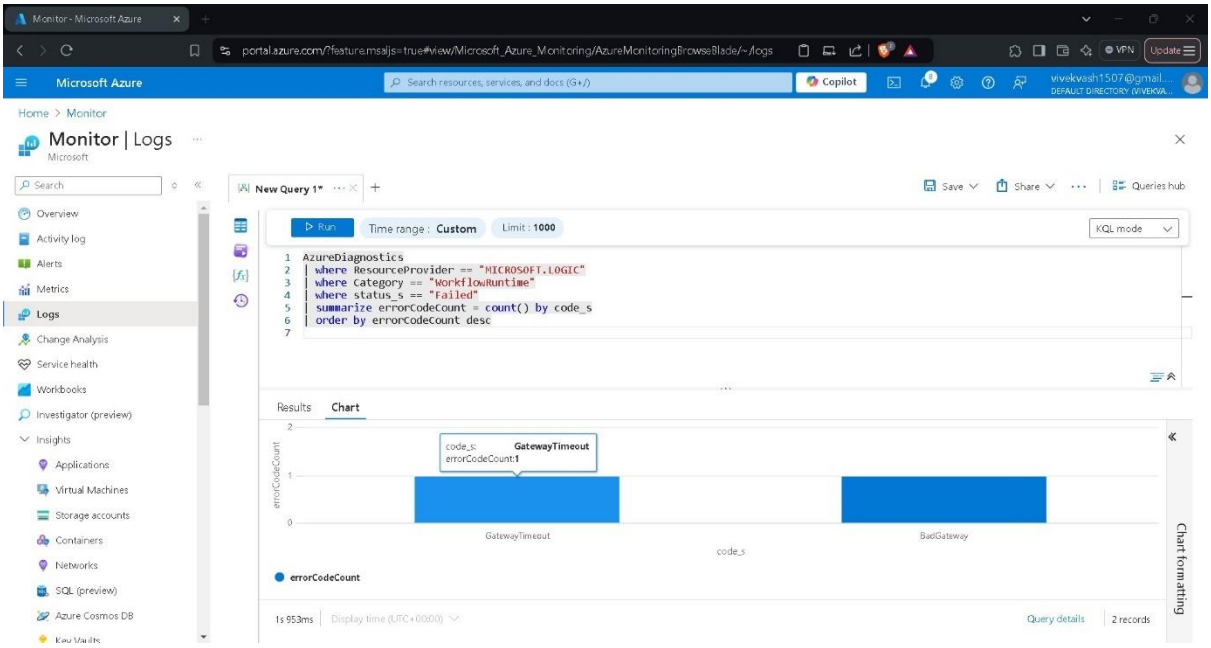

Monitor - Microsoft Azure
Microsoft Azure
Home > Monitor
Monitor | Logs
Microsoft
New Query 1*
Run
Time range : Custom
Limit : 1000
KQL mode
Save
Share
Queries hub
1 AzureDiagnostics
2 | where ResourceProvider == "MICROSOFT.LOGIC"
3 | where Category == "WorkflowRuntime"
4 | where OperationName contains "workflowTriggerCompleted" and status_s == "Failed"
5 | summarize count() by resource_workflowName_s, resource_triggerName_s
6
Results
Chart
resource_workflowName_s
resource_triggerName_s
count_
InsightScape-LogicApp
When_a_blob_is_added_or_mo...
2
resource_workflowName_s
InsightScape-LogicApp
resource_triggerName_s
When_a_blob_is_added_or_modified_(properties_only)_(V2)
count_
2
Columns
1s 362ms
Query details
1 - 1 of 1

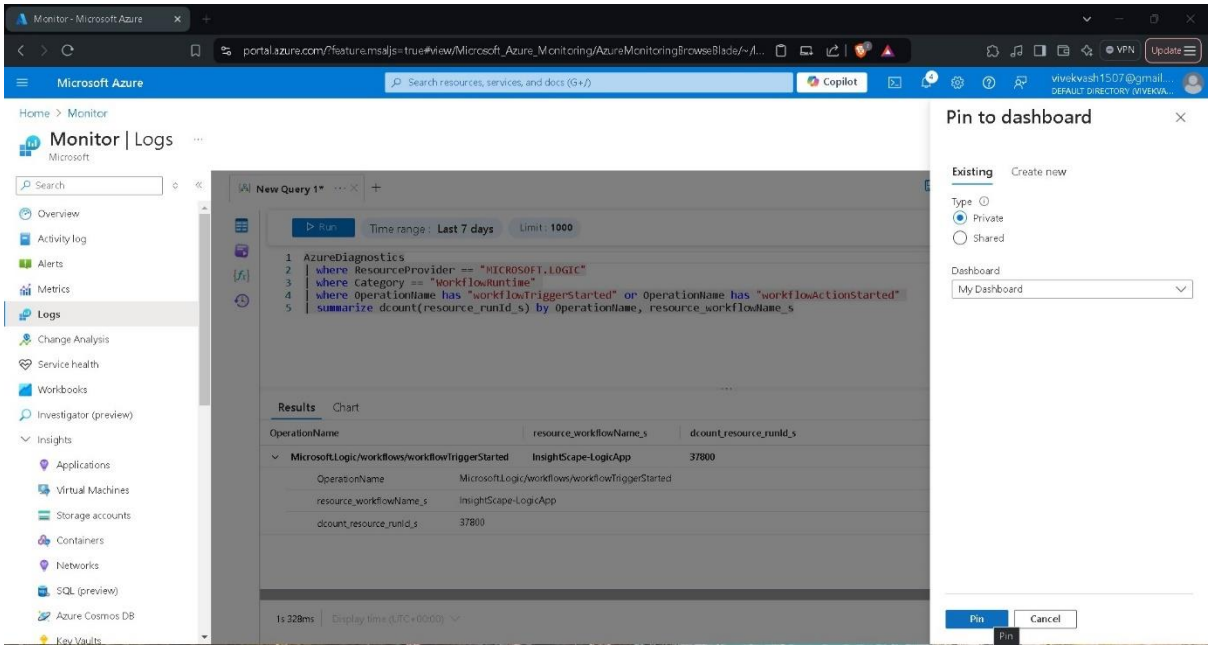

Monitor - Microsoft Azure
Microsoft Azure
Home > Monitor
Monitor | Logs
Microsoft
New Query 1*
Run
Time range : Custom
Limit : 1000
KQL mode
Save
Share
Queries hub
1 AzureDiagnostics
2 | where ResourceProvider == "MICROSOFT.LOGIC"
3 | where Category == "WorkflowRuntime"
4 | where OperationName contains "workflowTriggerCompleted" and status_s == "Failed"
5 | summarize count() by resource_workflowName_s, resource_triggerName_s
6
Results
Chart
resource_workflowName_s: InsightScape-LogicApp
count_: 2
resource_triggerName_s: When_a_blob_is_added_or_modified_(properties_only)_(V2)
count_
When_a_blob_is_added_or_modified_(properties_only)_(V2)
Chart formatting
1s 362ms
Query details
1 records


Monitor - Microsoft Azure
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Monitoring/AzureMonitoringBrowseBlade/~/...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
Home > Monitor
Monitor | Logs
Microsoft
New Query 1*
Save
Share
Queries hub
Run
Time range : Custom
Limit : 1000
KQL mode
1 AzureDiagnostics
2 | where ResourceProvider == "MICROSOFT.LOGIC"
3 | where Category == "WorkflowRuntime"
4 | summarize totalRuns = count() by resource_workflowName_s, bin(TimeGenerated, 1h)
5 | render timechart
6
Results
Chart
resource_workflowName_s
TimeGenerated [UTC]
totalRuns
InsightScape-LogicApp
9/17/2024, 8:00:00.000 AM
402
2024-09-17T08:00:00Z
9/17/2024, 7:00:00.000 AM
470
9/17/2024, 6:00:00.000 AM
470
Columns
0s 690ms
Display time (UTC+00:00)
Query details
1 - 4 of 218

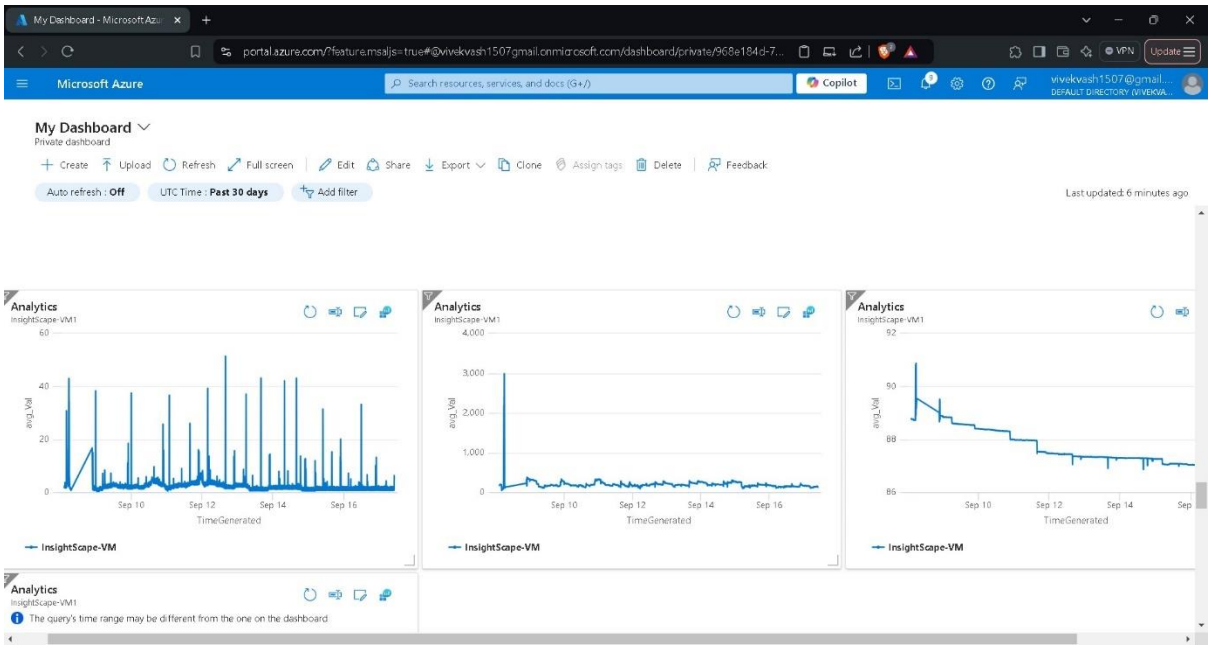

Monitor - Microsoft Azure
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Monitoring/AzureMonitoringBrowseBlade/~/...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
Home > Monitor
Monitor | Logs
Microsoft
New Query 1*
Save
Share
Queries hub
Run
Time range : Custom
Limit : 1000
KQL mode
1 AzureDiagnostics
2 | where ResourceProvider == "MICROSOFT.LOGIC"
3 | where Category == "WorkflowRuntime"
4 | summarize totalRuns = count() by resource_workflowName_s, bin(TimeGenerated, 1h)
5 | render timechart
6
Results
Chart
500
450
400
350
totalRuns
TimeGenerated [UTC]: 9/12/2024, 3:00:00.000 AM
totalRuns: 464
resource_workflowName_s: InsightScape-LogicApp
Sep 9
Sep 10
Sep 11
Sep 12
Sep 13
Sep 14
Sep 15
Sep 16
Sep 17
TimeGenerated [UTC]
InsightScape-LogicApp
Chart formatting
0s 690ms
Display time (UTC+00:00)
Query details
218 records

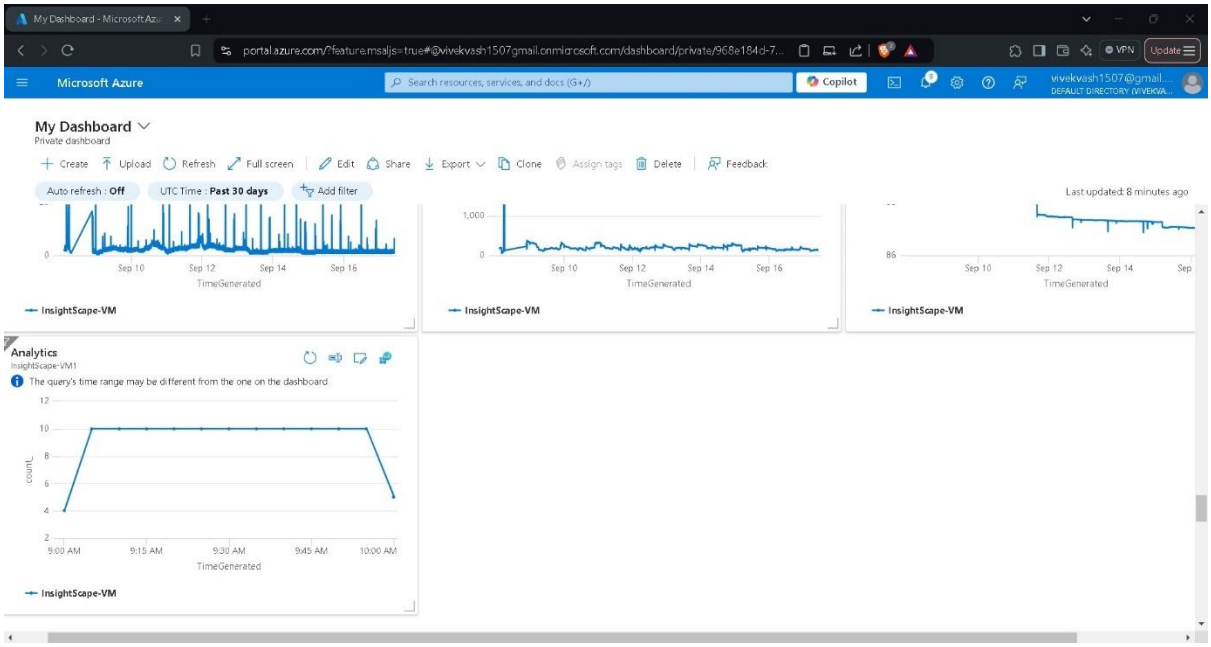

Monitor - Microsoft Azure
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Monitoring/AzureMonitoringBrowseBlade/~/logs
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
Home > Monitor
Monitor | Logs
Microsoft
New Query 1*
Save
Share
Queries hub
Run
Time range : Custom
Limit : 1000
KQL mode
1 AzureDiagnostics
2 | where ResourceProvider == "MICROSOFT.LOGIC"
3 | where Category == "WorkflowRuntime"
4 | where status_s == "Failed"
5 | summarize errorCodeCount = count() by code_s
6 | order by errorCodeCount desc
7
Results
Chart
code_s
errorCodeCount
GatewayTimeout
1
BadGateway
1
Columns
1s 953ms
Display time (UTC+00:00)
Query details
1 - 2 of 2

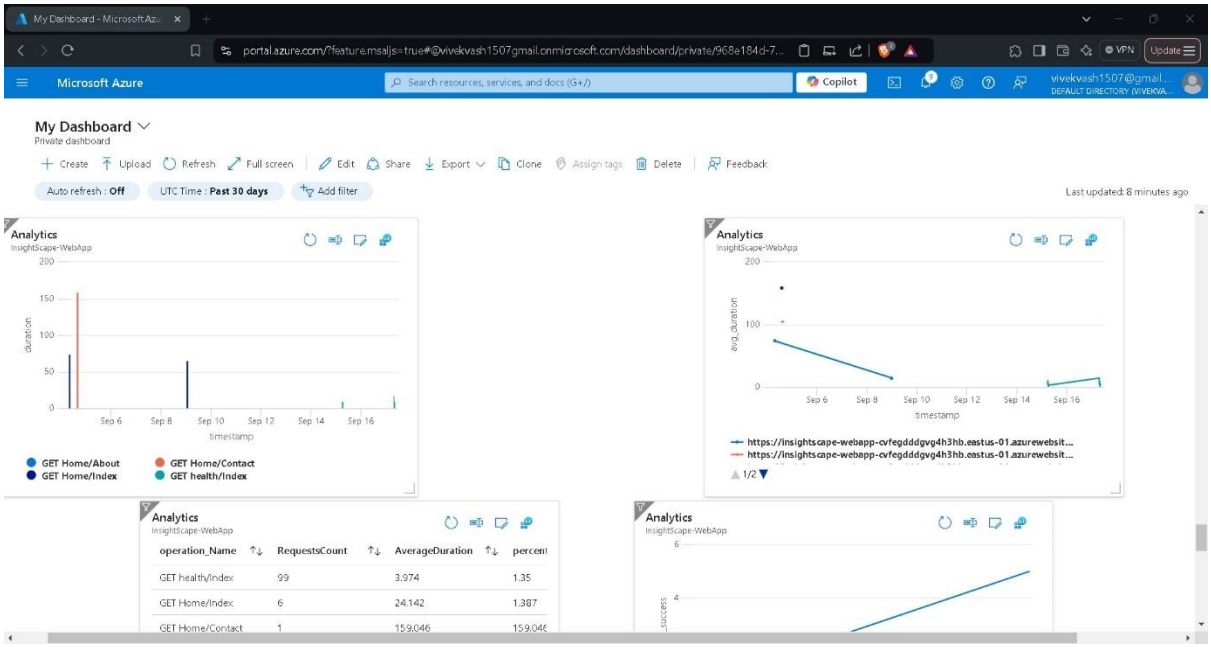

Monitor - Microsoft Azure
Microsoft Azure
Home > Monitor
Monitor | Logs
Microsoft
New Query 1*
Run
Time range : Custom
Limit : 1000
KQL mode
Save
Share
Queries hub
1 AzureDiagnostics
2 | where ResourceProvider == "MICROSOFT.LOGIC"
3 | where Category == "WorkflowRuntime"
4 | where status_s == "Failed"
5 | summarize errorCodeCount = count() by code_s
6 | order by errorCodeCount desc
7
Overview
Activity log
Alerts
Metrics
Logs
Change Analysis
Service health
Workbooks
Investigator (preview)
Insights
Applications
Virtual Machines
Storage accounts
Containers
Networks
SQL (preview)
Azure Cosmos DB
Results
Chart
code_s: GatewayTimeout
errorCodeCount: 1
errorCodeCount
GatewayTimeout
BadGateway
code_s
errorCodeCount
Chart formatting
1s 953ms
Query details
2 records

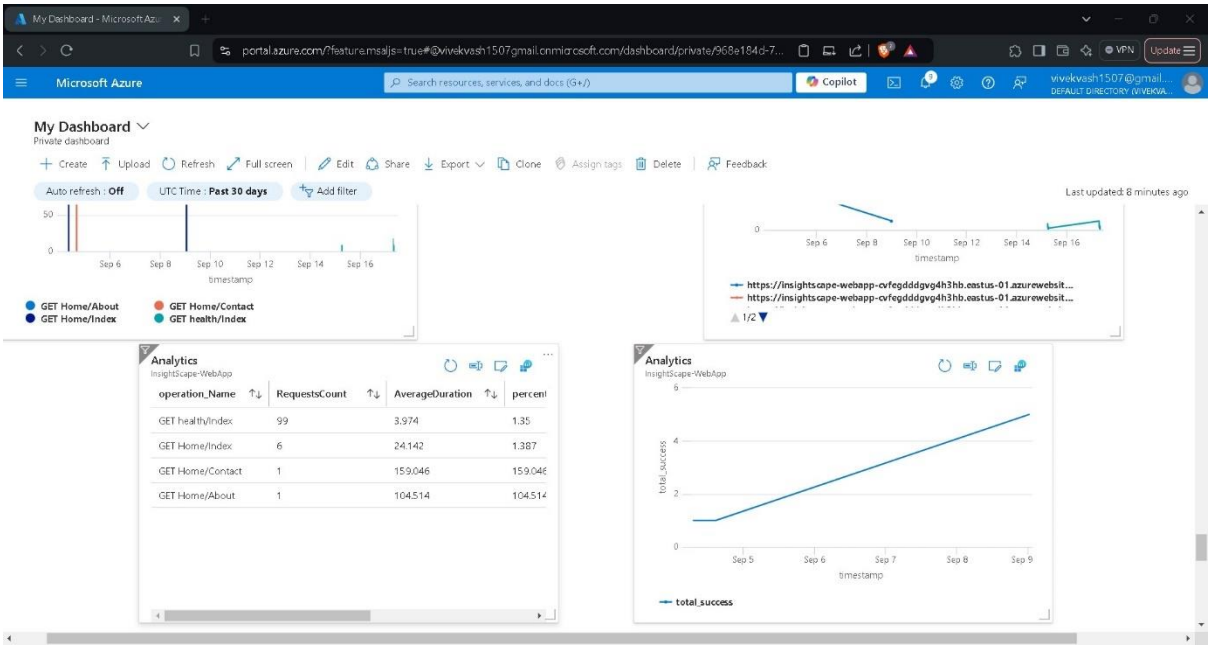

Monitor - Microsoft Azure
Microsoft Azure
Home > Monitor
Monitor | Logs
Microsoft
New Query 1*
Run
Time range : Last 7 days
Limit : 1000
1 AzureDiagnostics
2 | where ResourceProvider == "MICROSOFT.LOGIC"
3 | where Category == "WorkflowRuntime"
4 | where OperationName has "workflowTriggerStarted" or OperationName has "workflowActionStarted"
5 | summarize dcount(resource_runId_s) by OperationName, resource_workflowName_s
Results
Chart
OperationName
resource_workflowName_s
dcount_resource_runId_s
Microsoft.Logic/workflows/workflowTriggerStarted
InsightScape-LogicApp
37800
OperationName
Microsoft.Logic/workflows/workflowTriggerStarted
resource_workflowName_s
InsightScape-LogicApp
dcount_resource_runId_s
37800
1s 328ms
Pin to dashboard
Existing
Create new
Type
Private
Shared
Dashboard
My Dashboard
Pin
Cancel

Dashboard


My Dashboard - Microsoft Azu
Microsoft Azure
My Dashboard
Private dashboard
Create
Upload
Refresh
Full screen
Edit
Share
Export
Clone
Assign tags
Delete
Feedback
Auto refresh : Off
UTC Time : Past 30 days
Add filter
Last updated: 6 minutes ago
Analytics
InsightScape-VM1
Avg Disk
TimeGenerated
InsightScape-VM
Analytics
InsightScape-VM1
Avg Disk
TimeGenerated
InsightScape-VM
Analytics
InsightScape-VM1
Avg Disk
TimeGenerated
InsightScape-VM
Analytics
InsightScape-VM1
The query's time range may be different from the one on the dashboard


My Dashboard - Microsoft Azu
portal.azure.com/?feature.msaljs=true#@vivekvash1507gmail.onmicrosoft.com/dashboard/private/968e184d-7...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY (VIVEKVA...
My Dashboard
Private dashboard
Create
Upload
Refresh
Full screen
Edit
Share
Export
Clone
Assign tags
Delete
Feedback
Auto refresh : Off
UTC Time : Past 30 days
Add filter
Last updated: 8 minutes ago
TimeGenerated
InsightScape-VM
Analytics
InsightScape-VM1
The query's time range may be different from the one on the dashboard
count_
9:00 AM
9:15 AM
9:30 AM
9:45 AM
10:00 AM


My Dashboard - Microsoft Azu
portal.azure.com/?feature.msaljs=true#@vivekvash1507gmail.onmicrosoft.com/dashboard/private/968e184d-7...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
My Dashboard
Private dashboard
Auto refresh : Off
UTC Time : Past 30 days
Add filter
Last updated: 8 minutes ago
Analytics
InsightScape-WebApp
duration
timestamp
GET Home/About
GET Home/Index
GET Home/Contact
GET health/Index
avg_duration
https://insightscape-webapp-cvfegdddgvg4h3hb.eastus-01.azurewebsit...
1/2
operation_Name
RequestsCount
AverageDuration
percent
GET health/Index 99 3.974 1.35
GET Home/Index 6 24.142 1.387
GET Home/Contact 1 159.046 159.046
total_success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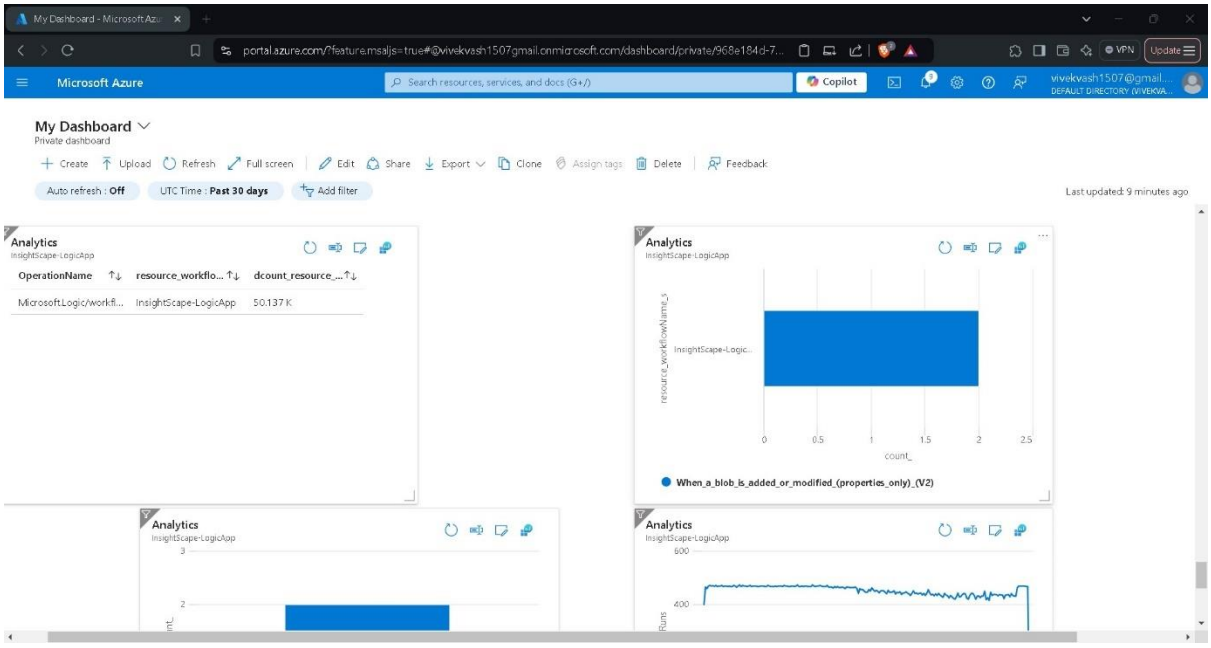
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
My Dashboard
Private dashboard
Auto refresh : Off
UTC Time : Past 30 days
Add filter
Last updated: 8 minutes ago
timestamp
GET Home/About
GET Home/Index
GET Home/Contact
GET health/Index
https://insightscape-webapp-cvfegdddgvg4h3hb.eastus-01.azurewebsit...
1/2
Analytics
InsightScape-WebApp
operation_Name
RequestsCount
AverageDuration
percent
GET health/Index 99 3.974 1.35
GET Home/Index 6 24.142 1.387
GET Home/Contact 1 159.046 159.046
GET Home/About 1 104.514 104.514
total_success
total_success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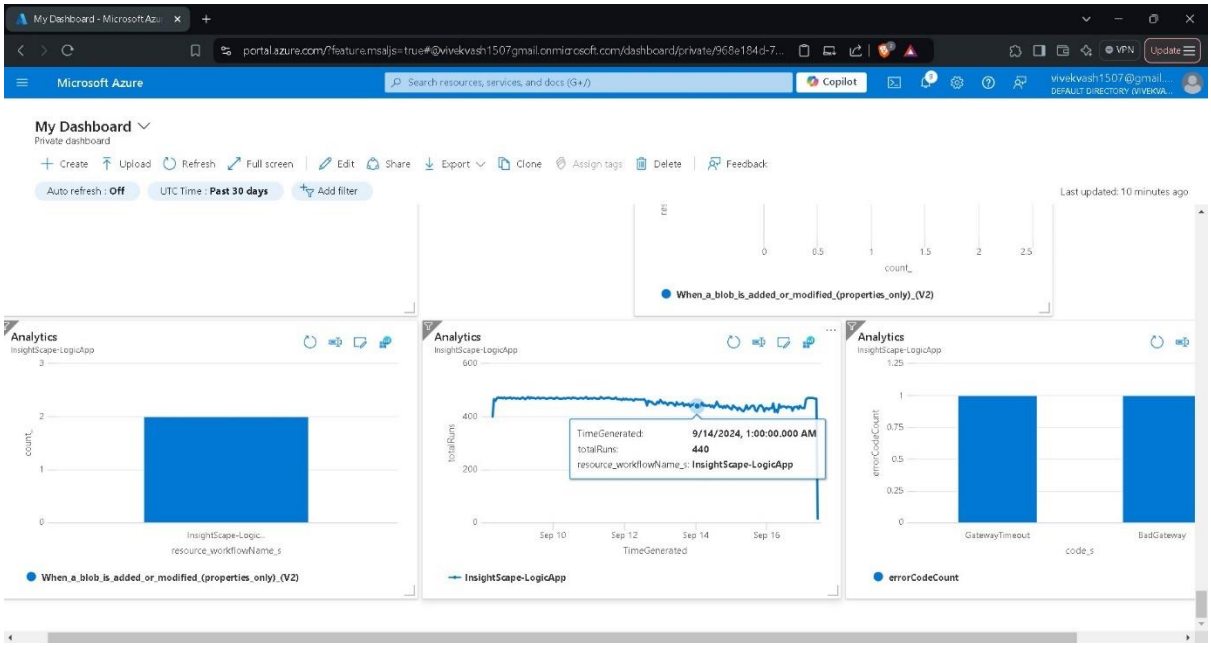
portal.azure.com/?feature.msaljs=true#@vivekvash1507gmail.onmicrosoft.com/dashboard/private/968e184d-7...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY (VIVEKVA...
My Dashboard
Private dashboard
Create
Upload
Refresh
Full screen
Edit
Share
Export
Clone
Assign tags
Delete
Feedback
Auto refresh : Off
UTC Time : Past 30 days
Add filter
Last updated: 9 minutes ago
Analytics
InsightScape-LogicApp
OperationName
resource_workflo...
dcount_resource_...
MicrosoftLogic/workfl...
InsightScape-LogicApp
50.137 K
resource_workflowName_s
InsightScape-Logic...
count_
When_a_blob_is_added_or_modified_(properties_only)_(V2)
Runs


My Dashboard - Microsoft Azu
portal.azure.com/?feature.msaljs=true#@vivekvash1507gmail.onmicrosoft.com/dashboard/private/968e184d-7...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY (VIVEKVA...
My Dashboard
Private dashboard
Create
Upload
Refresh
Full screen
Edit
Share
Export
Clone
Assign tags
Delete
Feedback
Auto refresh : Off
UTC Time : Past 30 days
Add filter
Last updated: 10 minutes ago
Analytics
InsightScape-LogicApp
count_
When_a_blob_is_added_or_modified_(properties_only)_(V2)
resource_workflowName_s
totalRuns
TimeGenerated
TimeGenerated: 9/14/2024, 1:00:00.000 AM
totalRuns: 440
resource_workflowName_s: InsightScape-LogicApp
InsightScape-LogicApp
errorCodeCount
code_s
GatewayTimeout
BadGateway

Application Insights

In this phase of the project, my plan was to work with and monitor the **WebApp** through **Application Insights**.

a) Overview Page Monitoring

First, I went to Application Insights in the Azure Portal.

- In the Overview Page of the InsightScape-WebApp's Application Insights, I monitored the charts showing:
    - Failed Requests: Number of failed requests.
    - Server Response Time: Average response time of the server.
    - Server Requests: Count of server requests.
    - Availability: Uptime metrics of the web app.

b) Performance Analysis

Next, to monitor performance in more detail, I navigated to the Performance Tab under Investigate in Application Insights.

- Operations Page:
    - I analyzed in-depth how different operations within the application were executed, including evaluating their response times, success rates, and performance metrics across various endpoints.
    - This provided a holistic view of the application's efficiency and areas requiring optimization over time.
- Roles Page:
    - Within the same Performance tab, I accessed the Roles Page.
    - I analyzed performance metrics for different roles within the application, focusing on indicators such as:
        - CPU Usage
        - Memory Availability
        - Request Rates
        - Average Request Duration
    - The goal was to identify any deviations or bottlenecks specific to each role, ensuring that individual components are effectively optimized and balanced for overall application efficiency.

c) Failure Analysis

Then, I moved to the Failures Tab under Investigate in Application Insights.

- In the Roles Page within the Failures Tab, I analyzed the failure metrics for different roles in the application, focusing on key aspects such as:
    - Dependency Failures: Failures in external dependencies.

    - Failed Requests: Failed HTTP requests.
    - Total Exceptions: Number of exceptions thrown by the application.
- This helped identify problem areas that could impact the application's reliability and stability, allowing for targeted improvements and better fault tolerance.

d) User Analysis

Next, I went to the Users Tab under Usage in Application Insights.

- I analyzed user interactions with the application, including metrics such as:
    - Number of Sessions: How many sessions were initiated by users.
    - Events Triggered: User-generated events in the application.
    - User Demographics: Details like user location and browser types.
- This data helped me understand how users engaged with the web application, identify any performance concerns, and evaluate the overall user experience and satisfaction.

e) Live Metrics

Then, I went to the Live Metrics tab to monitor real-time telemetry for the InsightScape-WebApp.

- I set up real-time telemetry to monitor the performance of the WebApp, demonstrating my skills in Azure resource monitoring and maintenance.
- At the time of observation, data was temporarily unavailable, which can happen due to temporary backend issues or configuration updates.
- I resolved the issue by verifying the Instrumentation Key and restarting the application to refresh the connection. After this, I was able to proceed successfully.

f) Diagnostics Settings

After completing performance, failure, and user analysis, I added Diagnostic Settings for the Application Insights:

- Diagnostic Setting Name: AppInsights-Diagnostics
- Logs:
    - allLogs (Ticked)
- Destination Details:
    - Send to Log Analytics Workspace: Selected the Default Log Analytics workspace.

g) Dashboard Analysis

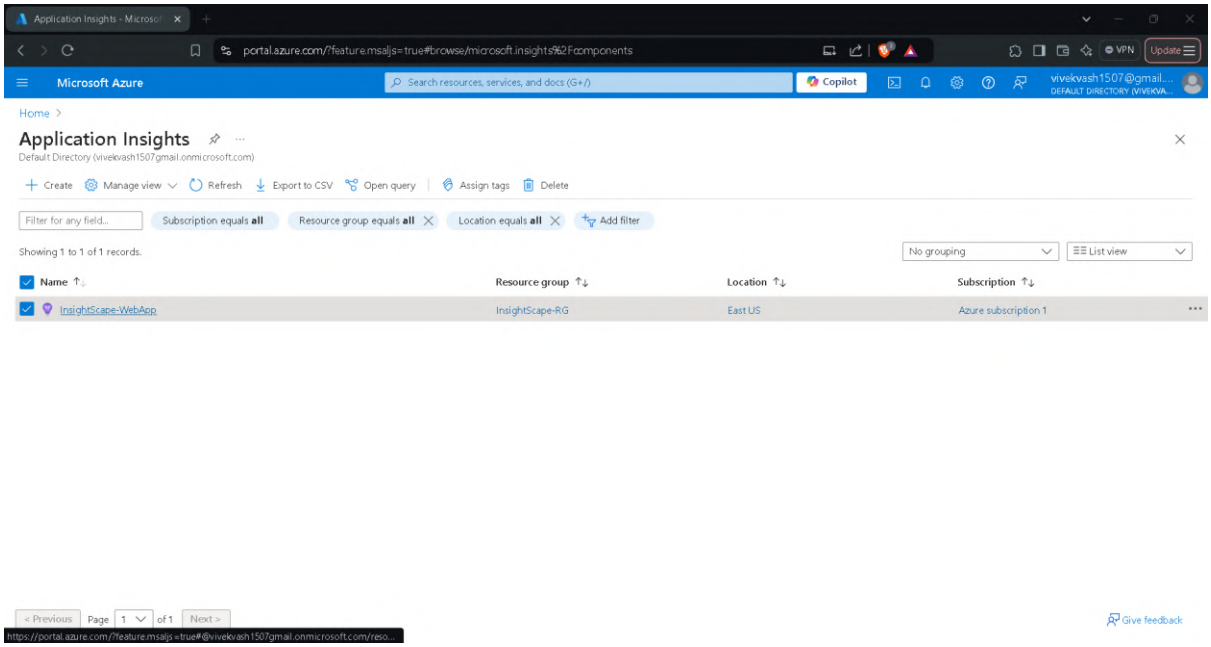
In the end, I accessed the InsightScape-WebApp Dashboard to analyze the consolidated telemetry data across various aspects of the application, including:

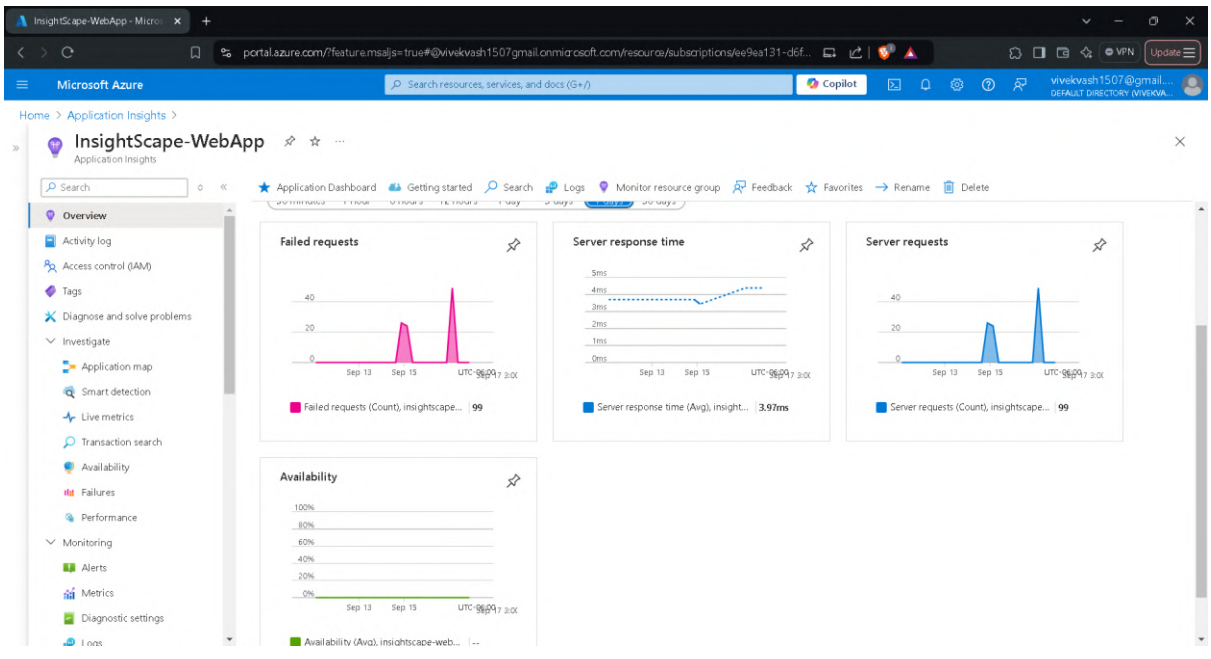
- Usage: Number of sessions and unique users.
- Reliability: Failed requests and server errors.
- Responsiveness: Average server response times.
- Resource Utilization: CPU and memory usage for the web app.

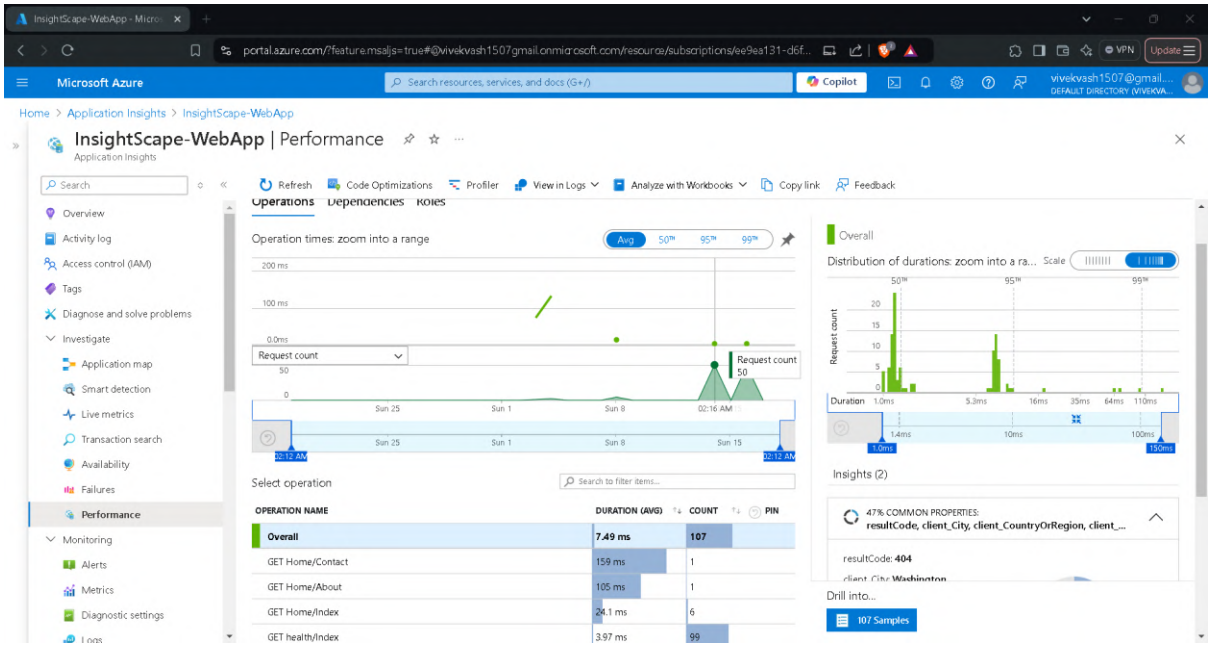
I focused on metrics such as unique sessions, server response times, and failed requests to gain insights into the overall health and performance of the application, ensuring all key components were functioning optimally.

With this, the entire Step 4: Application Insights phase of the project was successfully completed.

Screenshots






InsightScape-WebApp - Micro
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Operation times: zoom into a range
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99th
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Distribution of durations: zoom into a ra...
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47% COMMON PROPERTIES:
resultCode, client_City, client_CountryOrRegion, client_...
resultCode: 404
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PIN
Overall
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GET Home/Contact
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1
GET Home/About
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1
GET Home/Index
24.1 ms
6
GET health/Index
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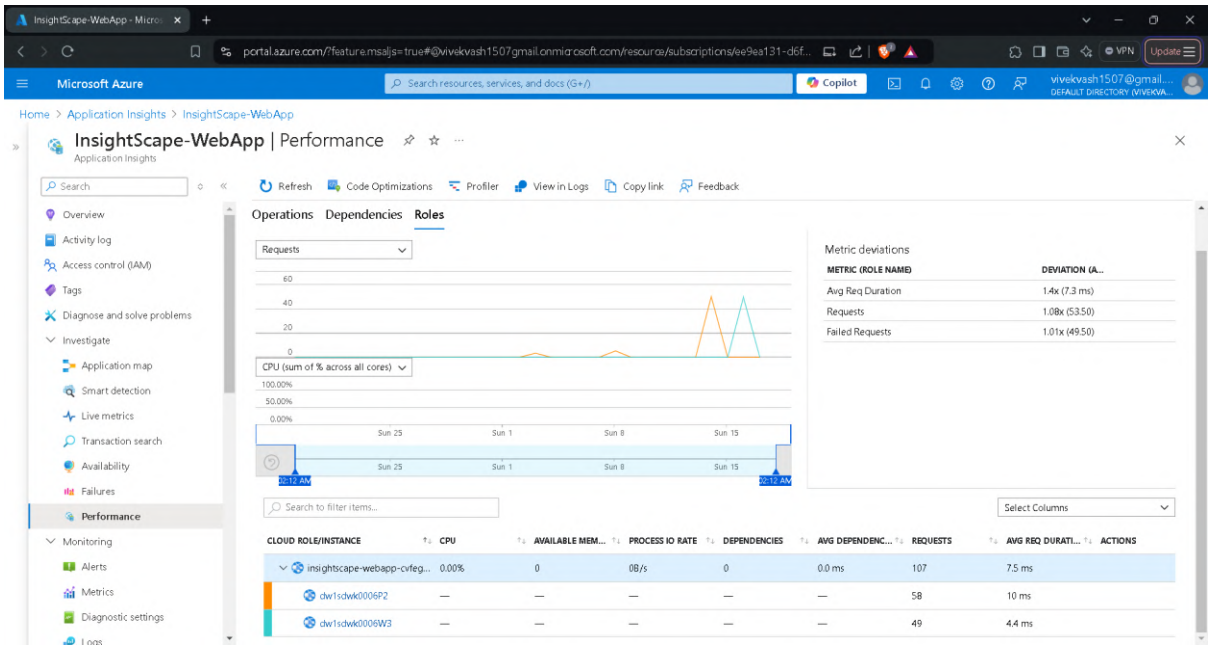
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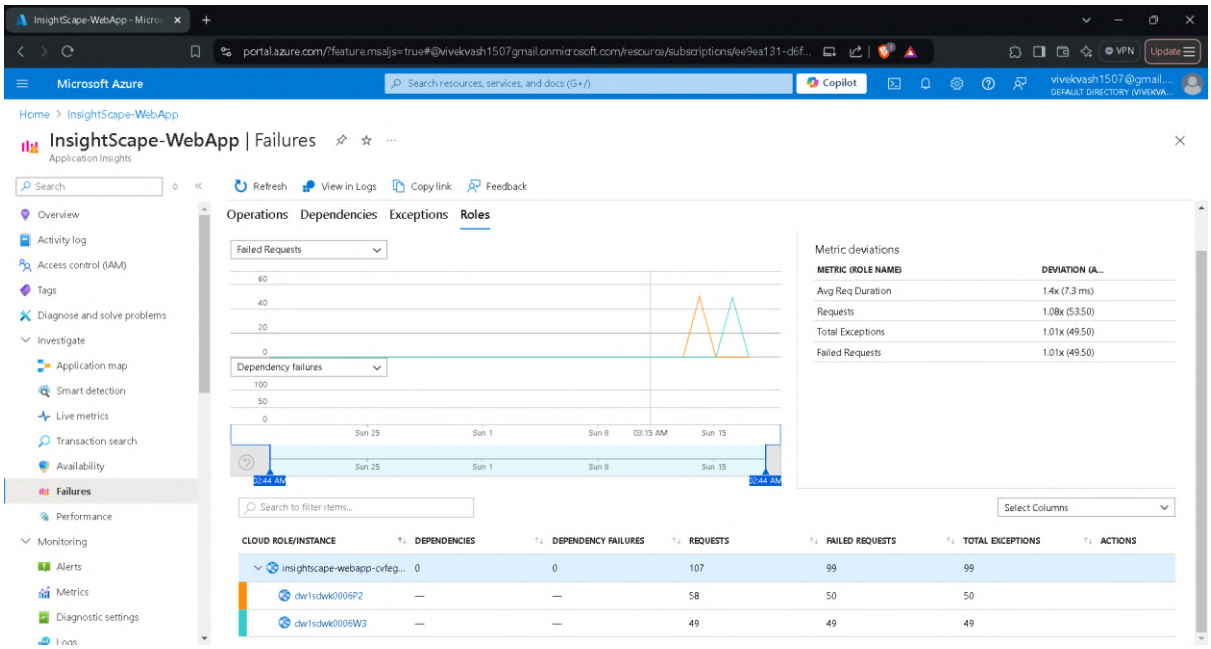
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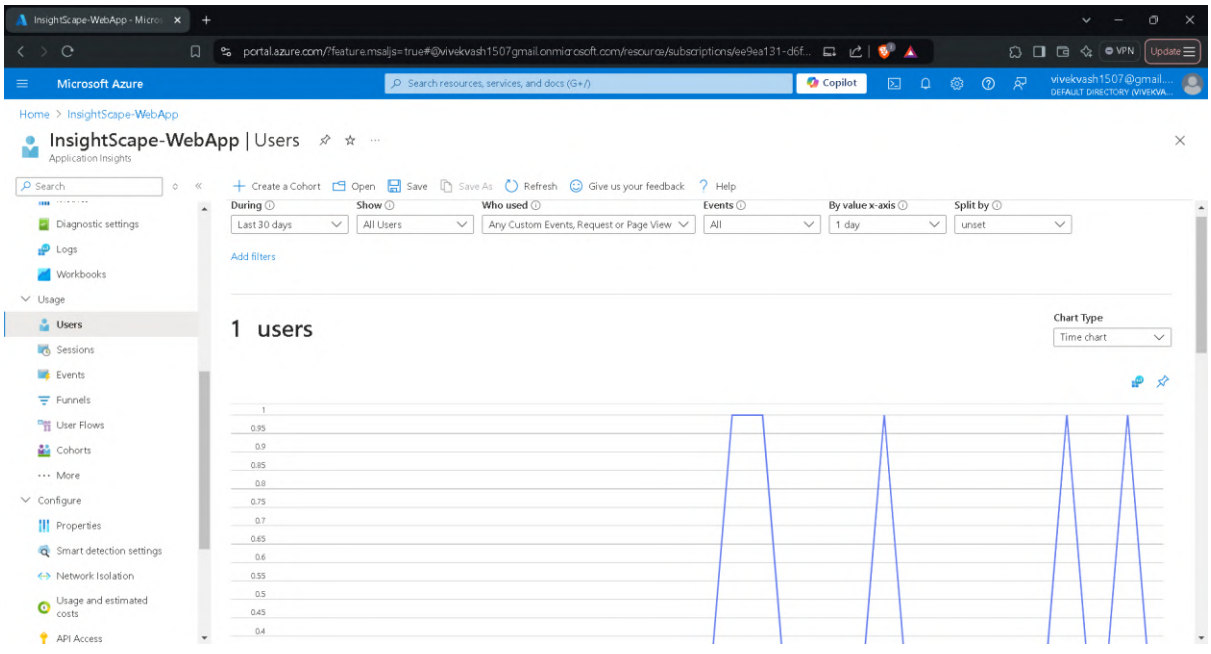
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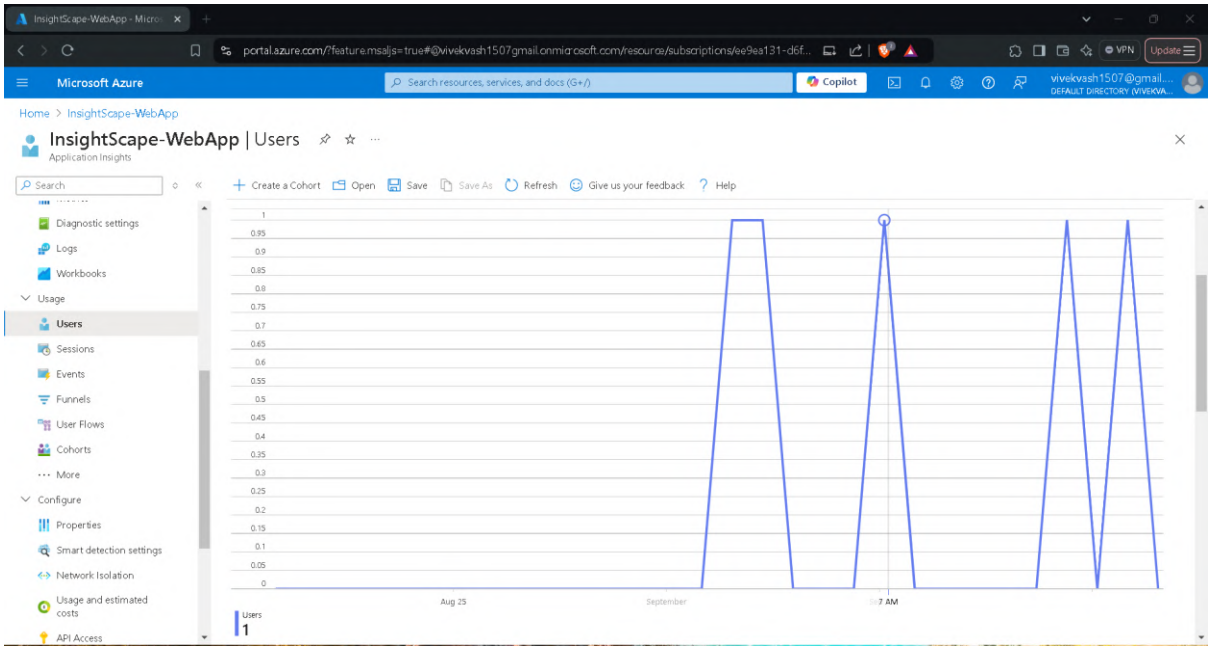
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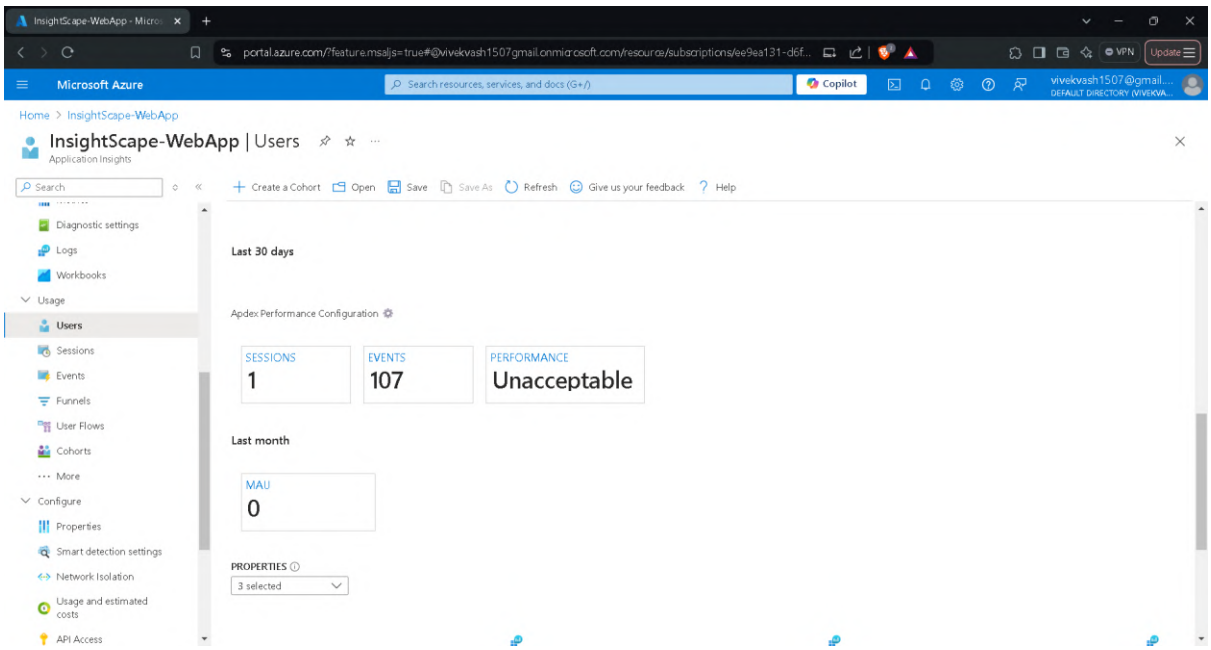
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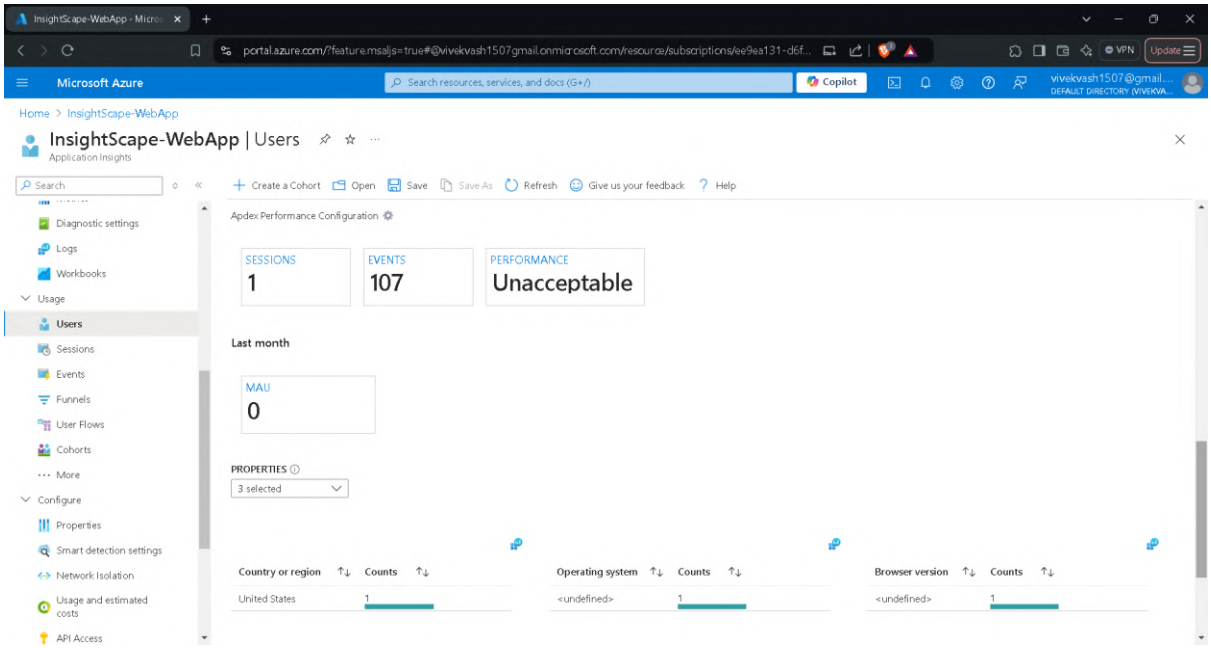
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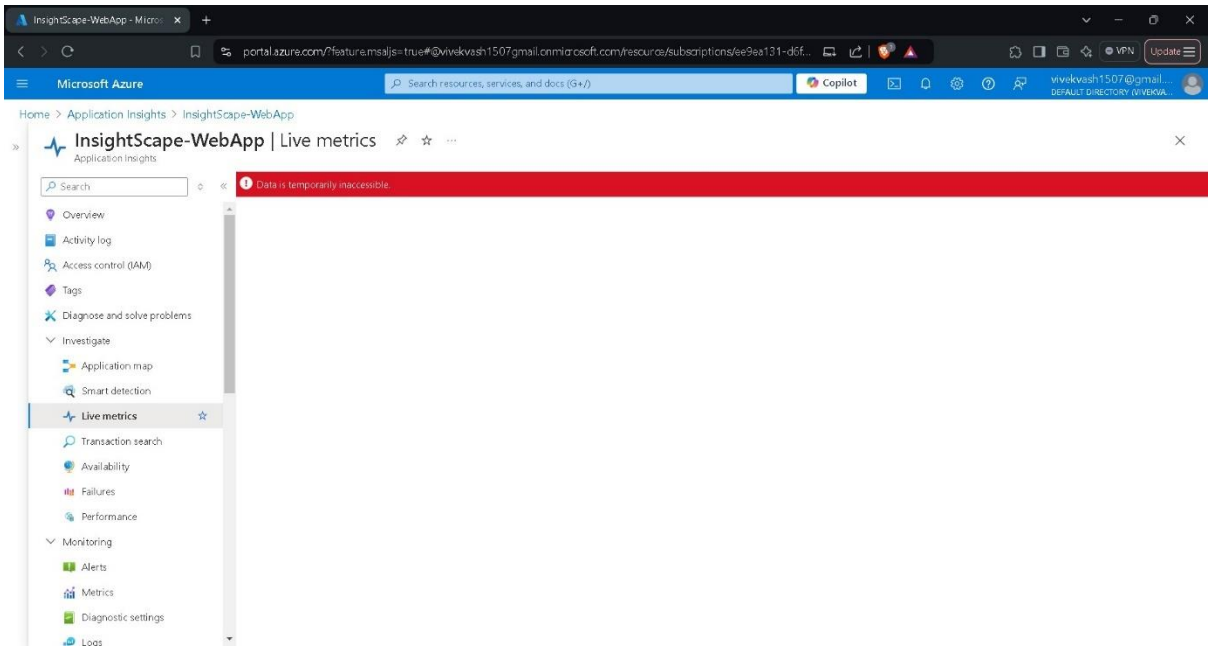
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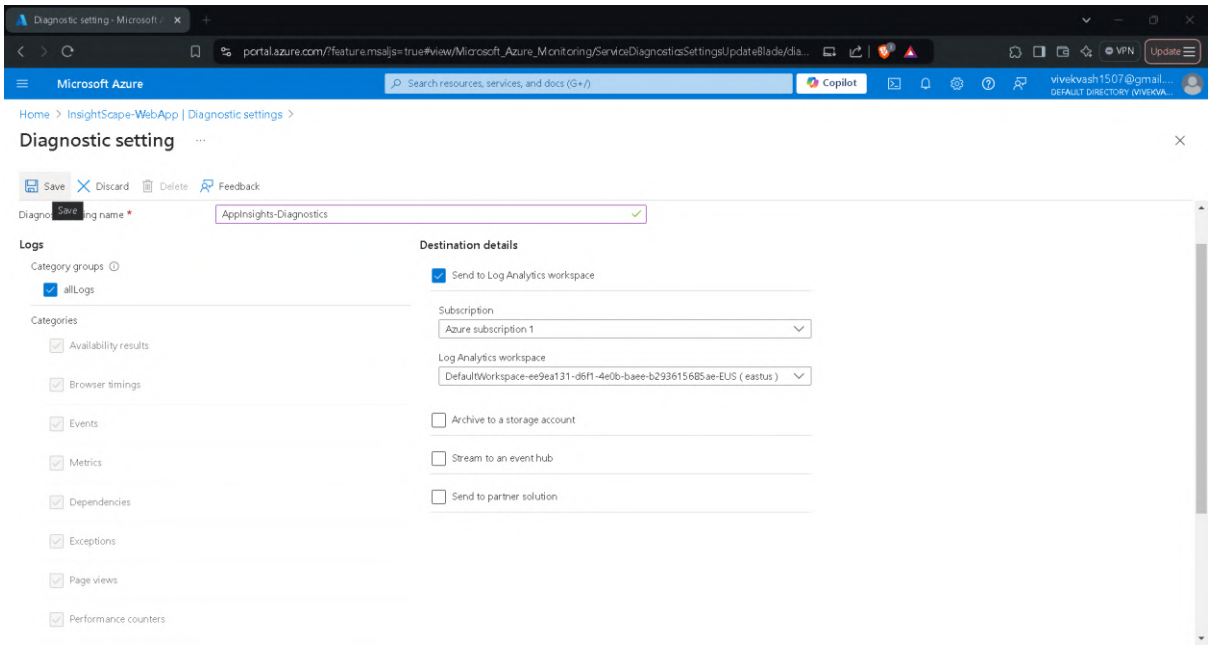
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Performance counters
Destination details
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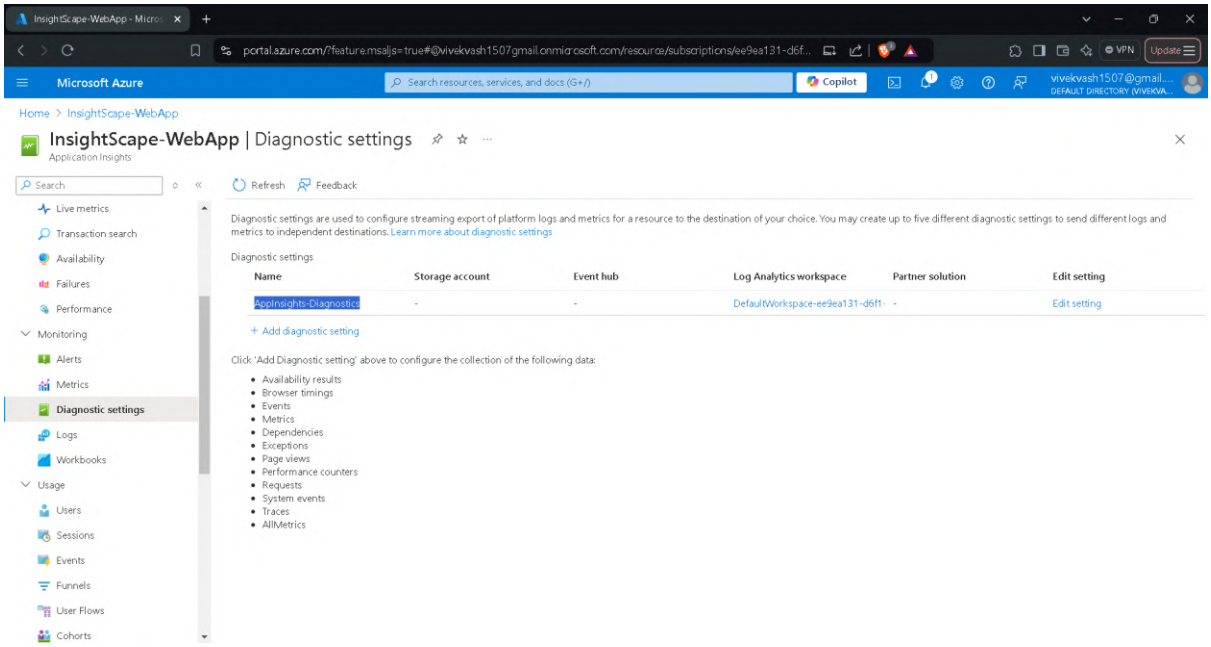
Stream to an event hub
Send to partner solution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Diagnostic settings are used to configure streaming export of platform logs and metrics for a resource to the destination of your choice. You may create up to five different diagnostic settings to send different logs and metrics to independent destinations. Learn more about diagnostic settings
Diagnostic settings
Name
Storage account
Event hub
Log Analytics workspace
Partner solution
Edit setting
AppInsights-Diagnostics
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Edit setting
Add diagnostic setting
Click 'Add Diagnostic setting' above to configure the collection of the following data:
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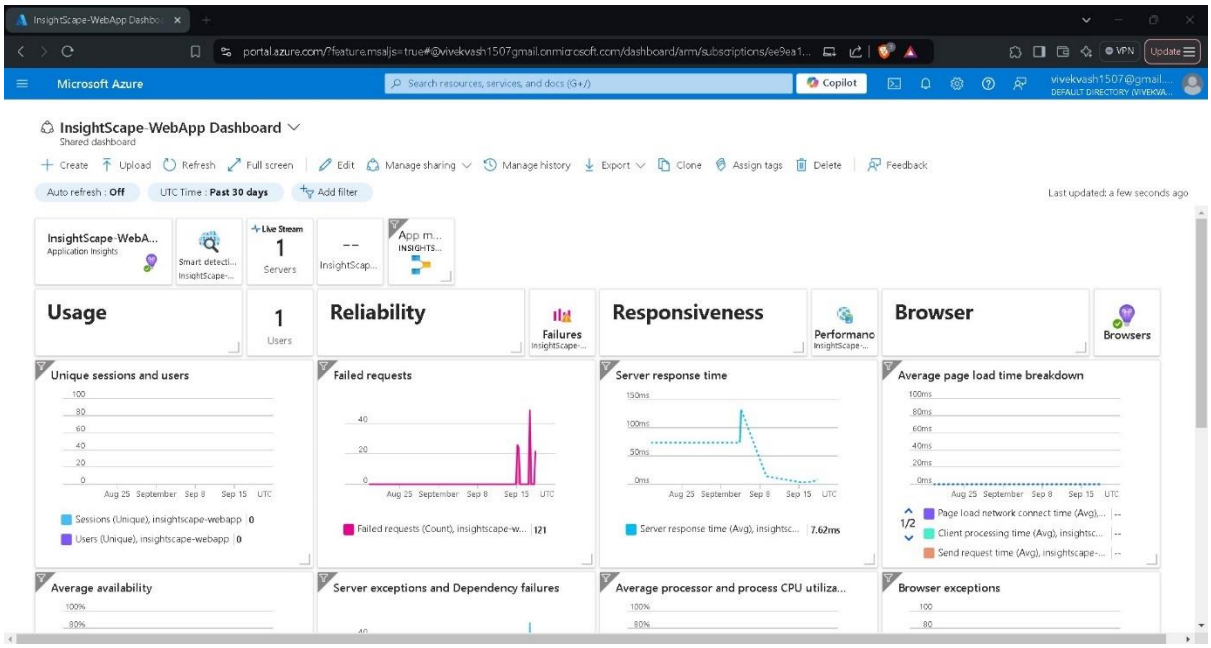
Browser timings
Events
Metrics
Dependencies
Exceptions
Page views
Performance counters
Requests
System events
Traces
AllMetrics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Manage sharing
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Clone
Assign tags
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Feedback
Auto refresh : Off
UTC Time : Past 30 days
Add filter
Last updated: a few seconds ago
Usage
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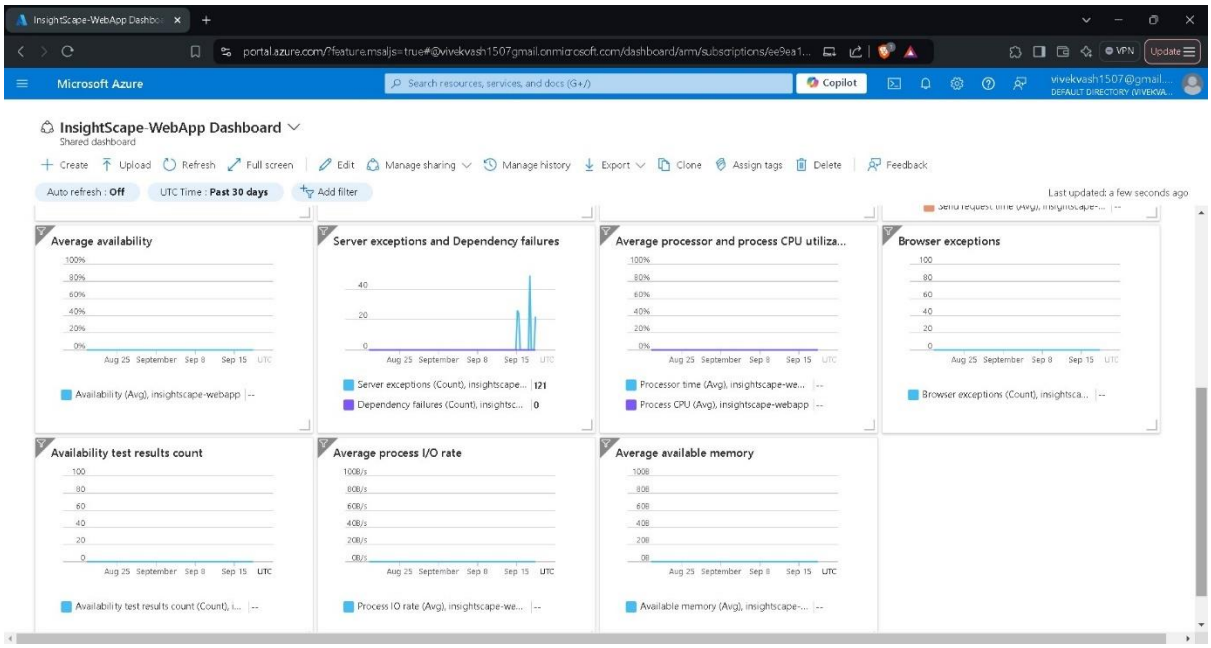
Failures
Responsiveness
Browser
Unique sessions and users
Failed requests
Server response time
Average page load time breakdown
Average availability
Server exceptions and Dependency failures
Average processor and process CPU utiliza...
Browser exceptions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Manage history
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Server exceptions and Dependency failures
Average processor and process CPU utiliza...
Browser exceptions
Availability test results count
Average process I/O rate
Average available memory

Network Monitoring

In this phase of the project, my goal was to work with **Network Watcher** to monitor and analyze network resources effectively.

a) Network Topology Analysis

First of all, I went to Network Watcher for my region, which was **"NetworkWatcher_eastus".**

- I navigated to the Topology feature under Monitoring in Network Watcher.
- I selected the following scope:
  - **Resource Group:** InsightScape-RG
  - **Location:** East US
- Using the Network Watcher Topology feature, I visualized and analyzed the network infrastructure of my Azure environment. This tool provided:
  - A geographic overview and detailed topology of resources like:
    - Virtual Networks
    - Subnets
    - Network Security Groups (NSGs)
    - Virtual Machines (VMs)
  - By exploring the different tabs, such as Geo Map and Virtual Network, I could:
    - Pinpoint the deployment location of resources.
    - Examine network configuration details.
    - Assess how different components interact.
  - This comprehensive view helped me identify network bottlenecks, connectivity issues, and ensured optimal resource allocation across Azure regions.

b) NSG Diagnostics

Next, I proceeded to work with NSG diagnostics, which is available under Network Diagnostic Tools in Network Watcher.

- First, I accessed both VMs' NSGs (InsightScape-VM1-nsg and InsightScape-VM2-nsg) to analyze their inbound and outbound rules.
  - I noticed that Port 80 Inbound Access was allowed from any network in the InsightScape-VM1-nsg.
  - This made it an ideal scenario for testing with NSG diagnostics.

NSG Diagnostics Test 1: Allow Traffic

I went to the NSG diagnostics tool and configured the following settings:

- Target Resource:
  - Target Resource Type: Virtual Machine
  - Virtual Machine: InsightScape-VM1
- Traffic Details:

    - Protocol: TCP
    - Direction: Inbound
    - Source Type: IPv4 Address/CIDR
    - IPv4 Address/CIDR: 104.41.159.133 (Public IP of InsightScape-VM2)
    - Destination IP Address: 52.170.47.103 (Public IP of InsightScape-VM1)
    - Destination Port: 80

After entering these configurations, I clicked on "Run NSG diagnostic".

- Results:
    - Traffic Status: Allowed

NSG Diagnostics Test 2: Deny Traffic

Next, I wanted to test a different scenario. I specifically added a new Inbound Security Rule in InsightScape-VM1-nsg:

- Priority: 100 (Lower priority than the other rules)
- Name: DenyCidrBlockHTTPInbound-Simulation
- Port: 80
- Protocol: TCP
- Source: 104.41.159.133 (Public IP of InsightScape-VM2)
- Destination: 52.170.47.103 (Public IP of InsightScape-VM1)
- Action: Deny

After adding this rule, I ran the NSG diagnostic again with the following settings:

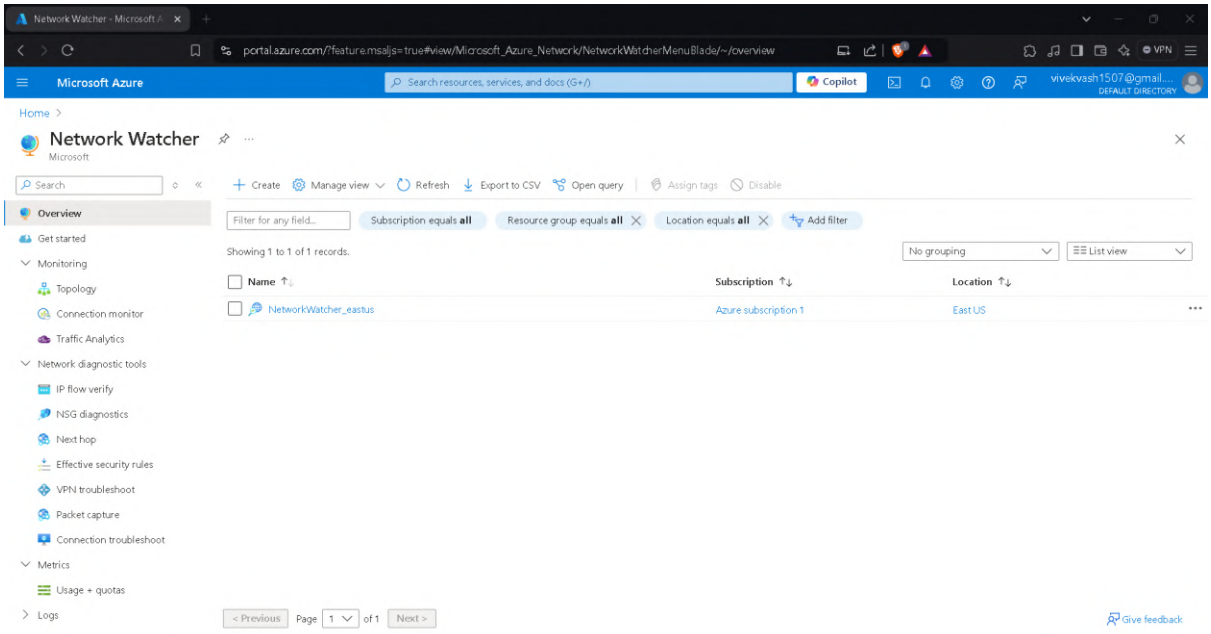
- Target Resource:
    - Target Resource Type: Virtual Machine
    - Virtual Machine: InsightScape-VM1
- Traffic Details:
    - Protocol: TCP
    - Direction: Inbound
    - Source Type: IPv4 Address/CIDR
    - IPv4 Address/CIDR: 104.41.159.133 (Public IP of InsightScape-VM2)
    - Destination IP Address: 52.170.47.103 (Public IP of InsightScape-VM1)
    - Destination Port: 80
- Results:
    - Traffic Status: Denied

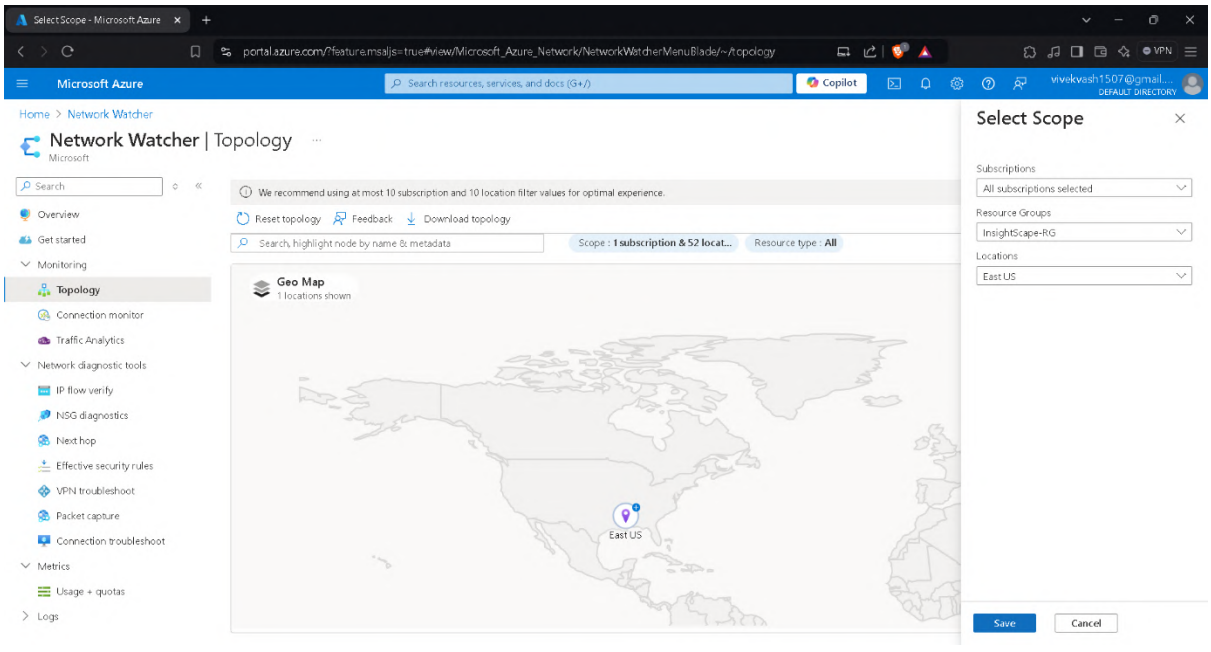
c) Conclusion

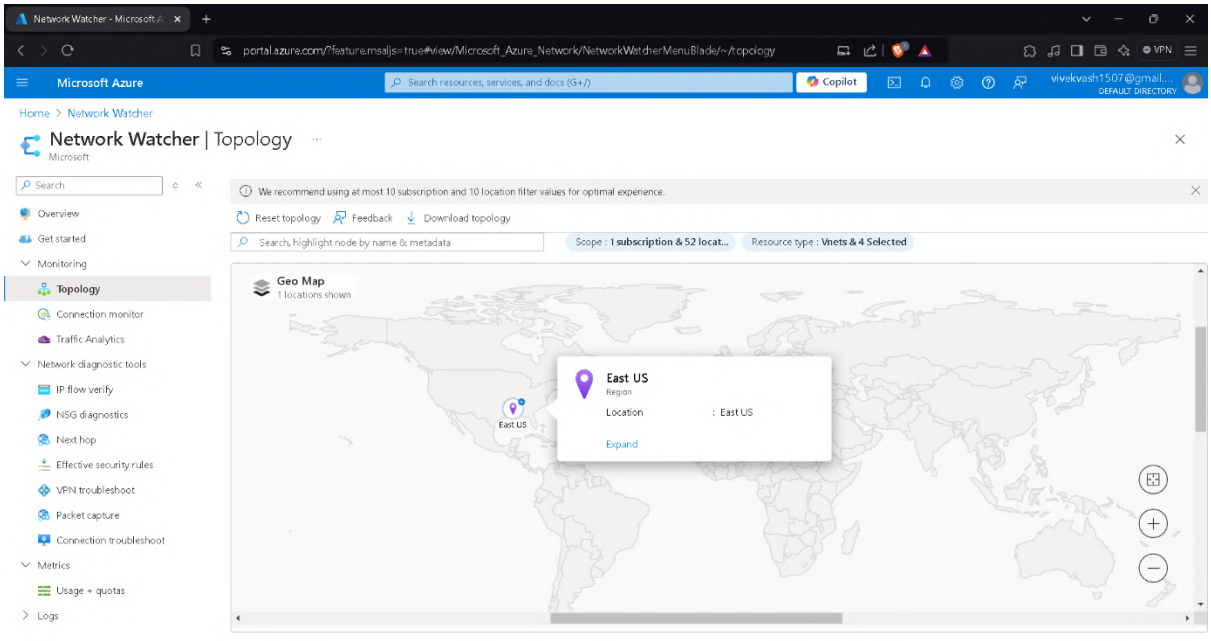
With these tests, I successfully demonstrated the use of NSG diagnostics to validate inbound traffic configurations and to verify how security rules impacted traffic flow to the virtual machines.

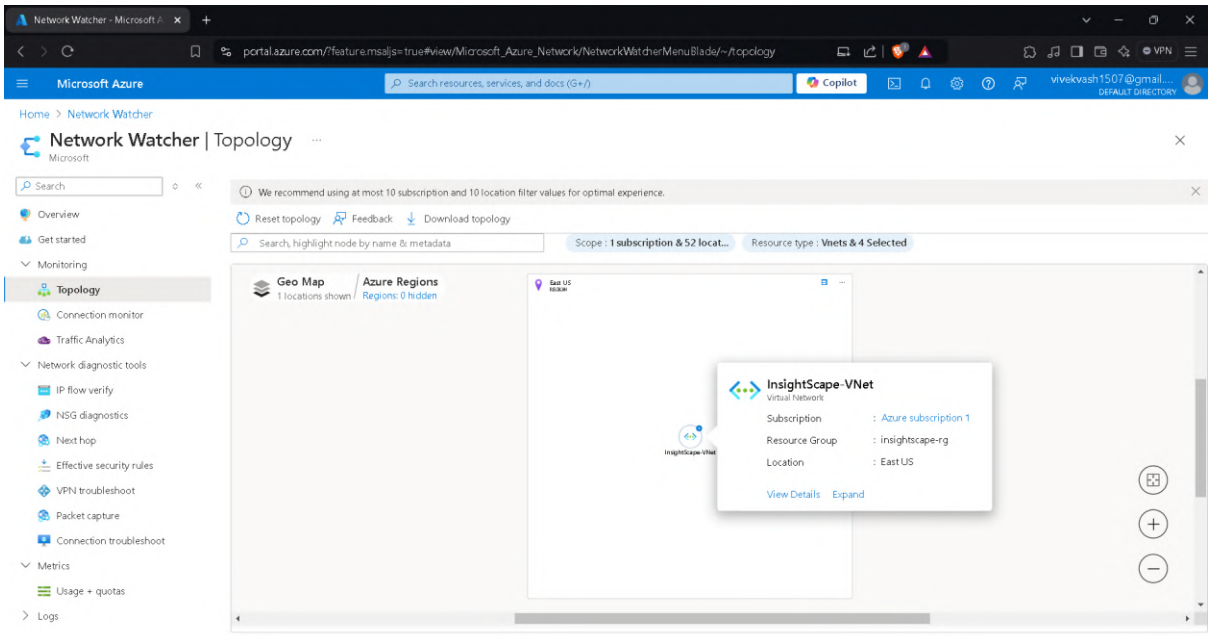
This concluded the Step 5: Network Monitoring phase of the project, and it was successfully completed.

Screenshots





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IP flow verify
NSG diagnostics
Next hop
Effective security rules
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Packet capture
Connection troubleshoot
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Logs
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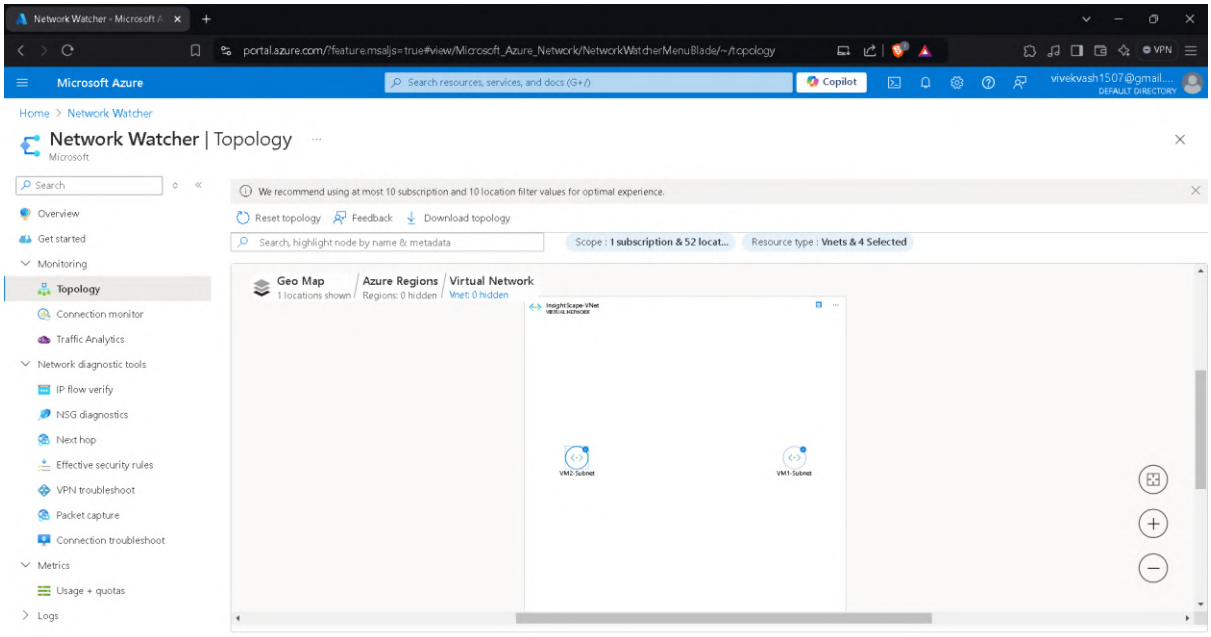
Network Watcher - Microsoft A
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DEFAULT DIRECTORY
Home > Network Watcher
Network Watcher | Topology
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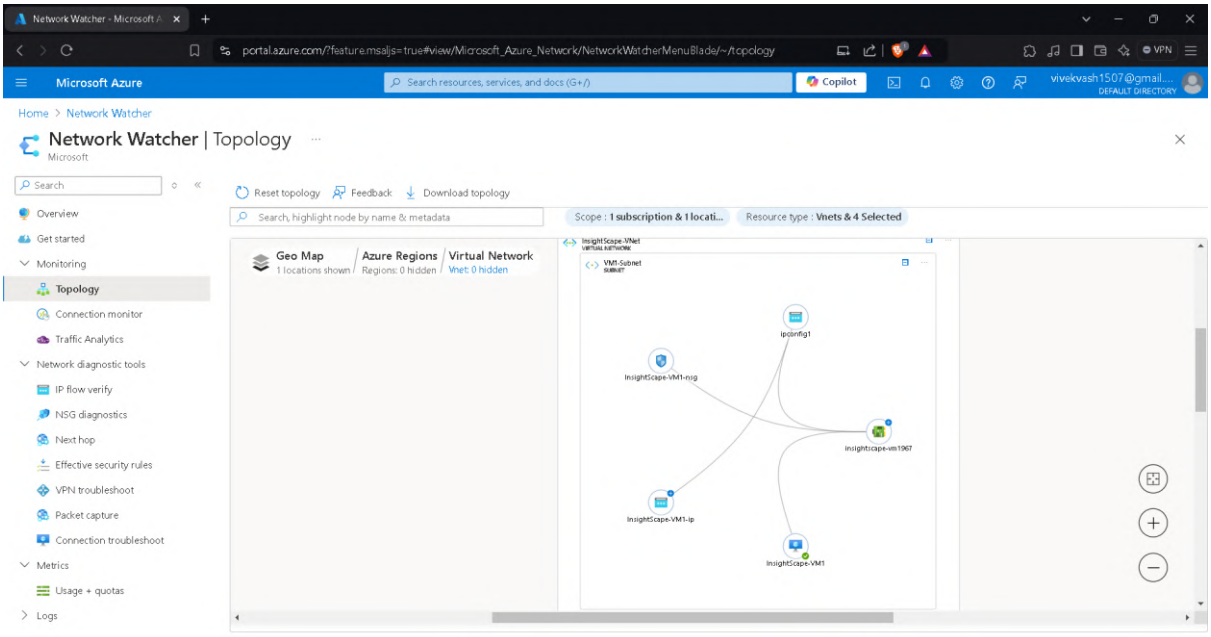
Overview
Get started
Monitoring
Topology
Connection monitor
Traffic Analytics
Network diagnostic tools
IP flow verify
NSG diagnostics
Next hop
Effective security rules
VPN troubleshoot
Packet capture
Connection troubleshoot
Metrics
Usage + quotas
Logs
We recommend using at most 10 subscription and 10 location filter values for optimal experience.
Reset topology
Feedback
Download topology
Search, highlight node by name & metadata
Scope : 1 subscription & 52 locat...
Resource type : Vnets & 4 Selected
Geo Map
1 locations shown
Azure Regions
Regions: 0 hidden
Virtual Network
Vnet: 0 hidden
InsightScape-VNet
VM2-Subnet
VM1-Subnet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Geo Map
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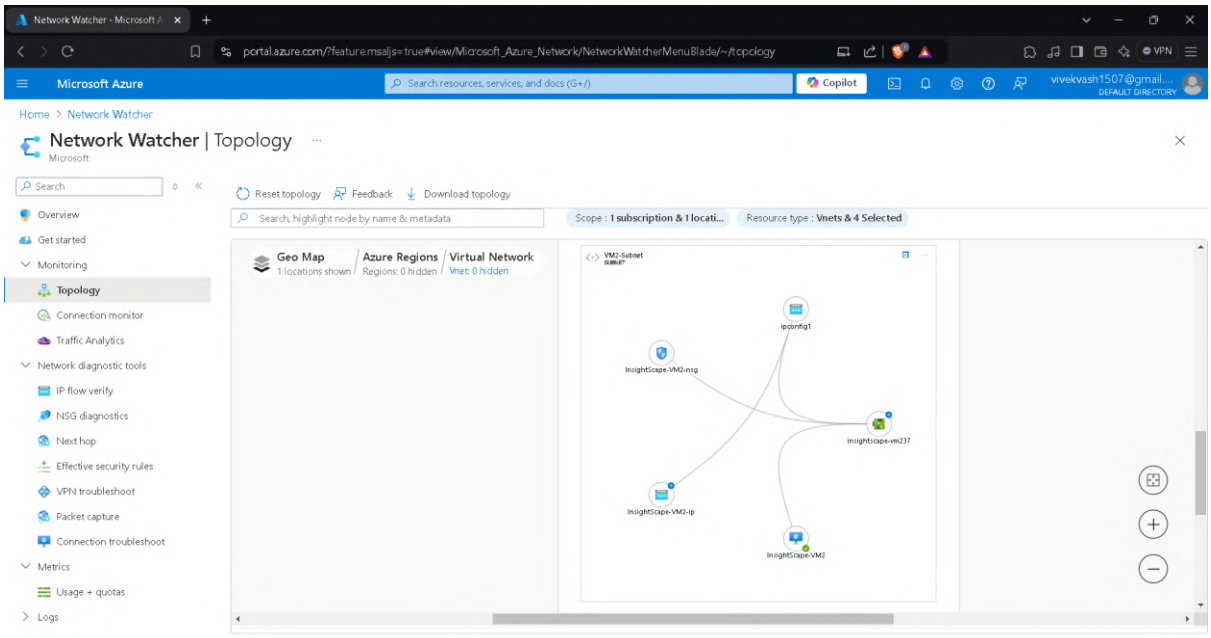
Azure Regions
Regions: 0 hidden
Virtual Network
Vnet: 0 hidden
InsightScape-VNet
VM1-Subnet
ipconfig1
InsightScape-VM1-nsg
insightscape-vm1967
InsightScape-VM1-ip
InsightScape-VM1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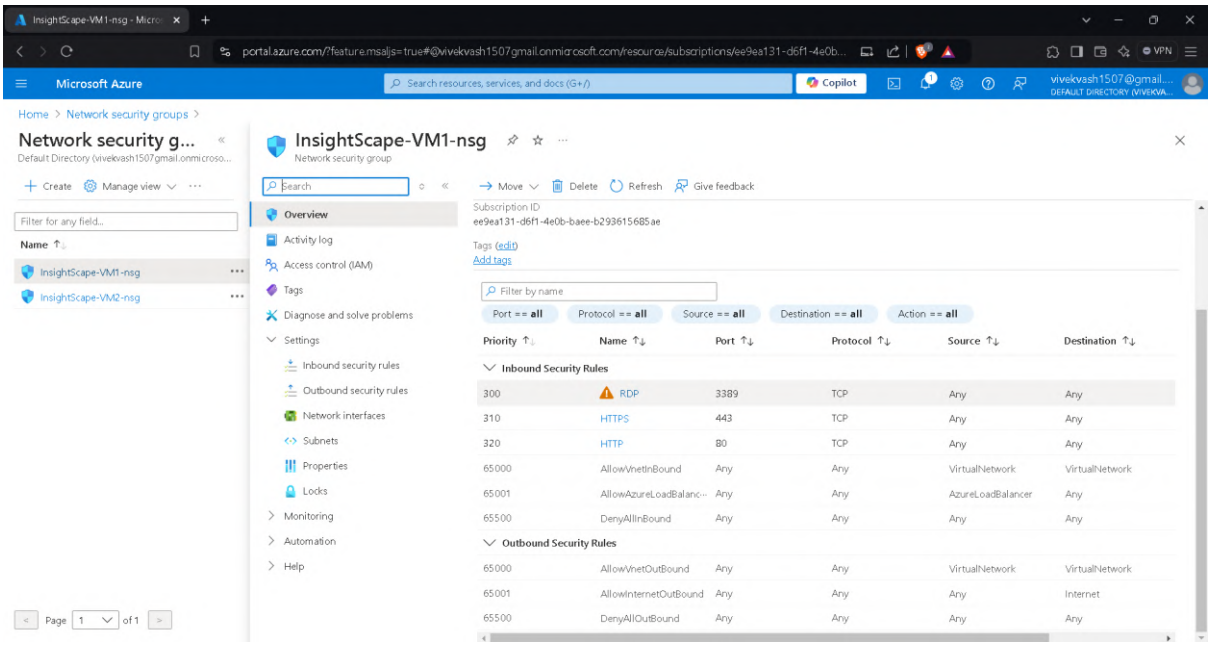
NSG diagnostics
Next hop
Effective security rules
VPN troubleshoot
Packet capture
Connection troubleshoot
Metrics
Usage + quotas
Logs
Reset topology
Feedback
Download topology
Search, highlight node by name & metadata
Scope : 1 subscription & 1 locati...
Resource type : Vnets & 4 Selected
Geo Map
1 locations shown
Azure Regions
Regions: 0 hidden
Virtual Network
Vnet: 0 hidden
VM2-Subnet
SUBNET
ipconfig1
InsightScape-VM2-nsg
insightscape-vm237
InsightScape-VM2-ip
InsightScape-VM2


InsightScape-VM1-nsg - Micro
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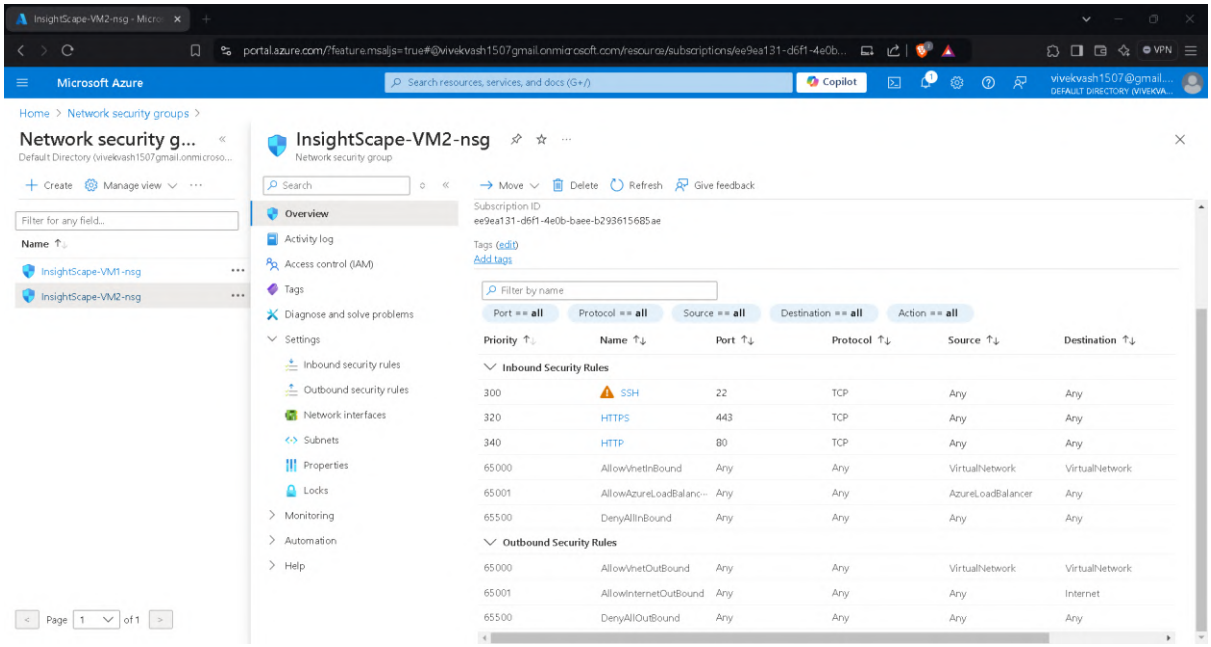
Create
Manage view
Filter for any field...
Name
InsightScape-VM1-nsg
InsightScape-VM2-nsg
Page 1 of 1
InsightScape-VM1-nsg
Network security group
Search
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Settings
Inbound security rules
Outbound security rules
Network interfaces
Subnets
Properties
Locks
Monitoring
Automation
Help
Move
Delete
Refresh
Give feedback
Subscription ID
ee9ea131-d6f1-4e0b-baee-b293615685ae
Tags (edit)
Add tags
Filter by name
Port == all
Protocol == all
Source == all
Destination == all
Action == all
Priority
Name
Port
Protocol
Source
Destination
Inbound Security Rules
300 RDP 3389 TCP Any Any
310 HTTPS 443 TCP Any Any
320 HTTP 80 TCP Any Any
65000 AllowVnetInBound Any Any VirtualNetwork VirtualNetwork
65001 AllowAzureLoadBalanc... Any Any AzureLoadBalancer Any
65500 DenyAllInBound Any Any Any Any
Outbound Security Rules
65000 AllowVnetOutBound Any Any VirtualNetwork VirtualNetwork
65001 AllowInternetOutBound Any Any Any Internet
65500 DenyAllOutBound Any Any Any Any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Filter for any field...
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InsightScape-VM2-nsg
Page 1 of 1
InsightScape-VM2-nsg
Network security group
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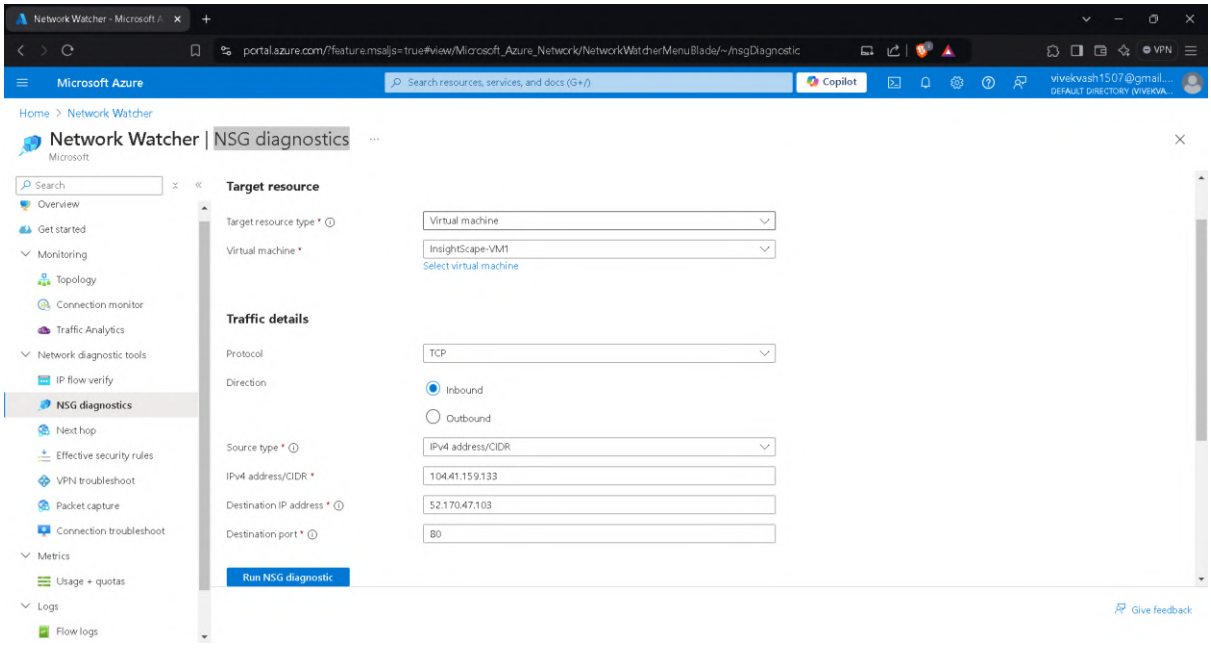
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Settings
Inbound security rules
Outbound security rules
Network interfaces
Subnets
Properties
Locks
Monitoring
Automation
Help
Move
Delete
Refresh
Give feedback
Subscription ID
ee9ea131-d6f1-4e0b-baee-b293615685ae
Tags (edit)
Add tags
Filter by name
Port == all
Protocol == all
Source == all
Destination == all
Action == all
Priority
Name
Port
Protocol
Source
Destination
Inbound Security Rules
300 SSH 22 TCP Any Any
320 HTTPS 443 TCP Any Any
340 HTTP 80 TCP Any Any
65000 AllowVnetInBound Any Any VirtualNetwork VirtualNetwork
65001 AllowAzureLoadBalanc... Any Any AzureLoadBalancer Any
65500 DenyAllInBound Any Any Any Any
Outbound Security Rules
65000 AllowVnetOutBound Any Any VirtualNetwork VirtualNetwork
65001 AllowInternetOutBound Any Any Any Internet
65500 DenyAllOutBound Any Any Any Any


Network Watcher - Microsoft A
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Network/NetworkWatcherMenuBlade/~/nsgDiagnostic
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DEFAULT DIRECTORY (VIVEKVA...
Home > Network Watcher
Network Watcher | NSG diagnostics
Microsoft
Search
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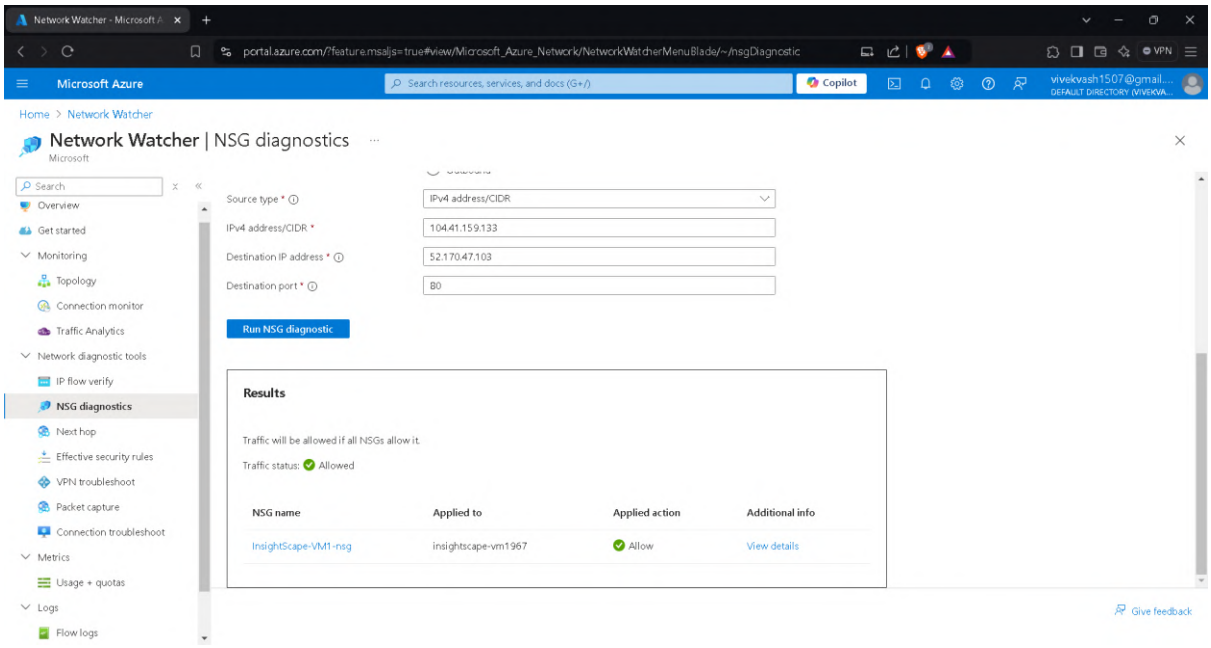
Monitoring
Topology
Connection monitor
Traffic Analytics
Network diagnostic tools
IP flow verify
NSG diagnostics
Next hop
Effective security rules
VPN troubleshoot
Packet capture
Connection troubleshoot
Metrics
Usage + quotas
Logs
Flow logs
Target resource
Target resource type *
Virtual machine
Virtual machine *
InsightScape-VM1
Select virtual machine
Traffic details
Protocol
TCP
Direction
Inbound
Outbound
Source type *
IPv4 address/CIDR
IPv4 address/CIDR *
104.41.159.133
Destination IP address *
52.170.47.103
Destination port *
80
Run NSG diagnostic
Give feedback


Network Watcher - Microsoft A
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Network/NetworkWatcherMenuBlade/~/nsgDiagnostic
Microsoft Azure
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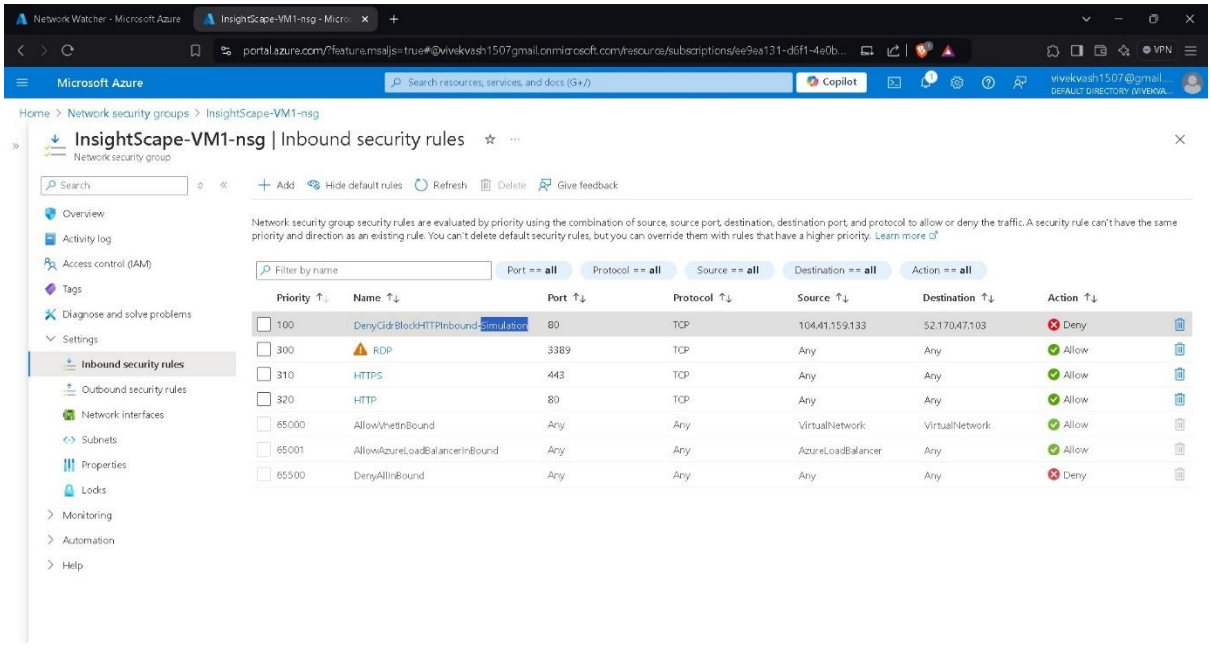
Home > Network Watcher
Network Watcher | NSG diagnostics
Microsoft
Source type *
IPv4 address/CIDR
IPv4 address/CIDR *
104.41.159.133
Destination IP address *
52.170.47.103
Destination port *
80
Run NSG diagnostic
Results
Traffic will be allowed if all NSGs allow it.
Traffic status: Allowed
NSG name
Applied to
Applied action
Additional info
InsightScape-VM1-nsg
insightscape-vm1967
Allow
View details
Give feedback


Network Watcher - Microsoft Azure
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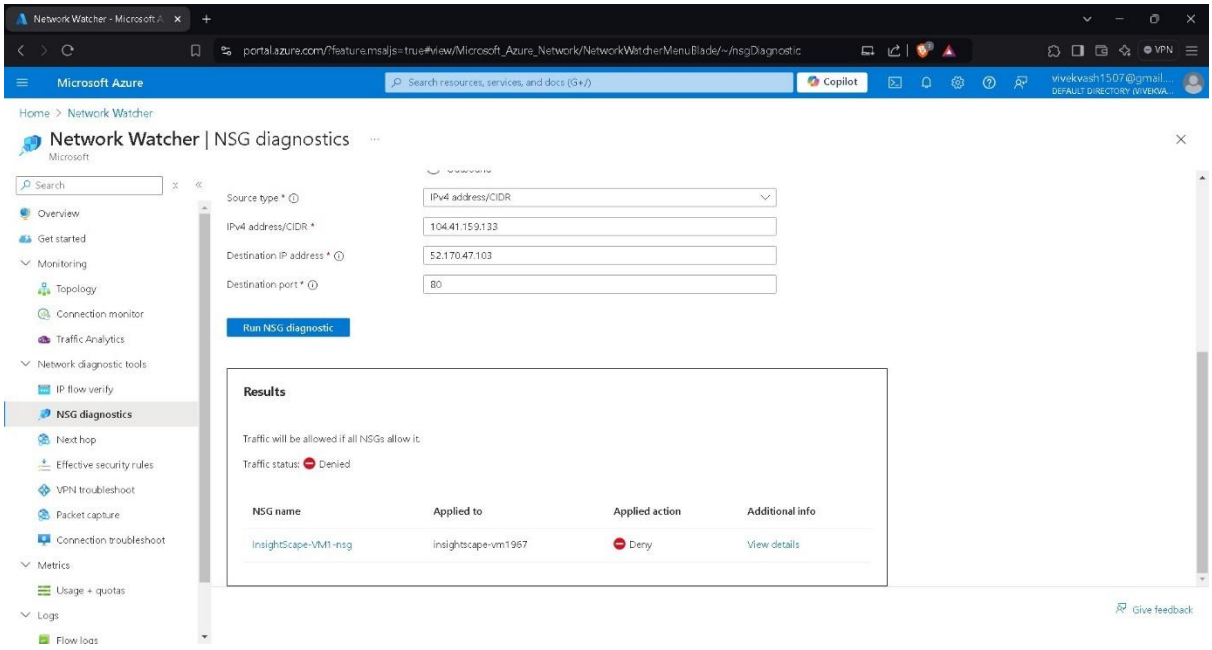
InsightScape-VM1-nsg | Inbound security rules
Network security group
Search
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Settings
Inbound security rules
Outbound security rules
Network interfaces
Subnets
Properties
Locks
Monitoring
Automation
Help
Add
Hide default rules
Refresh
Delete
Give feedback
Network security group security rules are evaluated by priority using the combination of source, source port, destination, destination port, and protocol to allow or deny the traffic. A security rule can't have the same priority and direction as an existing rule. You can't delete default security rules, but you can override them with rules that have a higher priority. Learn more
Filter by name
Port == all
Protocol == all
Source == all
Destination == all
Action == all
Priority
Name
Port
Protocol
Source
Destination
Action
100 DenyCidrBlockHTTPInbound-Simulation 80 TCP 104.41.159.133 52.170.47.103 Deny
300 RDP 3389 TCP Any Any Allow
310 HTTPS 443 TCP Any Any Allow
320 HTTP 80 TCP Any Any Allow
65000 AllowVnetInBound Any Any VirtualNetwork VirtualNetwork Allow
65001 AllowAzureLoadBalancerInBound Any Any AzureLoadBalancer Any Allow
65500 DenyAllInBound Any Any Any Any Deny



Security & Compliance

In this phase of the project, my goal was to work with **Azure Security Center** and **Microsoft Defender for Cloud** to ensure that all resources were secure and compliant with best practices.

a) Accessing Security Center

First, I searched for Security in the Azure Portal's search box and accessed Security Center under the Protect section.

- I reviewed the Security Recommendations in Azure Security Center, categorized by severity, to identify and address potential vulnerabilities.
- These recommendations helped me enhance the security posture of my environment by prioritizing which vulnerabilities to address first based on their impact.

b) Microsoft Defender for Cloud Overview

After reviewing the security recommendations, I proceeded to Microsoft Defender for Cloud:

- I clicked on Microsoft Defender for Cloud from the same page, which took me to the Overview page.
- Here, I evaluated the overall security posture of the Azure environment.

- I analyzed critical factors such as vulnerabilities, assessed resources, and security recommendations across multiple cloud platforms.
- This helped me ensure that all security measures were effectively implemented, minimizing risks.

c) Inventory Assessment

Next, I went to the Inventory section under General in Microsoft Defender for Cloud:

- I assessed the resource inventory, identifying unhealthy resources across different environments.
- I analyzed specific recommendations provided for each resource to mitigate vulnerabilities and ensure compliance with best practices.

d) Reviewing Security Recommendations

I accessed the Recommendations tab under General in Microsoft Defender for Cloud:

- I reviewed the risk-based security recommendations, categorized by severity. These recommendations helped me prioritize actions to strengthen the security posture of Azure resources.
- I focused on best practices for managing ports, securing virtual machines, and addressing potential vulnerabilities.

e) Implementing Security Recommendations

To work on some specific recommendations, I began with VM Updates and Patches:

1. VM Updates and Patches:
    - I accessed the Updates tab under Operations in InsightScape-VM2.
    - There were 19 updates available, so I clicked on "One-time update" and proceeded with the settings in Azure Update Manager.
        - Added InsightScape-VM2 in the Machines tab.
        - Selected all 19 updates in the Updates tab.
        - Clicked on "Review + install".
    - After a few minutes, all 19 updates were successfully installed.
2. Disk Encryption:
    - I moved on to another recommendation regarding Disk Encryption.
    - I accessed the Encryption tab under Settings for InsightScape-Vm1_OsDisk_1c52786265e884d75872ddf59f7ede9ae.
    - For Key management, I selected "Platform-managed key" and saved the changes.
    - After a few seconds, the disk was updated successfully.
3. Storage Accounts Should Restrict Network Access:
    - I addressed the recommendation to restrict network access for storage accounts using virtual network rules.
    - I accessed the Networking tab under the Security + networking section in the insightscapeblob storage account.
    - In the Firewalls and virtual networks page:

- Selected "Enabled from selected virtual networks and IP addresses".
- In the Add networks settings:
  - Virtual Networks: InsightScape-VNet
  - Subnets: VM1-Subnet and VM2-Subnet (2 selected)
- Enabled these settings and clicked on Save.

f) Secure Score Analysis

- I analyzed the secure score recommendations to identify key areas for improving the security posture of Azure resources.
  - This included enabling Multi-Factor Authentication (MFA), securing management ports, remediating vulnerabilities, and applying system updates.
  - These actions helped enhance the overall security and mitigate potential risks.

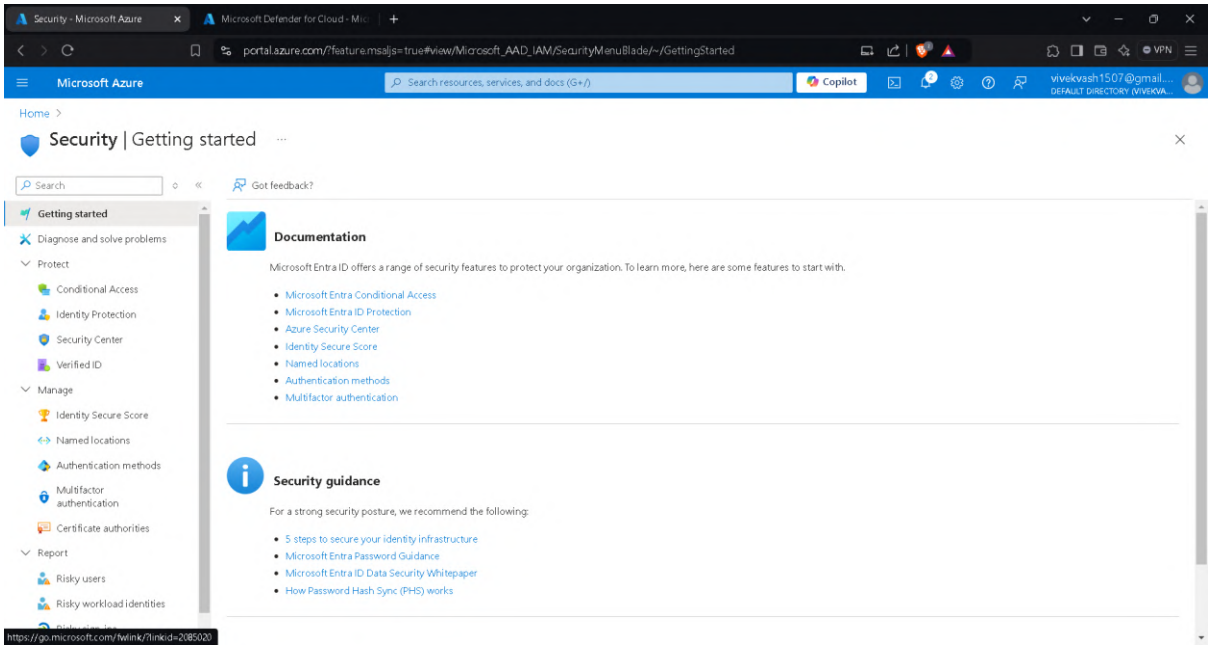
g) Security Alerts Verification

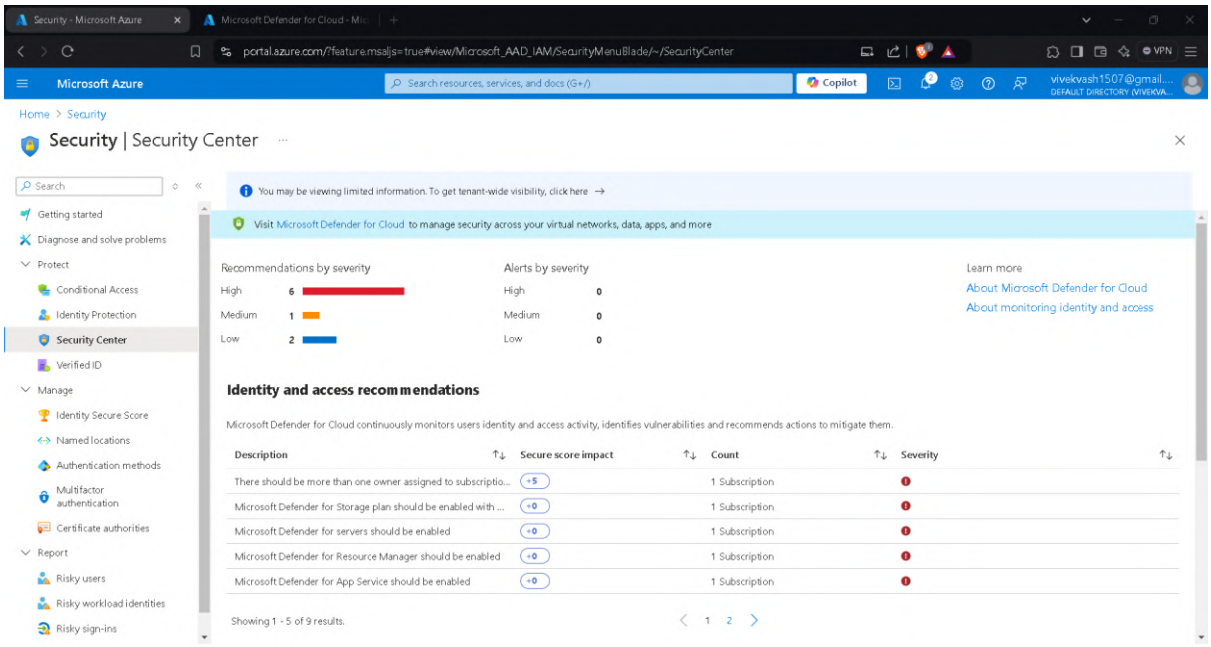
Lastly, I accessed the Security Alerts tab in Microsoft Defender for Cloud:

- At the time of observation, there were no alerts detected, indicating a secure state for the resources.
- I continued with the assessment, ensuring that the cloud environment remained secure and aligned with best practices.

This concluded the Step 6: Security & Compliance phase of the project, which was successfully completed.

Screenshots

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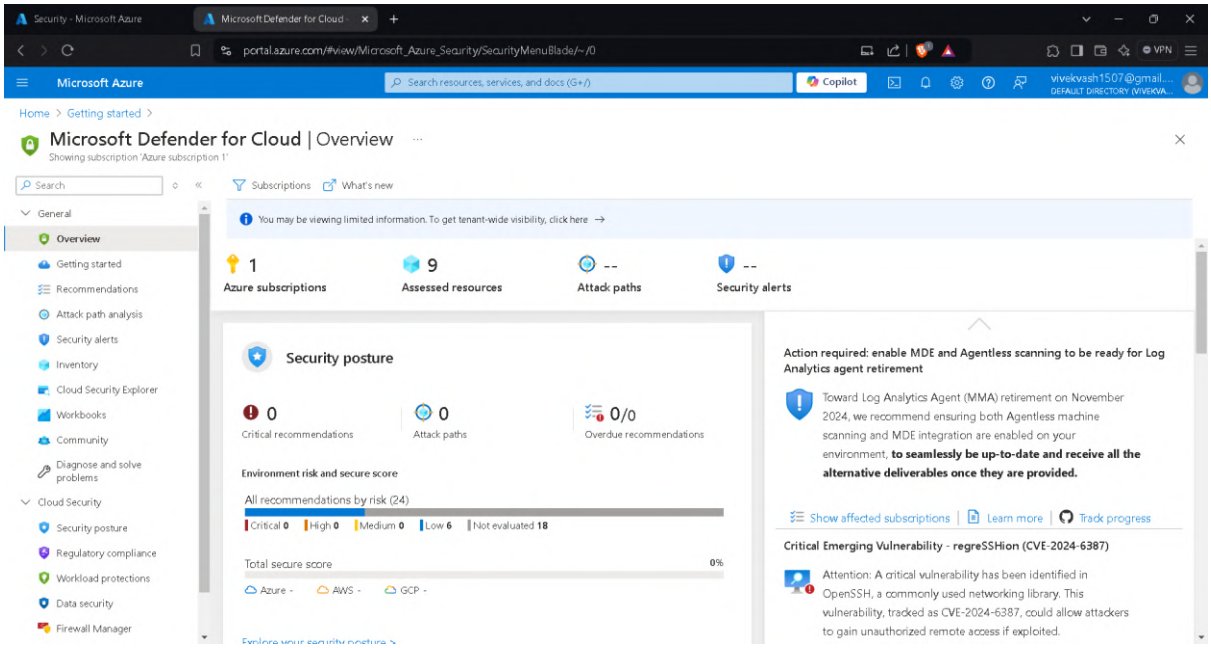
Search
Getting started
Diagnose and solve problems
Protect
Conditional Access
Identity Protection
Security Center
Verified ID
Manage
Identity Secure Score
Named locations
Authentication methods
Multifactor authentication
Certificate authorities
Report
Risky users
Risky workload identities
Risky sign-ins
You may be viewing limited information. To get tenant-wide visibility, click here
Visit Microsoft Defender for Cloud to manage security across your virtual networks, data, apps, and more
Recommendations by severity
High 6
Medium 1
Low 2
Alerts by severity
High 0
Medium 0
Low 0
Learn more
About Microsoft Defender for Cloud
About monitoring identity and access
Identity and access recommendations
Microsoft Defender for Cloud continuously monitors users identity and access activity, identifies vulnerabilities and recommends actions to mitigate them.
Description
Secure score impact
Count
Severity
There should be more than one owner assigned to subscriptio...
+5
1 Subscription
Microsoft Defender for Storage plan should be enabled with ...
+0
1 Subscription
Microsoft Defender for servers should be enabled
+0
1 Subscription
Microsoft Defender for Resource Manager should be enabled
+0
1 Subscription
Microsoft Defender for App Service should be enabled
+0
1 Subscription
Showing 1 - 5 of 9 results.
1
2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Microsoft Defender for Cloud -
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Home > Getting started >
Microsoft Defender for Cloud | Overview
Showing subscription 'Azure subscription 1'
Search
General
Overview
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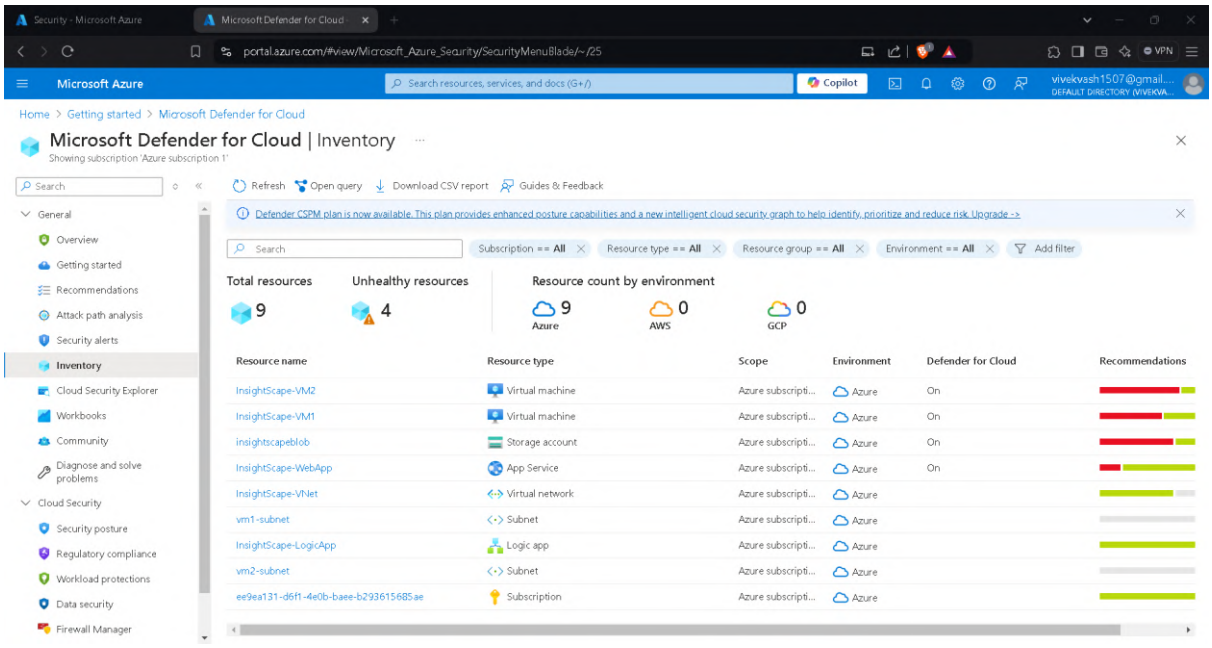
Recommendations
Attack path analysis
Security alerts
Inventory
Cloud Security Explorer
Workbooks
Community
Diagnose and solve problems
Cloud Security
Security posture
Regulatory compliance
Workload protections
Data security
Firewall Manager
Subscriptions
What's new
You may be viewing limited information. To get tenant-wide visibility, click here
1
Azure subscriptions
9
Assessed resources
--
Attack paths
--
Security alerts
Security posture
0
Critical recommendations
0
Attack paths
0/0
Overdue recommendations
Environment risk and secure score
All recommendations by risk (24)
Critical 0
High 0
Medium 0
Low 6
Not evaluated 18
Total secure score
0%
Azure -
AWS -
GCP -
Action required: enable MDE and Agentless scanning to be ready for Log Analytics agent retirement
Toward Log Analytics Agent (MMA) retirement on November 2024, we recommend ensuring both Agentless machine scanning and MDE integration are enabled on your environment, to seamlessly be up-to-date and receive all the alternative deliverables once they are provided.
Show affected subscriptions
Learn more
Track progress
Critical Emerging Vulnerability - regreSSHion (CVE-2024-6387)
Attention: A critical vulnerability has been identified in OpenSSH, a commonly used networking library. This vulnerability, tracked as CVE-2024-6387, could allow attackers to gain unauthorized remote access if exploited.


Security - Microsoft Azure
Microsoft Defender for Cloud -
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Showing subscription 'Azure subscription 1'
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Security alerts
Inventory
Cloud Security Explorer
Workbooks
Community
Diagnose and solve problems
Cloud Security
Security posture
Regulatory compliance
Workload protections
Data security
Firewall Manager
Refresh
Open query
Download CSV report
Guides & Feedback
Defender CSPM plan is now available. This plan provides enhanced posture capabilities and a new intelligent cloud security graph to help identify, prioritize and reduce risk. Upgrade ->
Search
Subscription == All
Resource type == All
Resource group == All
Environment == All
Add filter
Total resources
9
Unhealthy resources
4
Resource count by environment
9
Azure
0
AWS
0
GCP
Resource name
Resource type
Scope
Environment
Defender for Cloud
Recommendations
InsightScape-VM2
Virtual machine
Azure subscripti...
Azure
On
InsightScape-VM1
Virtual machine
Azure subscripti...
Azure
On
insightscapeblob
Storage account
Azure subscripti...
Azure
On
InsightScape-WebApp
App Service
Azure subscripti...
Azure
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InsightScape-VNet
Virtual network
Azure subscripti...
Azure
vm1-subnet
Subnet
Azure subscripti...
Azure
InsightScape-LogicApp
Logic app
Azure subscripti...
Azure
vm2-subnet
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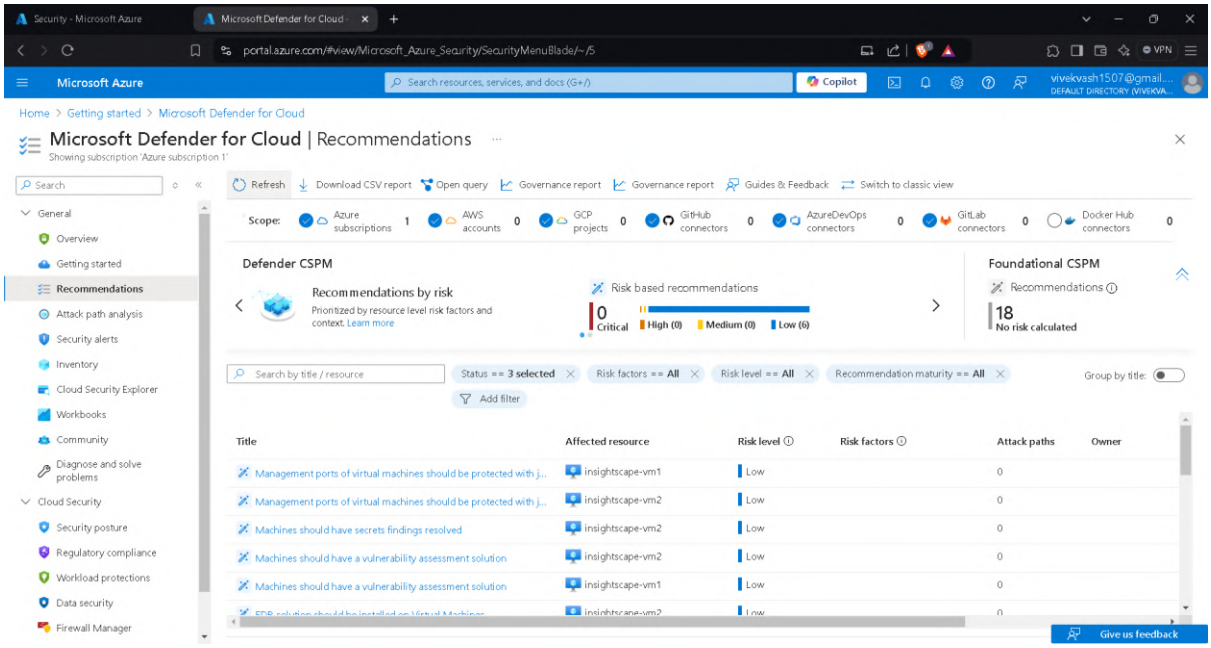
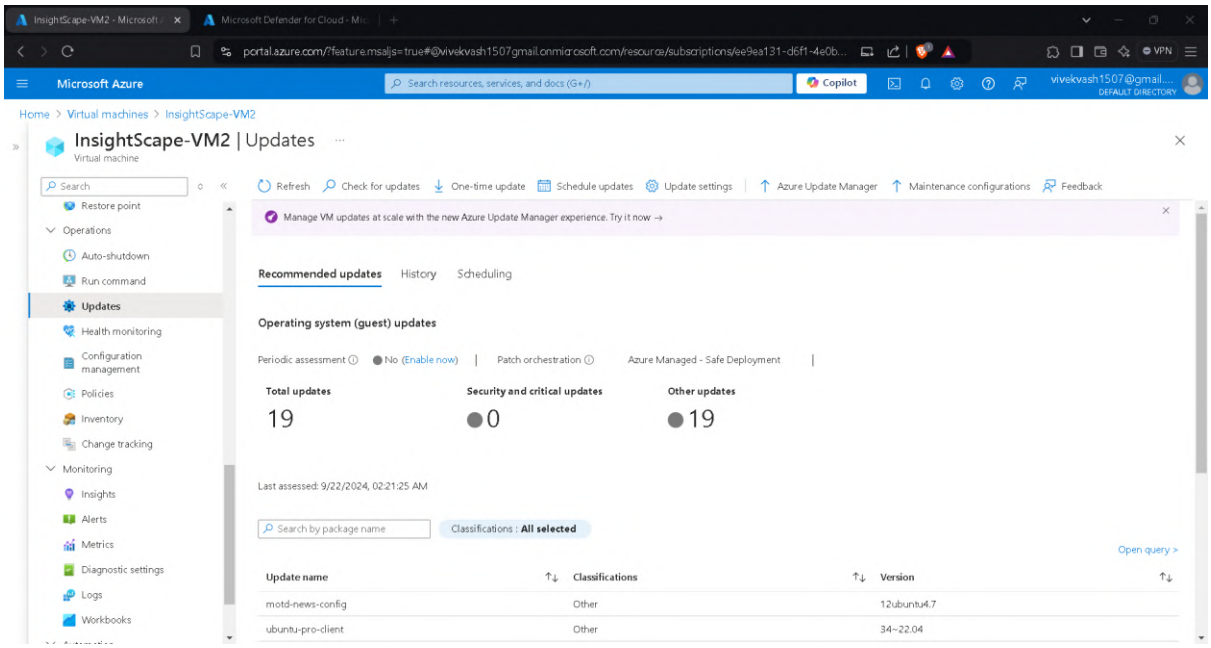
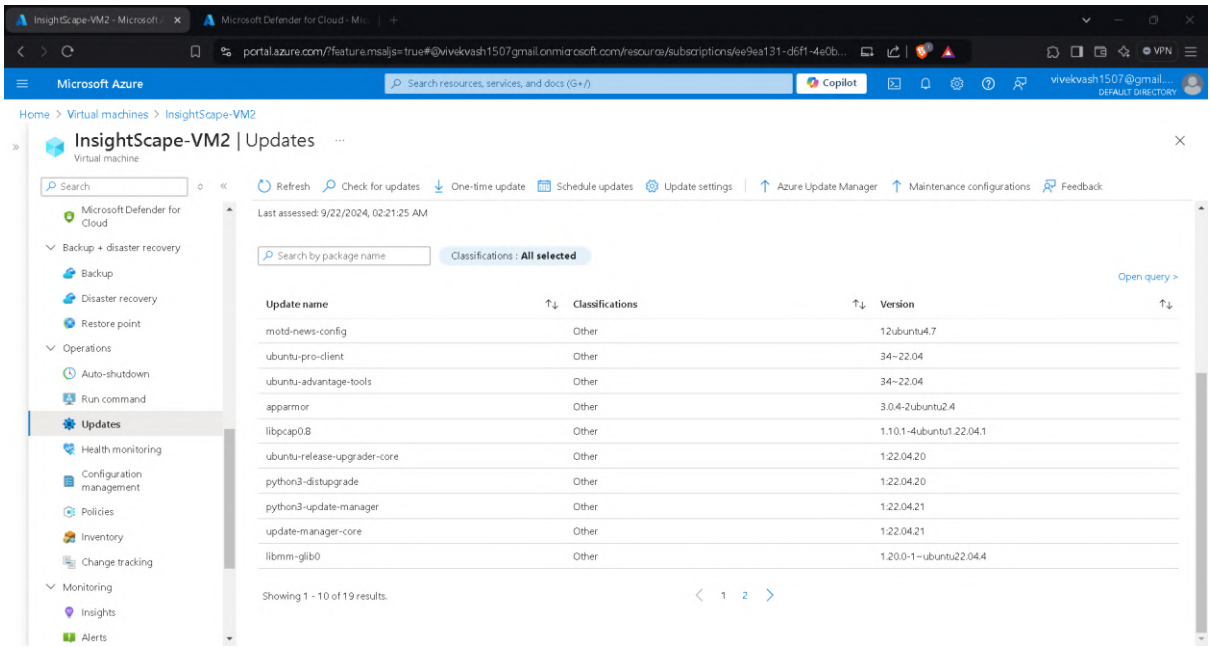
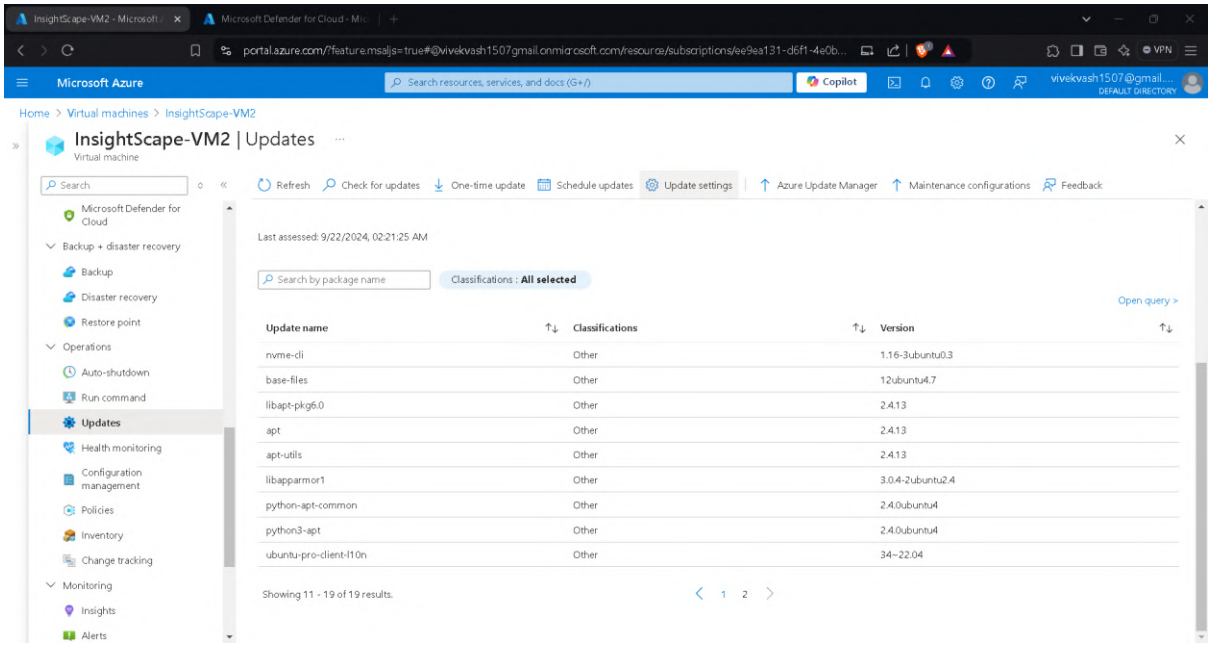
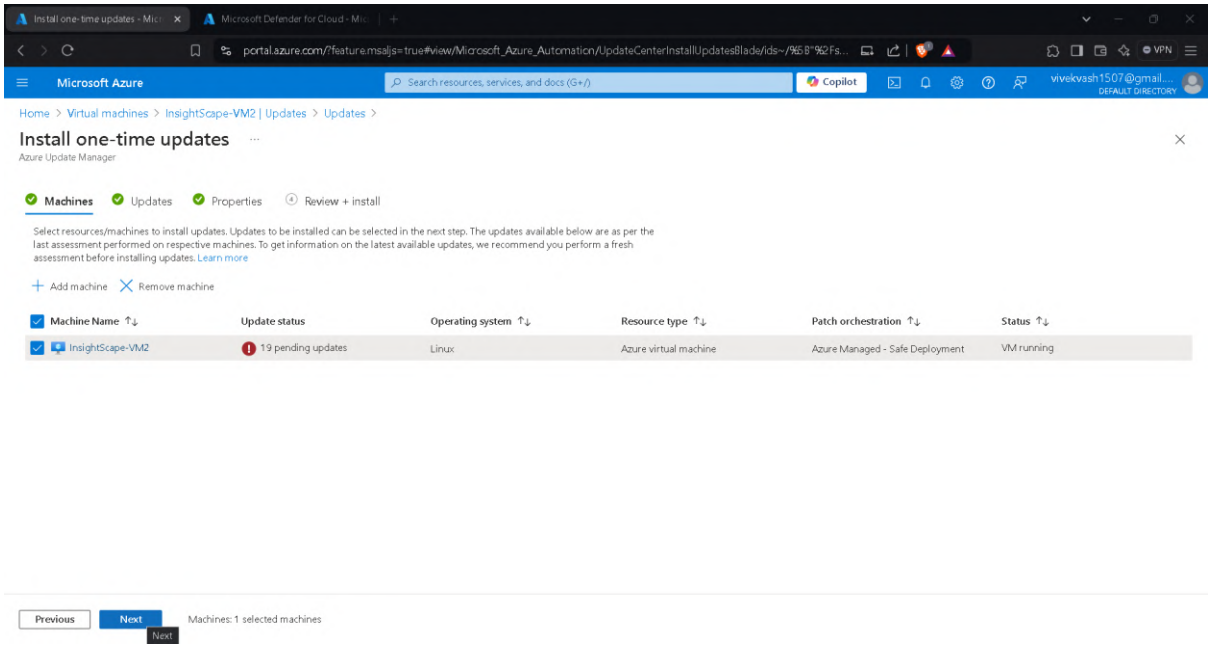
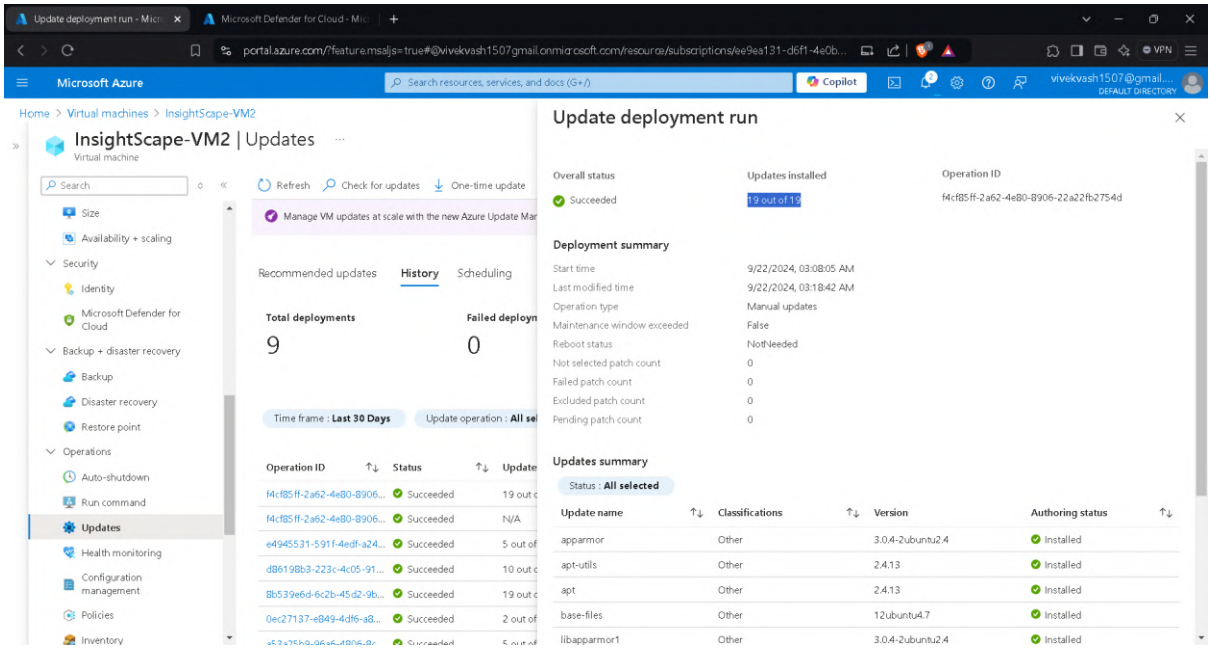

Microsoft Defender for Cloud | Recommendations
Showing subscription 'Azure subscription 1'
Refresh
Download CSV report
Open query
Governance report
Guides & Feedback
Switch to classic view
Defender CSPM
Recommendations by risk
Prioritized by resource level risk factors and context. Learn more
Risk based recommendations
0 Critical
High (0)
Medium (0)
Low (6)
Foundational CSPM
Recommendations
18
No risk calculated
Title
Affected resource
Risk level
Risk factors
Attack paths
Owner
Management ports of virtual machines should be protected with j...
insightscape-vm1
Low
Management ports of virtual machines should be protected with j...
insightscape-vm2
Low
Machines should have secrets findings resolved
insightscape-vm2
Low
Machines should have a vulnerability assessment solution
insightscape-vm2
Low
Machines should have a vulnerability assessment solution
insightscape-vm1
Low
Give us feedback

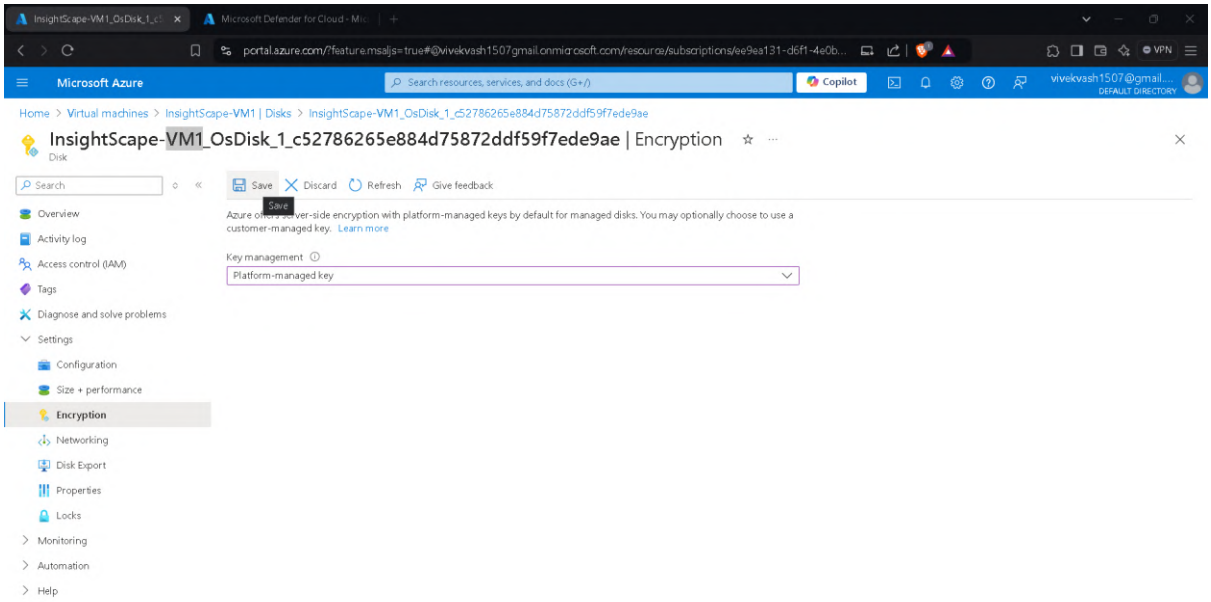

InsightScape-VM2 | Updates
Virtual machine
Refresh
Check for updates
One-time update
Schedule updates
Update settings
Azure Update Manager
Maintenance configurations
Feedback
Manage VM updates at scale with the new Azure Update Manager experience. Try it now →
Recommended updates
History
Scheduling
Operating system (guest) updates
Periodic assessment
No (Enable now)
Patch orchestration
Azure Managed - Safe Deployment
Total updates
19
Security and critical updates
0
Other updates
19
Last assessed: 9/22/2024, 02:21:25 AM
Search by package name
Classifications : All selected
Open query >
Update name
Classifications
Version
motd-news-config
Other
12ubuntu4.7
ubuntu-pro-client
Other
34~22.04

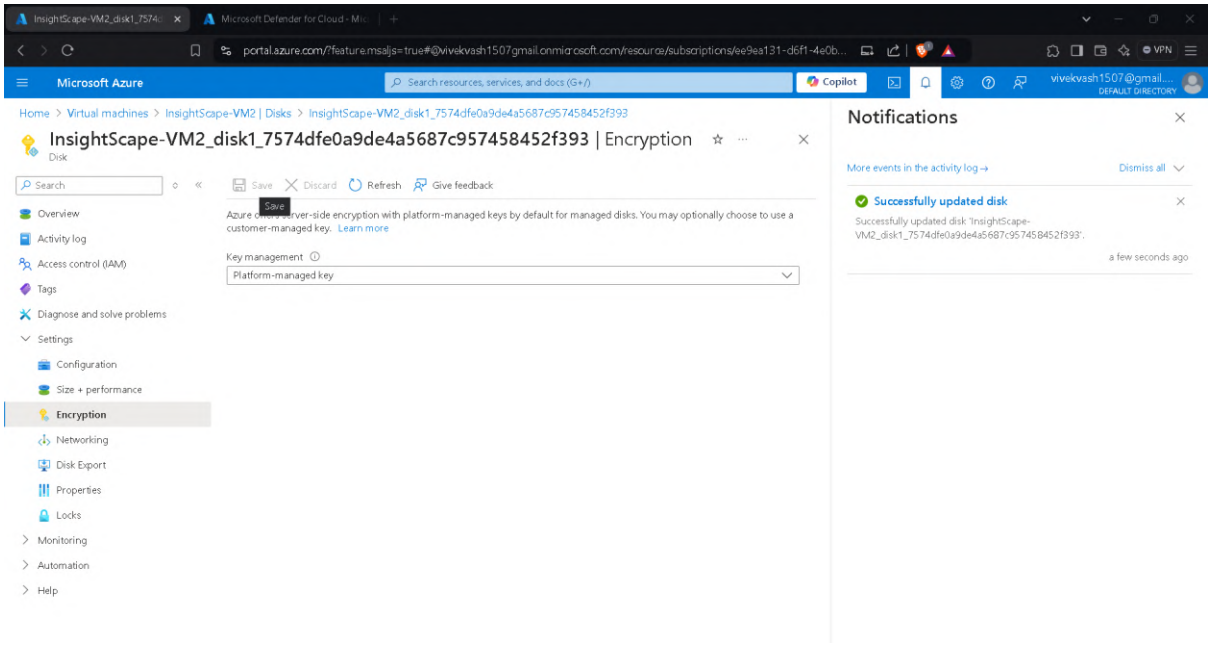

InsightScape-VM2 | Updates
Virtual machine
Refresh
Check for updates
One-time update
Schedule updates
Update settings
Azure Update Manager
Maintenance configurations
Feedback
Last assessed: 9/22/2024, 02:21:25 AM
Search by package name
Classifications : All selected
Open query >
Update name
Classifications
Version
motd-news-config
Other
12ubuntu4.7
ubuntu-pro-client
Other
34~22.04
ubuntu-advantage-tools
Other
34~22.04
apparmor
Other
3.0.4-2ubuntu2.4
libpcap0.8
Other
1.10.1-4ubuntu1.22.04.1
ubuntu-release-upgrader-core
Other
1:22.04.20
python3-distupgrade
Other
1:22.04.20
python3-update-manager
Other
1:22.04.21
update-manager-core
Other
1:22.04.21
libmm-glib0
Other
1.20.0-1~ubuntu22.04.4
Showing 1 - 10 of 19 results.
1
2

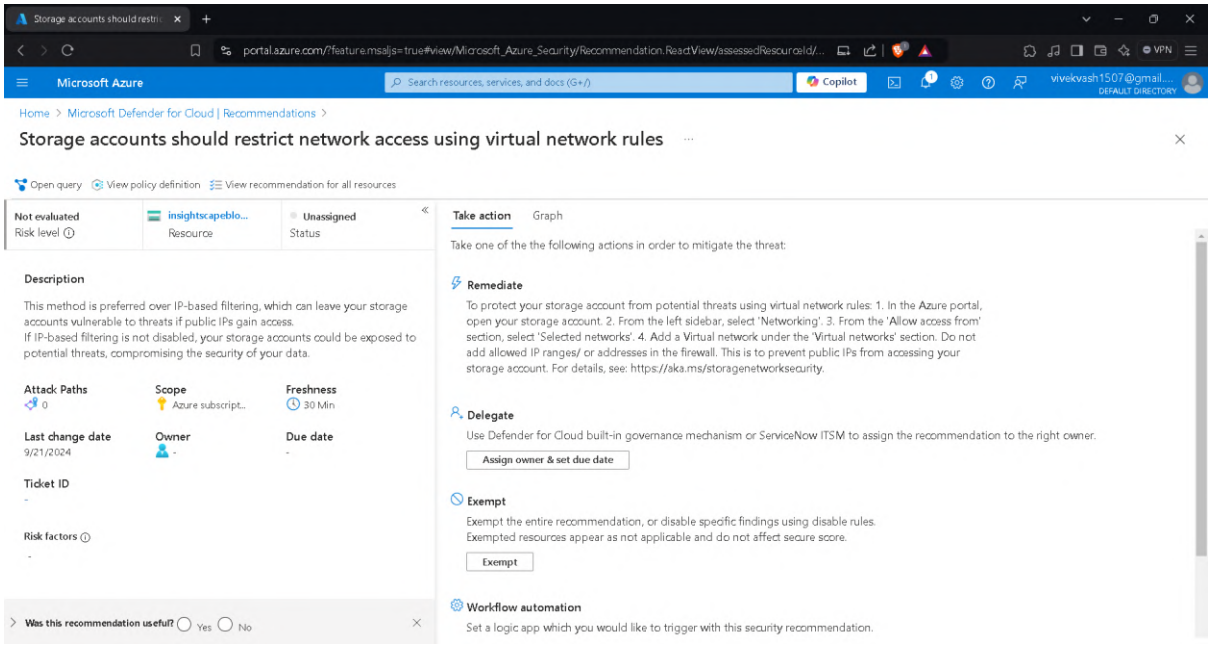

Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
Home > Virtual machines > InsightScape-VM2
InsightScape-VM2 | Updates
Virtual machine
Refresh
Check for updates
One-time update
Schedule updates
Update settings
Azure Update Manager
Maintenance configurations
Feedback
Last assessed: 9/22/2024, 02:21:25 AM
Search by package name
Classifications : All selected
Open query >
Update name
Classifications
Version
nvme-cli Other 1.16-3ubuntu0.3
base-files Other 12ubuntu4.7
libapt-pkg6.0 Other 2.4.13
apt Other 2.4.13
apt-utils Other 2.4.13
libapparmor1 Other 3.0.4-2ubuntu2.4
python-apt-common Other 2.4.0ubuntu4
python3-apt Other 2.4.0ubuntu4
ubuntu-pro-client-l10n Other 34~22.04
Showing 11 - 19 of 19 results.
Microsoft Defender for Cloud
Backup + disaster recovery
Backup
Disaster recovery
Restore point
Operations
Auto-shutdown
Run command
Updates
Health monitoring
Configuration management
Policies
Inventory
Change tracking
Monitoring
Insights
Alerts

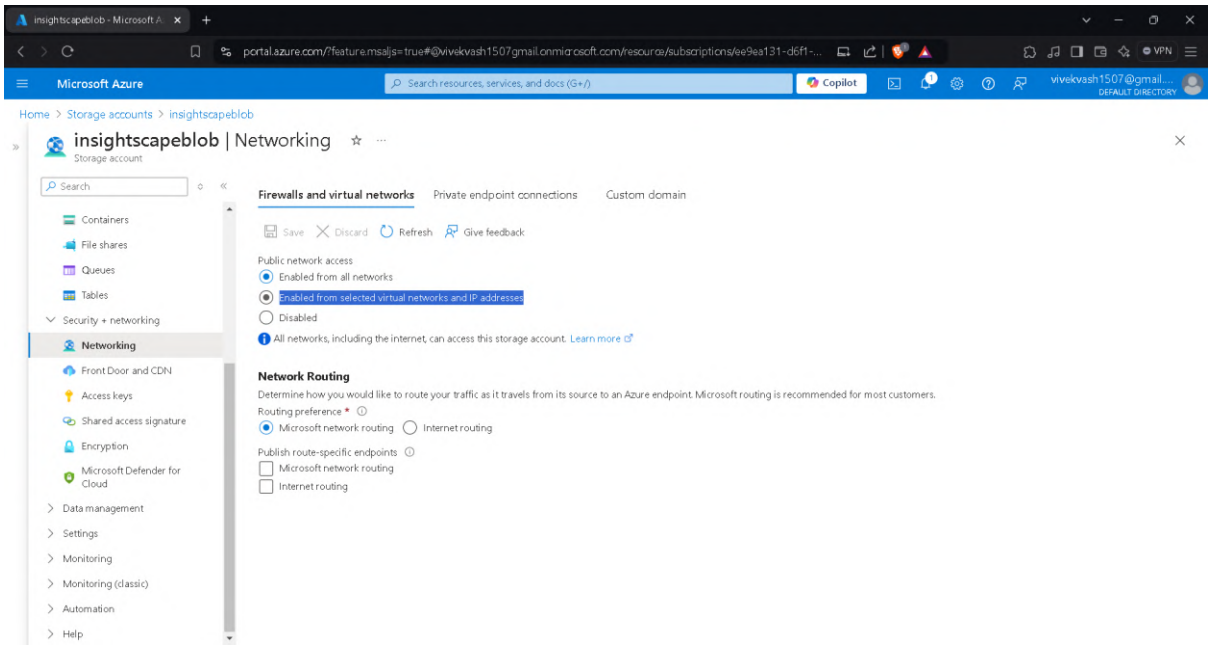

Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
Home > Virtual machines > InsightScape-VM2 | Updates > Updates >
Install one-time updates
Azure Update Manager
Machines
Updates
Properties
Review + install
Select resources/machines to install updates. Updates to be installed can be selected in the next step. The updates available below are as per the last assessment performed on respective machines. To get information on the latest available updates, we recommend you perform a fresh assessment before installing updates. Learn more
Add machine
Remove machine
Machine Name
Update status
Operating system
Resource type
Patch orchestration
Status
InsightScape-VM2 19 pending updates Linux Azure virtual machine Azure Managed - Safe Deployment VM running
Previous
Next
Machines: 1 selected machines
Next

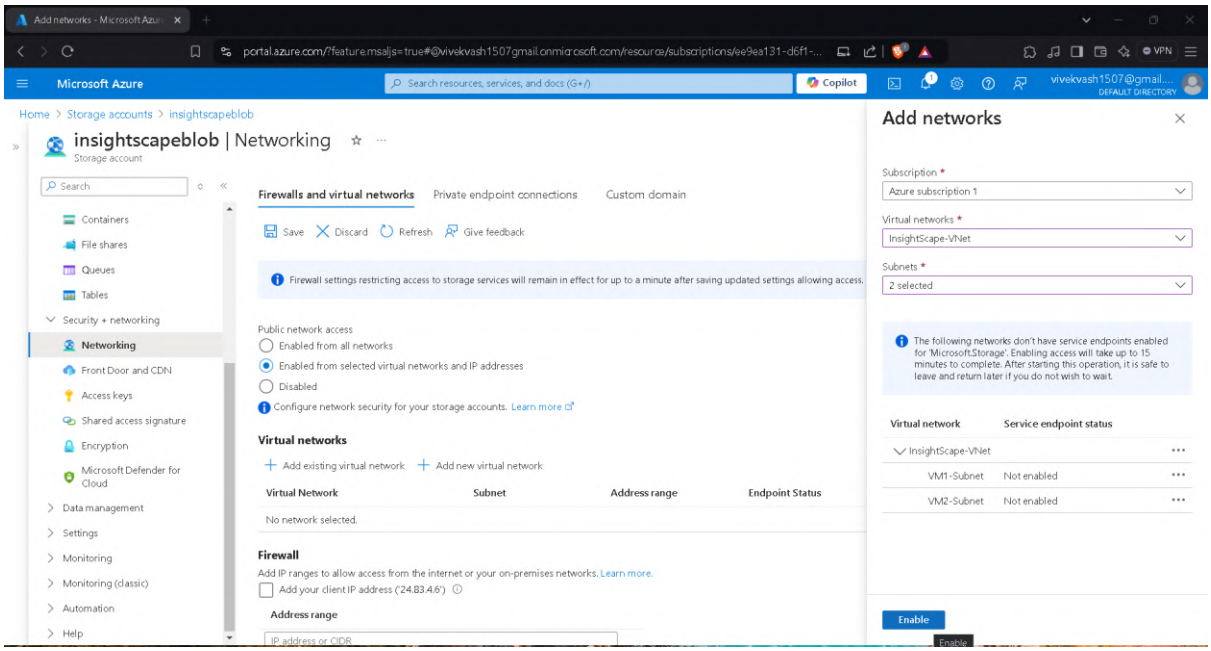

Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
Home > Virtual machines > InsightScape-VM2
InsightScape-VM2 | Updates
Virtual machine
Update deployment run
Overall status
Succeeded
Updates installed
19 out of 19
Operation ID
f4cf85ff-2a62-4eB0-8906-22a22fb2754d
Deployment summary
Start time 9/22/2024, 03:08:05 AM
Last modified time 9/22/2024, 03:18:42 AM
Operation type Manual updates
Maintenance window exceeded False
Reboot status NotNeeded
Not selected patch count 0
Failed patch count 0
Excluded patch count 0
Pending patch count 0
Updates summary
Status : All selected
Update name
Classifications
Version
Authoring status
apparmor Other 3.0.4-2ubuntu2.4 Installed
apt-utils Other 2.4.13 Installed
apt Other 2.4.13 Installed
base-files Other 12ubuntu4.7 Installed
libapparmor1 Other 3.0.4-2ubuntu2.4 Installed
Refresh
Check for updates
One-time update
Recommended updates
History
Scheduling
Total deployments 9
Failed deployments 0
Time frame : Last 30 Days
Operation ID
Status
Microsoft Defender for Cloud
Backup + disaster recovery
Operations
Updates
Health monitoring
Configuration management
Policies
Inventory

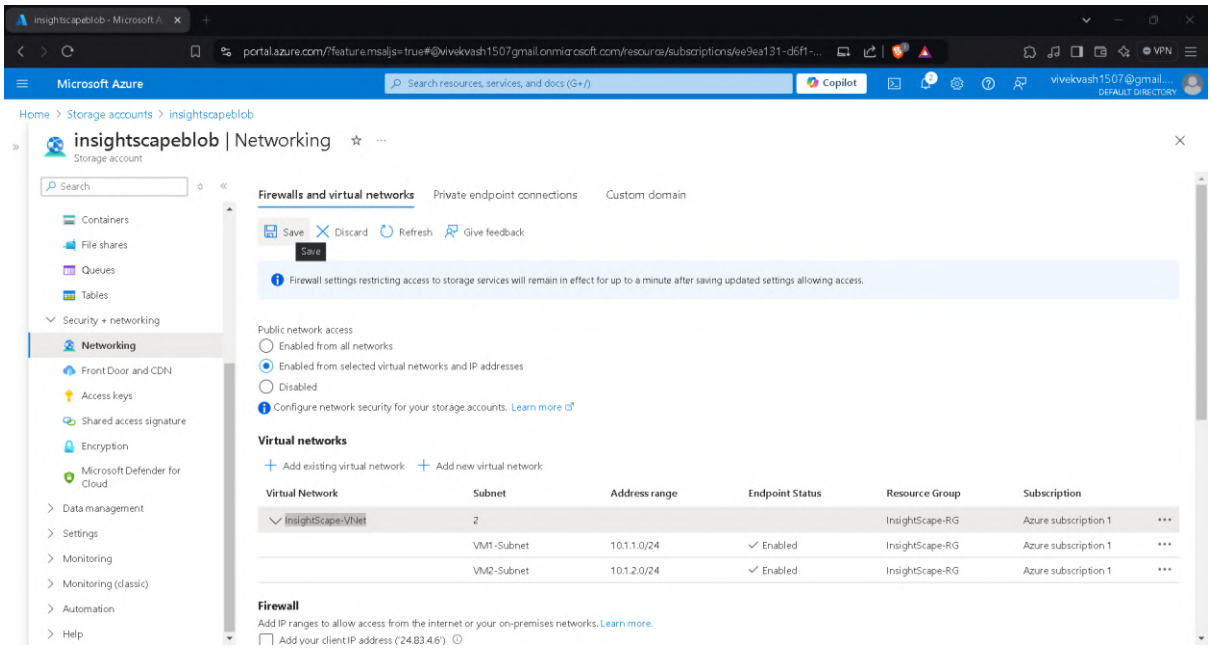

Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
Home > Virtual machines > InsightScape-VM1 | Disks > InsightScape-VM1_OsDisk_1_c52786265e884d75872ddf59f7ede9ae
InsightScape-VM1_OsDisk_1_c52786265e884d75872ddf59f7ede9ae | Encryption
Disk
Save
Discard
Refresh
Give feedback
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Settings
Configuration
Size + performance
Encryption
Networking
Disk Export
Properties
Locks
Monitoring
Automation
Help
Key management
Platform-managed key

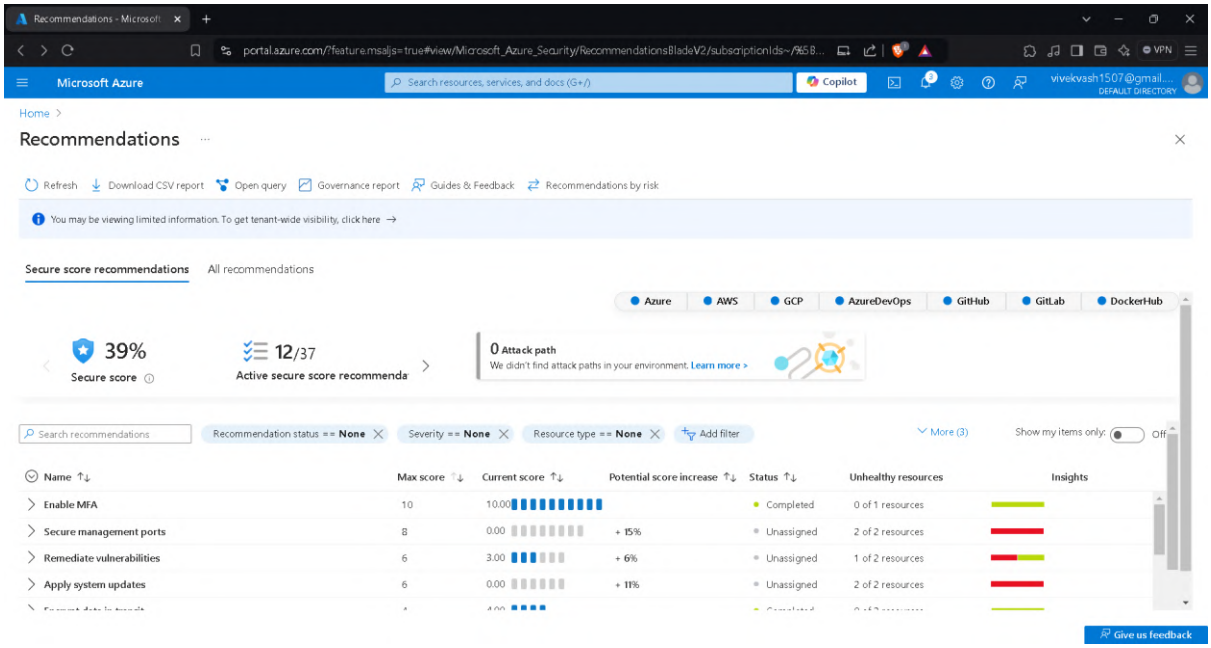

Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
Home > Virtual machines > InsightScape-VM2 | Disks > InsightScape-VM2_disk1_7574dfe0a9de4a5687c957458452f393
InsightScape-VM2_disk1_7574dfe0a9de4a5687c957458452f393 | Encryption
Disk
Save
Discard
Refresh
Give feedback
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Settings
Configuration
Size + performance
Encryption
Networking
Disk Export
Properties
Locks
Monitoring
Automation
Help
Key management
Platform-managed key
Notifications
More events in the activity log →
Dismiss all
Successfully updated disk
Successfully updated disk 'InsightScape-VM2_disk1_7574dfe0a9de4a5687c957458452f393'.
a few seconds ago

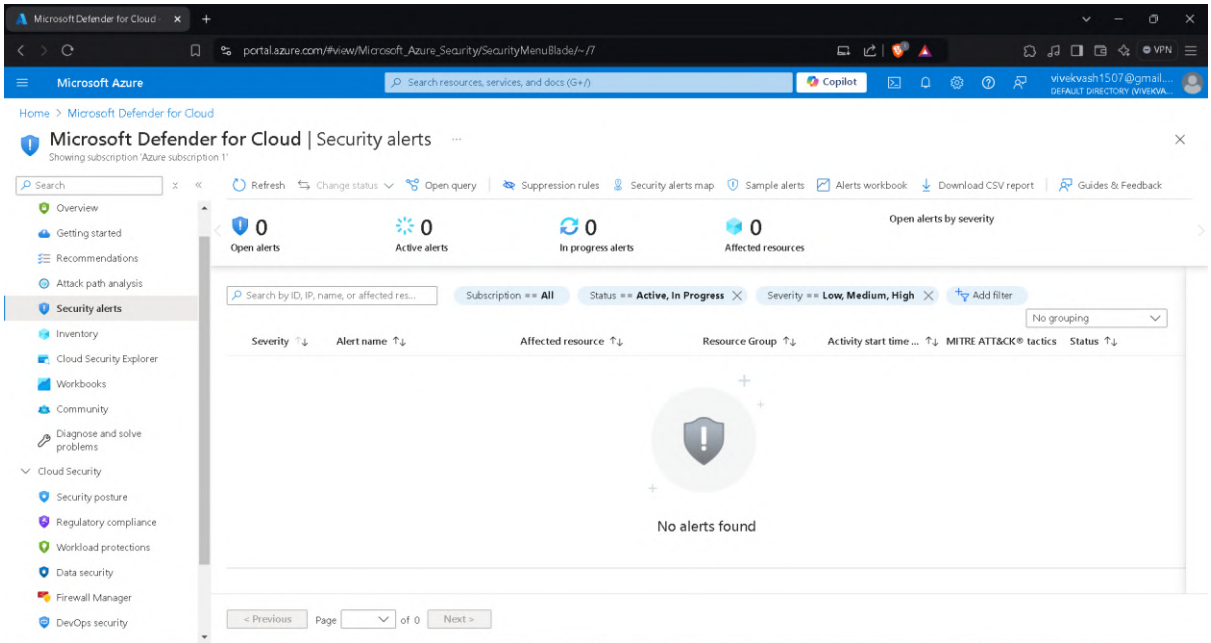

Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
Home > Microsoft Defender for Cloud | Recommendations >
Storage accounts should restrict network access using virtual network rules
Open query
View policy definition
View recommendation for all resources
Not evaluated
Risk level
insightscapeblo...
Resource
Unassigned
Status
Description
This method is preferred over IP-based filtering, which can leave your storage accounts vulnerable to threats if public IPs gain access.
If IP-based filtering is not disabled, your storage accounts could be exposed to potential threats, compromising the security of your data.
Attack Paths
0
Scope
Azure subscript...
Freshness
30 Min
Last change date
9/21/2024
Owner
Due date
Ticket ID
Risk factors
Was this recommendation useful?
Yes
No
Take action
Graph
Take one of the the following actions in order to mitigate the threat:
Remediate
To protect your storage account from potential threats using virtual network rules: 1. In the Azure portal, open your storage account. 2. From the left sidebar, select 'Networking'. 3. From the 'Allow access from' section, select 'Selected networks'. 4. Add a Virtual network under the 'Virtual networks' section. Do not add allowed IP ranges/ or addresses in the firewall. This is to prevent public IPs from accessing your storage account. For details, see: https://aka.ms/storagenetworksecurity.
Delegate
Use Defender for Cloud built-in governance mechanism or ServiceNow ITSM to assign the recommendation to the right owner.
Assign owner & set due date
Exempt
Exempt the entire recommendation, or disable specific findings using disable rules.
Exempted resources appear as not applicable and do not affect secure score.
Exempt
Workflow automation
Set a logic app which you would like to trigger with this security recommendation.


insightscapeblob - Microsoft A
portal.azure.com/?feature.msaljs=true#@vivekvash1507gmail.onmicrosoft.com/resource/subscriptions/ee9ea131-d6f1-...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY
Home > Storage accounts > insightscapeblob
insightscapeblob | Networking
Storage account
Search
Containers
File shares
Queues
Tables
Security + networking
Networking
Front Door and CDN
Access keys
Shared access signature
Encryption
Microsoft Defender for Cloud
Data management
Settings
Monitoring
Monitoring (classic)
Automation
Help
Firewalls and virtual networks
Private endpoint connections
Custom domain
Save
Discard
Refresh
Give feedback
Public network access
Enabled from all networks
Enabled from selected virtual networks and IP addresses
Disabled
All networks, including the internet, can access this storage account. Learn more
Network Routing
Determine how you would like to route your traffic as it travels from its source to an Azure endpoint. Microsoft routing is recommended for most customers.
Routing preference *
Microsoft network routing
Internet routing
Publish route-specific endpoints
Microsoft network routing
Internet routing


Add networks - Microsoft Azur
portal.azure.com/?feature.msaljs=true#@vivekvash1507gmail.onmicrosoft.com/resource/subscriptions/ee9ea131-d6f1-...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY
Home > Storage accounts > insightscapeblob
insightscapeblob | Networking
Storage account
Firewalls and virtual networks
Private endpoint connections
Custom domain
Save
Discard
Refresh
Give feedback
Firewall settings restricting access to storage services will remain in effect for up to a minute after saving updated settings allowing access.
Public network access
Enabled from all networks
Enabled from selected virtual networks and IP addresses
Disabled
Configure network security for your storage accounts. Learn more
Virtual networks
Add existing virtual network
Add new virtual network
Virtual Network
Subnet
Address range
Endpoint Status
No network selected.
Firewall
Add IP ranges to allow access from the internet or your on-premises networks. Learn more.
Add your client IP address ('24.83.4.6')
Address range
IP address or CIDR
Add networks
Subscription *
Azure subscription 1
Virtual networks *
InsightScape-VNet
Subnets *
2 selected
The following networks don't have service endpoints enabled for 'Microsoft.Storage'. Enabling access will take up to 15 minutes to complete. After starting this operation, it is safe to leave and return later if you do not wish to wait.
Virtual network
Service endpoint status
InsightScape-VNet
VM1-Subnet
Not enabled
VM2-Subnet
Not enabled
Enable


insightscapeblob - Microsoft A
portal.azure.com/?feature.msaljs=true#@vivekvash1507gmail.onmicrosoft.com/resource/subscriptions/ee9ea131-d6f1-...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY
Home > Storage accounts > insightscapeblob
insightscapeblob | Networking
Storage account
Firewalls and virtual networks
Private endpoint connections
Custom domain
Save
Discard
Refresh
Give feedback
Firewall settings restricting access to storage services will remain in effect for up to a minute after saving updated settings allowing access.
Public network access
Enabled from all networks
Enabled from selected virtual networks and IP addresses
Disabled
Configure network security for your storage accounts. Learn more
Virtual networks
Add existing virtual network
Add new virtual network
Virtual Network
Subnet
Address range
Endpoint Status
Resource Group
Subscription
InsightScape-VNet
2
InsightScape-RG
Azure subscription 1
VM1-Subnet
10.1.1.0/24
Enabled
InsightScape-RG
Azure subscription 1
VM2-Subnet
10.1.2.0/24
Enabled
InsightScape-RG
Azure subscription 1
Firewall
Add IP ranges to allow access from the internet or your on-premises networks. Learn more.
Add your client IP address ('24.83.4.6')


Recommendations - Microsoft
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Security/RecommendationsBladeV2/subscriptionIds~/%5B...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY
Home >
Recommendations
Refresh
Download CSV report
Open query
Governance report
Guides & Feedback
Recommendations by risk
You may be viewing limited information. To get tenant-wide visibility, click here
Secure score recommendations
All recommendations
Azure
AWS
GCP
AzureDevOps
GitHub
GitLab
DockerHub
39%
Secure score
12/37
Active secure score recommenda
0 Attack path
We didn't find attack paths in your environment. Learn more >
Search recommendations
Recommendation status == None
Severity == None
Resource type == None
Add filter
More (3)
Show my items only:
Off
Name
Max score
Current score
Potential score increase
Status
Unhealthy resources
Insights
Enable MFA
10
10.00
Completed
0 of 1 resources
Secure management ports
8
0.00
+ 15%
Unassigned
2 of 2 resources
Remediate vulnerabilities
6
3.00
+ 6%
Unassigned
1 of 2 resources
Apply system updates
6
0.00
+ 11%
Unassigned
2 of 2 resources
Give us feedback


Microsoft Defender for Cloud
portal.azure.com/#view/Microsoft_Azure_Security/SecurityMenuBlade/~/7
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY (VIVEKVA...
Home > Microsoft Defender for Cloud
Microsoft Defender for Cloud | Security alerts
Showing subscription 'Azure subscription 1'
Search
Refresh
Change status
Open query
Suppression rules
Security alerts map
Sample alerts
Alerts workbook
Download CSV report
Guides & Feedback
Overview
Getting started
Recommendations
Attack path analysis
Security alerts
Inventory
Cloud Security Explorer
Workbooks
Community
Diagnose and solve problems
Cloud Security
Security posture
Regulatory compliance
Workload protections
Data security
Firewall Manager
DevOps security
0
Open alerts
0
Active alerts
0
In progress alerts
0
Affected resources
Open alerts by severity
Search by ID, IP, name, or affected res...
Subscription == All
Status == Active, In Progress
Severity == Low, Medium, High
Add filter
No grouping
Severity
Alert name
Affected resource
Resource Group
Activity start time ...
MITRE ATT&CK® tactics
Status
No alerts found
< Previous
Page
of 0
Next >

Alerts Configuration

In this phase of the project, my goal was to work with **Azure Monitor Alerts** to set up custom alerts for the resources I had deployed.

a) Creating Custom Alerts

To begin with, I went to the Alerts tab in Azure Monitor and clicked on "+ Create Alert Rule".

1. Alert Rule for InsightScape-VM1

- Scope: Selected InsightScape-VM1.
- Condition:
  - Signal Name: Custom log search.
  - KQL Query:

```
SecurityEvent
| where EventID == 4625
```

  - Measure: EventID
  - Aggregation Type: Total
  - Aggregation Granularity: 5 minutes
  - Alert Logic:
    - Operator: Greater than
    - Threshold Value: 1
    - Frequency of Evaluation: 5 minutes
- Actions:
  - Action Group Name: FailedLoginAlertGroup
  - Display Name: RDPLoginFail
  - Email: Entered my email address and saved.
- Details:
  - Resource Group: InsightScape-RG
  - Severity: 1 - Error
  - Alert Rule Name: FailedLoginDetection
  - Alert Rule Description: This alert monitors failed RDP login attempts on InsightScape-VM1 and triggers when EventID 4625 is logged.
  - Region: East US

After configuring these settings, I clicked on "Review + Create", and the alert rule got successfully created.

2. Alert Rule for InsightScape-LogicApp

- Scope: Selected InsightScape-LogicApp.
- Condition:
  - Signal Name: Custom log search.

    - KQL Query:

```
AzureDiagnostics
| where ResourceProvider == "MICROSOFT.LOGIC"
| where Category == "WorkflowRuntime"
| where status_s == "Failed"
| where OperationName has "workflowActionCompleted" or
OperationName has "workflowTriggerCompleted"
| extend ResourceName = coalesce(resource_actionName_s,
resource_triggerName_s)
| extend ResourceCategory = substring(OperationName, 34,
strlen(OperationName) - 43)
| summarize dcount(resource_runId_s) by code_s, ResourceName,
resource_workflowName_s, ResourceCategory, _ResourceId
| project ResourceCategory, ResourceName, FailureCount =
dcount_resource_runId_s, ErrorCode = code_s, LogicAppName =
resource_workflowName_s, _ResourceId
| order by FailureCount desc
```

    - Measure: FailureCount
    - Aggregation Type: Total
    - Aggregation Granularity: 5 minutes
    - Alert Logic:
        - Operator: Greater than or equal to
        - Threshold Value: 1
        - Frequency of Evaluation: 5 minutes
- Actions:
    - Action Group Name: LogicAppFailureAlertGroup
    - Display Name: FailLogicApp
    - Email: Entered my email address and saved.
- Details:
    - Resource Group: InsightScape-RG
    - Severity: 1 - Error
    - Alert Rule Name: FailedLogicAppAlert
    - Alert Rule Description: This alert triggers when any Logic App execution fails for InsightScape-LogicApp.
    - Region: East US

After configuring these settings, I clicked on "Review + Create", and the alert rule got successfully created.

3. Alert Rule for InsightScape-WebApp

- Scope: Selected InsightScape-WebApp.
- Condition:
    - Signal Name: Custom log search.
    - KQL Query:

```
AppServiceHTTPLogs
| where scStatus >= 500 and scStatus < 600
| summarize FailureCount = count() by bin(TimeGenerated, 5m)
| where FailureCount > 0
```

    - Measure: Table rows

    - Aggregation Type: Count
    - Aggregation Granularity: 5 minutes
    - Alert Logic:
        - Operator: Greater than
        - Threshold Value: 1
        - Frequency of Evaluation: 5 minutes
- Actions:
    - Action Group Name: HTTP 5xx Alert Actions
    - Display Name: WApp5xxAlert
    - Email: Entered my email address and saved.
- Details:
    - Resource Group: InsightScape-RG
    - Severity: 1 - Error
    - Alert Rule Name: InsightScape-WebApp 5xx Alert
    - Alert Rule Description: Triggers when HTTP 5xx errors occur in InsightScape WebApp.
    - Region: East US

After configuring these settings, I clicked on "Review + Create", and the alert rule got successfully created.

b) Testing Alerts

After setting up the alerts, it was time to test one of them. I chose to test the FailedLogicAppAlert.

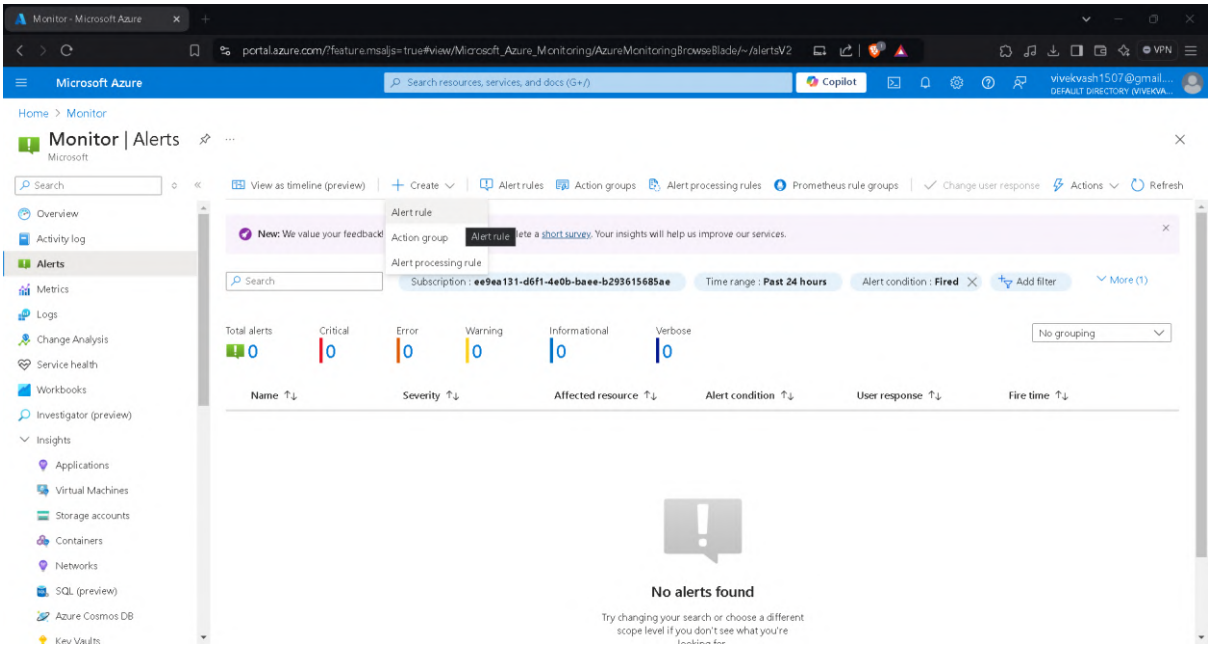
- I went to the Logic App Designer for InsightScape-LogicApp.
- Changed the Blob to "Nonexistent-blob.txt" in the Get blob content (V2) action to intentionally fail the logic app.
- After saving the Logic App design, I went to the "files" container in the insightscapeblob storage account and uploaded two documents (ftp.png and SC1Activity.png).
- As expected, the InsightScape-LogicApp failed, and the FailedLogicAppAlert was triggered.
- I received the alert email confirming that the alert had fired.

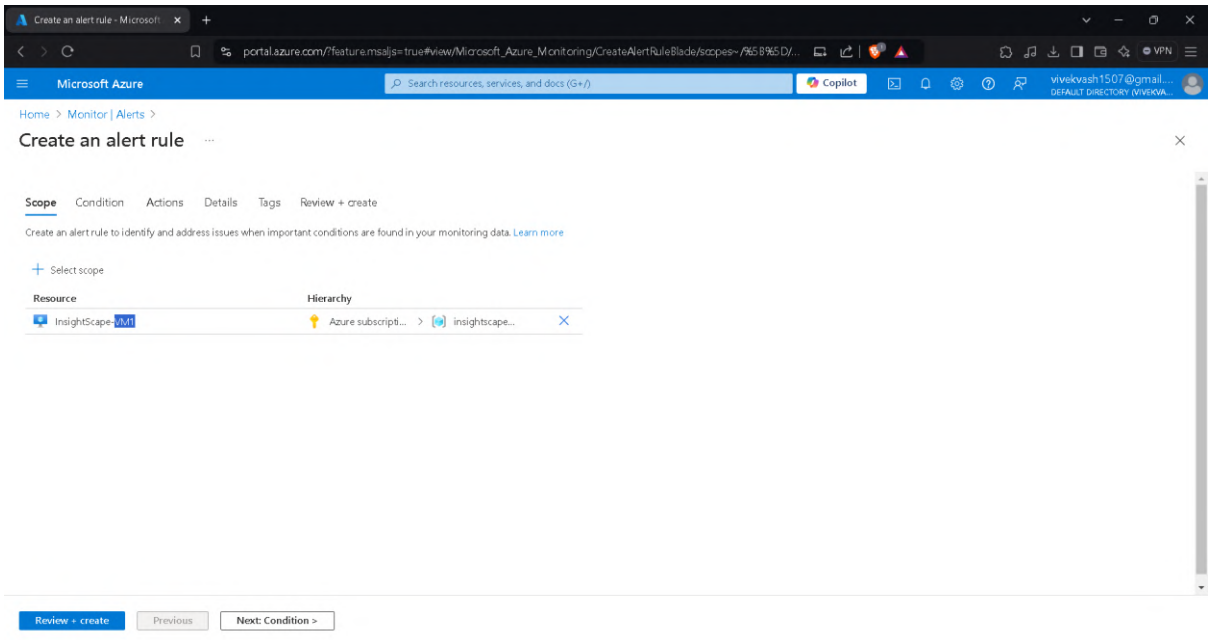
c) Pinning Alerts to Dashboard

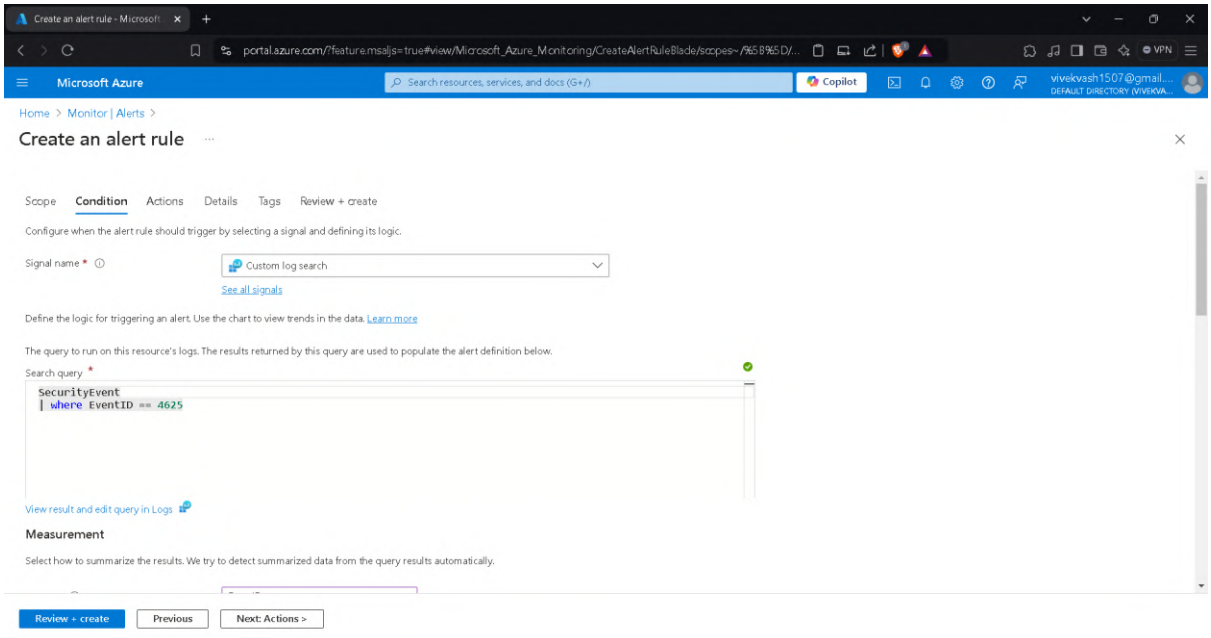
At the end of this phase, I went to the Alerts tab in Azure Monitor and pinned the alerts to my private dashboard for easier monitoring.

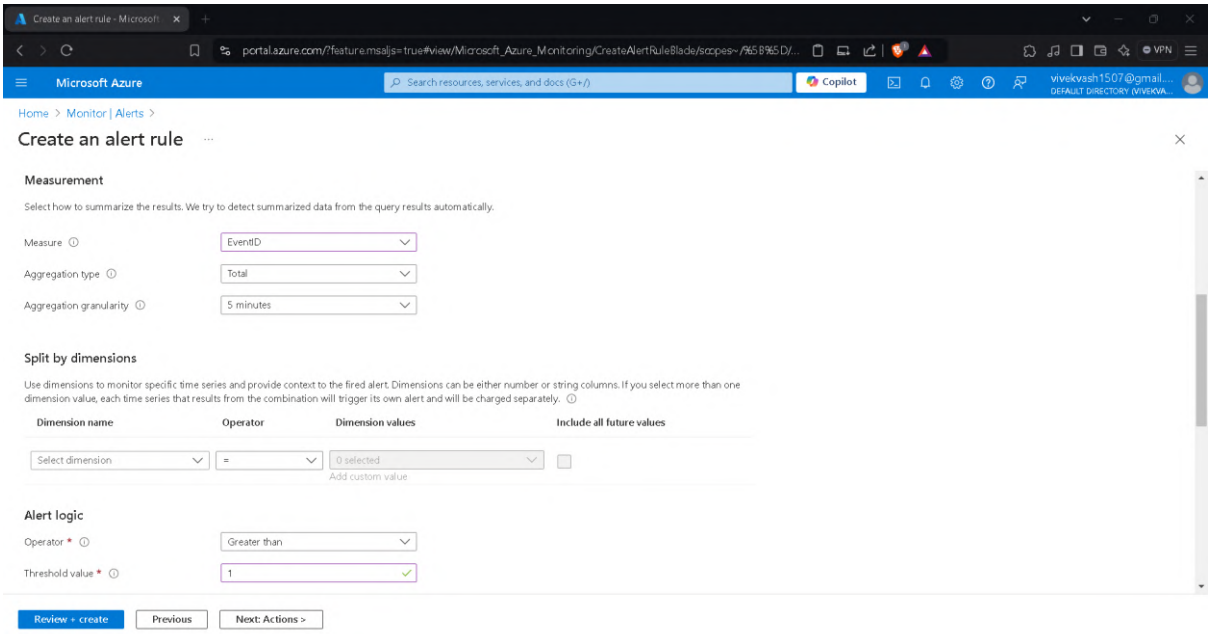
This concluded the Step 7: Alerts Configuration phase of the project, which was successfully completed.

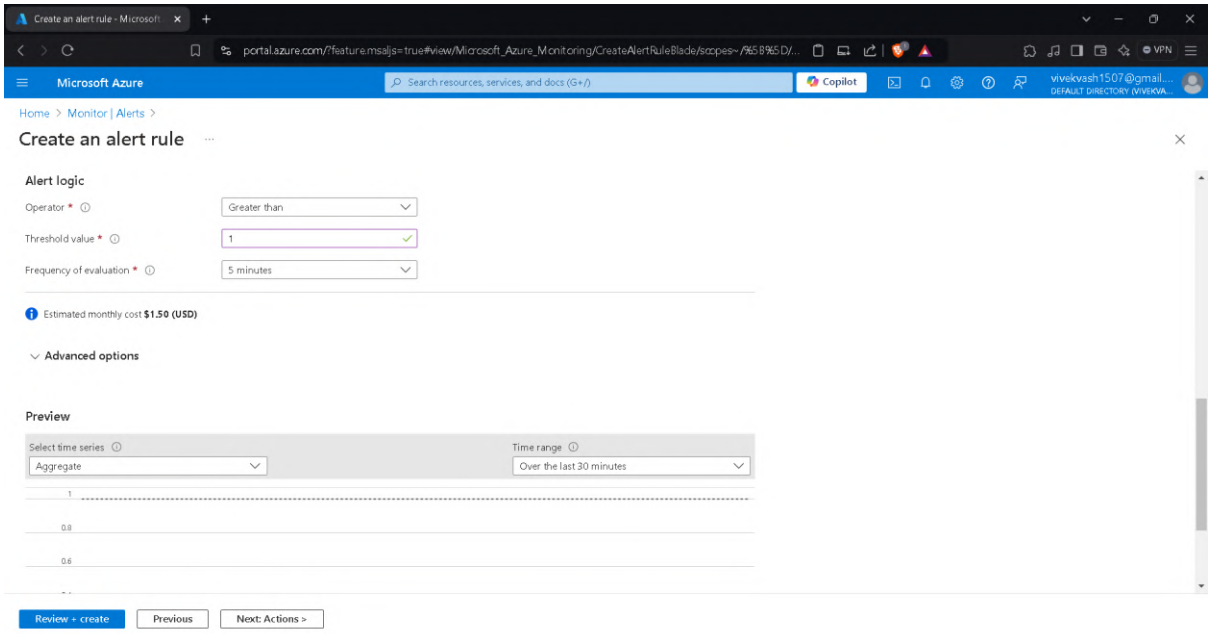
Screenshots

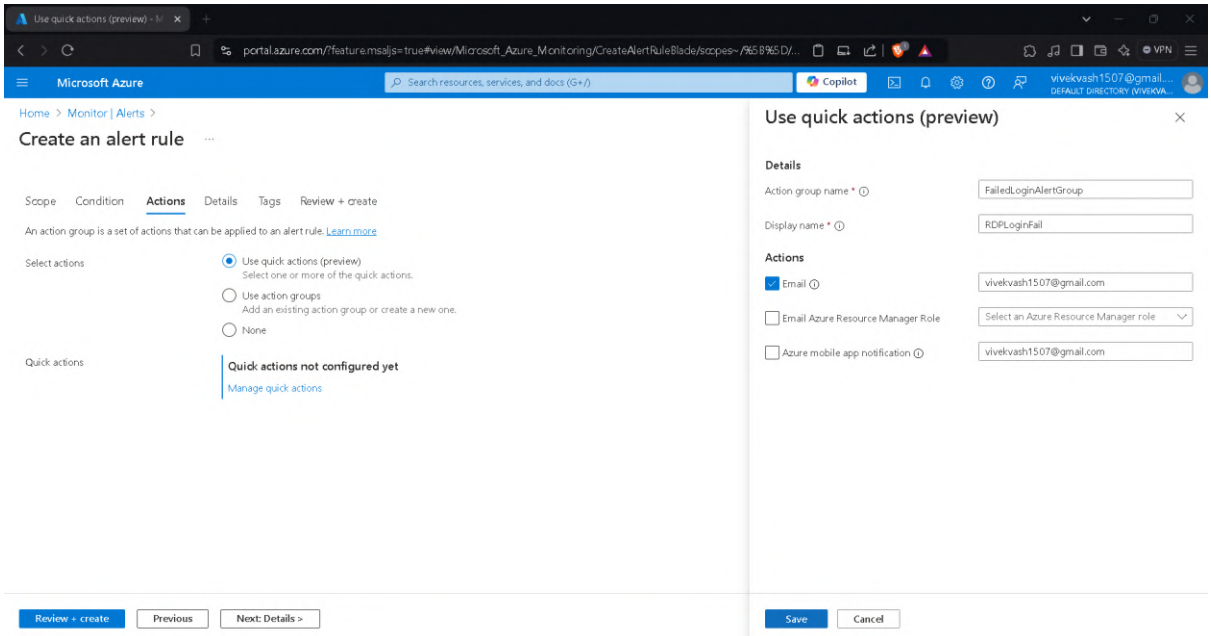


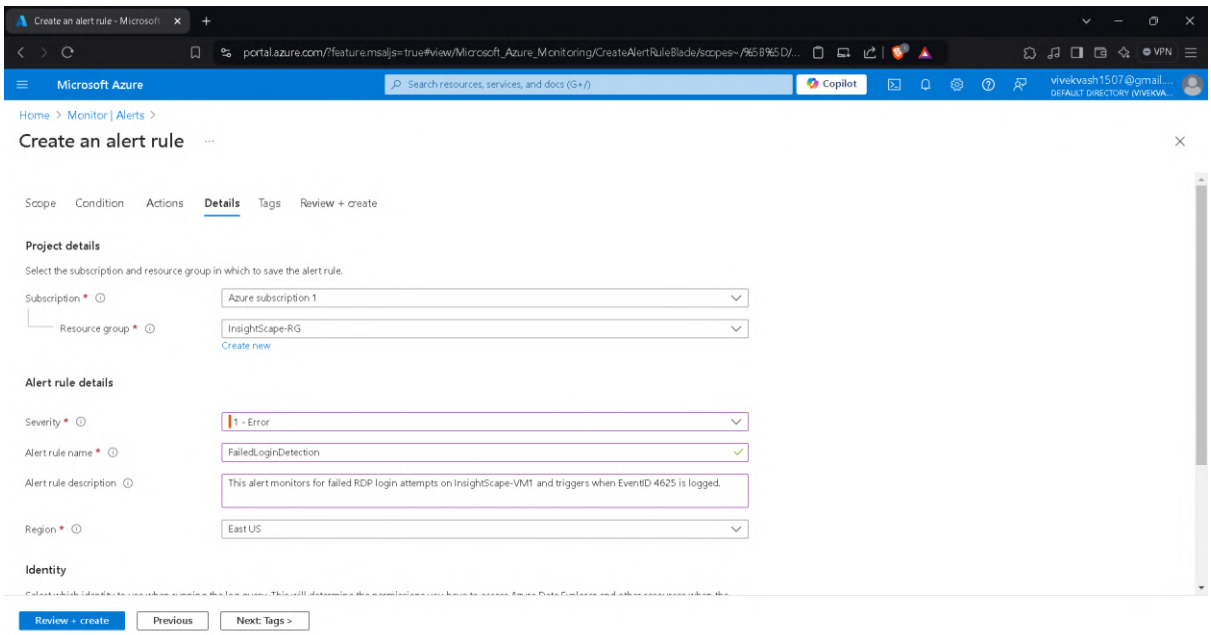


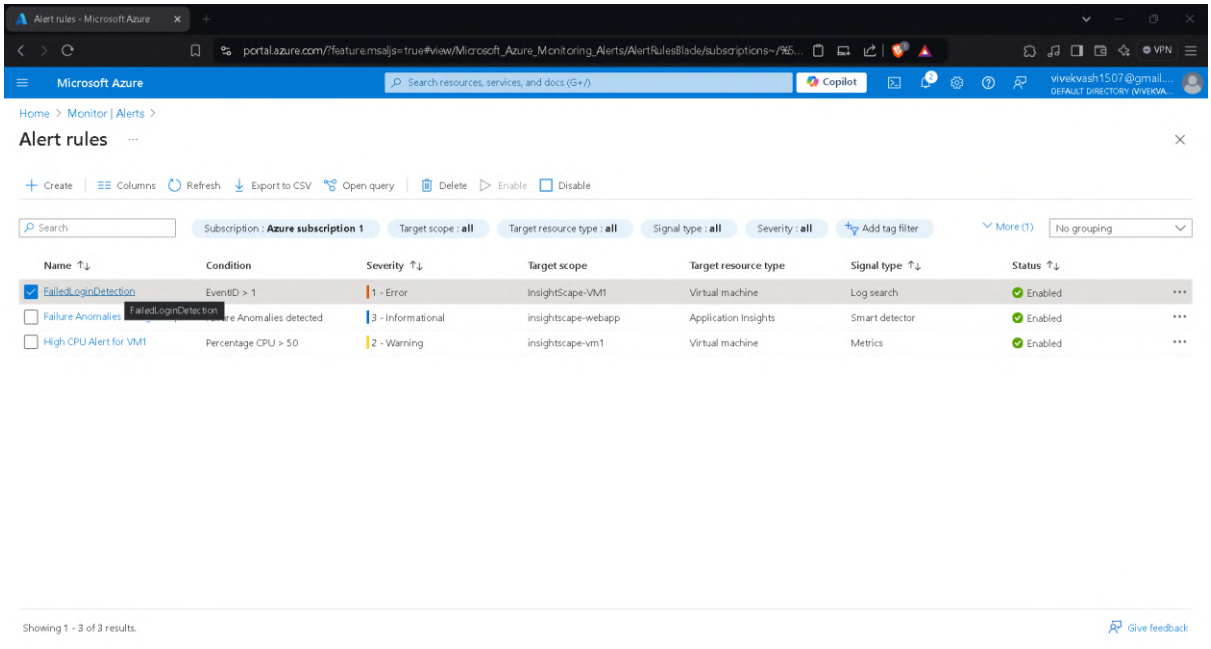



Create an alert rule - Microsoft
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Monitoring/CreateAlertRuleBlade/scopes~/%5B%5D/...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY (VIVEKVA...
Home > Monitor | Alerts >
Create an alert rule
Measurement
Select how to summarize the results. We try to detect summarized data from the query results automatically.
Measure
EventID
Aggregation type
Total
Aggregation granularity
5 minutes
Split by dimensions
Use dimensions to monitor specific time series and provide context to the fired alert. Dimensions can be either number or string columns. If you select more than one dimension value, each time series that results from the combination will trigger its own alert and will be charged separately.
Dimension name
Operator
Dimension values
Include all future values
Select dimension
=
0 selected
Add custom value
Alert logic
Operator *
Greater than
Threshold value *
1
Review + create
Previous
Next: Actions >


Create an alert rule - Microsoft
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Monitoring/CreateAlertRuleBlade/scopes~/%5B%5D/...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY (VIVEKVA...
Home > Monitor | Alerts >
Create an alert rule
Alert logic
Operator *
Greater than
Threshold value *
1
Frequency of evaluation *
5 minutes
Estimated monthly cost $1.50 (USD)
Advanced options
Preview
Select time series
Aggregate
Time range
Over the last 30 minutes
1
0.8
0.6
Review + create
Previous
Next: Actions >


Use quick actions (preview) - M
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Monitoring/CreateAlertRuleBlade/scopes~/%5B%5D/...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY (VIVEKVA...
Home > Monitor | Alerts >
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 actions
Use quick actions (preview)
Select one or more of the quick actions.
Use action groups
Add an existing action group or create a new one.
None
Quick actions
Quick actions not configured yet
Manage quick actions
Review + create
Previous
Next: Details >
Use quick actions (preview)
Details
Action group name *
FailedLoginAlertGroup
Display name *
RDPLoginFail
Actions
Email
vivekvash1507@gmail.com
Email Azure Resource Manager Role
Select an Azure Resource Manager role
Azure mobile app notification
vivekvash1507@gmail.com
Save
Cancel


Create an alert rule - Microsoft
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Monitoring/CreateAlertRuleBlade/scopes~/%5B%5D/...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY (VIVEKVA...
Home > Monitor | Alerts >
Create an alert rule
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 * InsightScape-RG
Create new
Alert rule details
Severity * 1 - Error
Alert rule name * FailedLoginDetection
Alert rule description This alert monitors for failed RDP login attempts on InsightScape-VM1 and triggers when EventID 4625 is logged.
Region * East US
Identity
Review + create
Previous
Next: Tags >


Alert rules - Microsoft Azure
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Monitoring_Alerts/AlertRulesBlade/subscriptions~/%5...
Microsoft Azure
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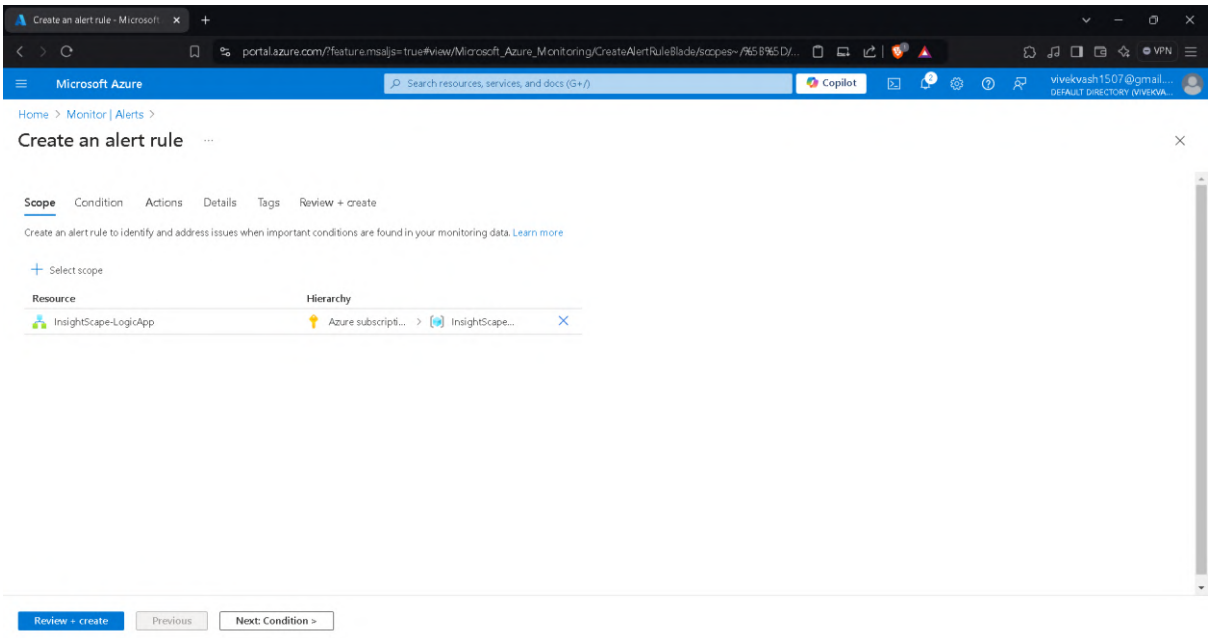
DEFAULT DIRECTORY (VIVEKVA...
Home > Monitor | Alerts >
Alert rules
Create Columns Refresh Export to CSV Open query Delete Enable Disable
Search
Subscription : Azure subscription 1
Target scope : all
Target resource type : all
Signal type : all
Severity : all
Add tag filter
More (1)
No grouping
Name Condition Severity Target scope Target resource type Signal type Status
FailedLoginDetection EventID > 1 1 - Error InsightScape-VM1 Virtual machine Log search Enabled
Failure Anomalies re Anomalies detected 3 - Informational insightscape-webapp Application Insights Smart detector Enabled
High CPU Alert for VM1 Percentage CPU > 50 2 - Warning insightscape-vm1 Virtual machine Metrics Enabled
FailedLoginDetection
Showing 1 - 3 of 3 results.
Give feedback


Create an alert rule - Microsoft
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Monitoring/CreateAlertRuleBlade/scopes~/%5B%5D/...
Microsoft Azure
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Copilot
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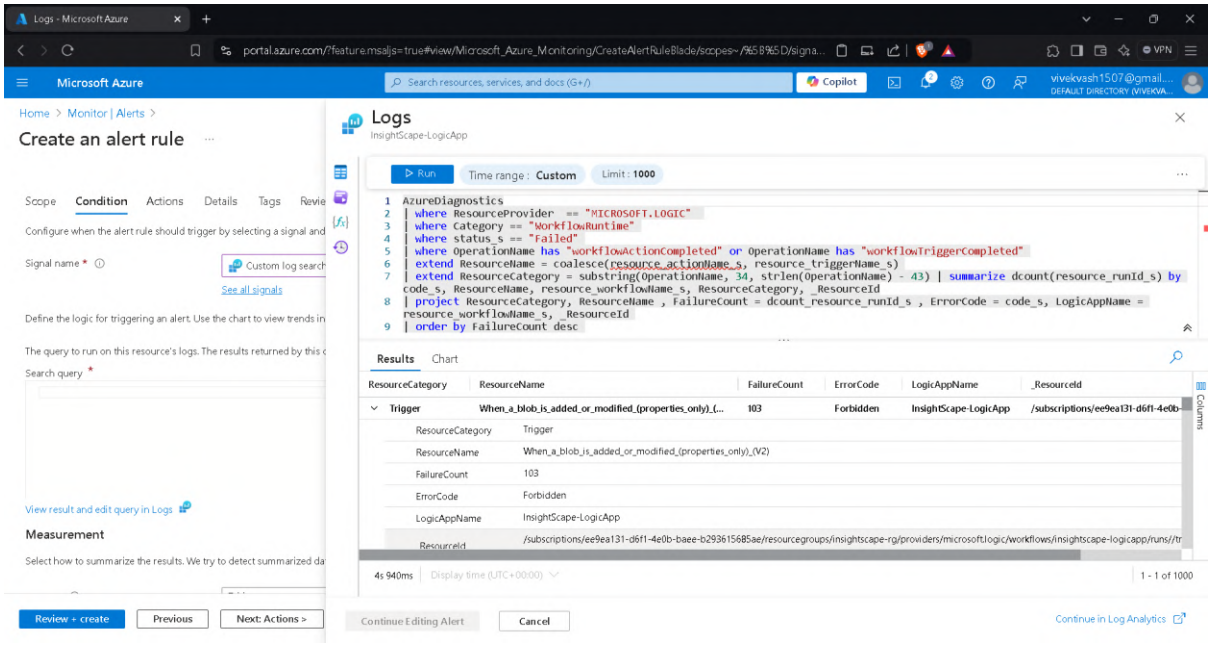
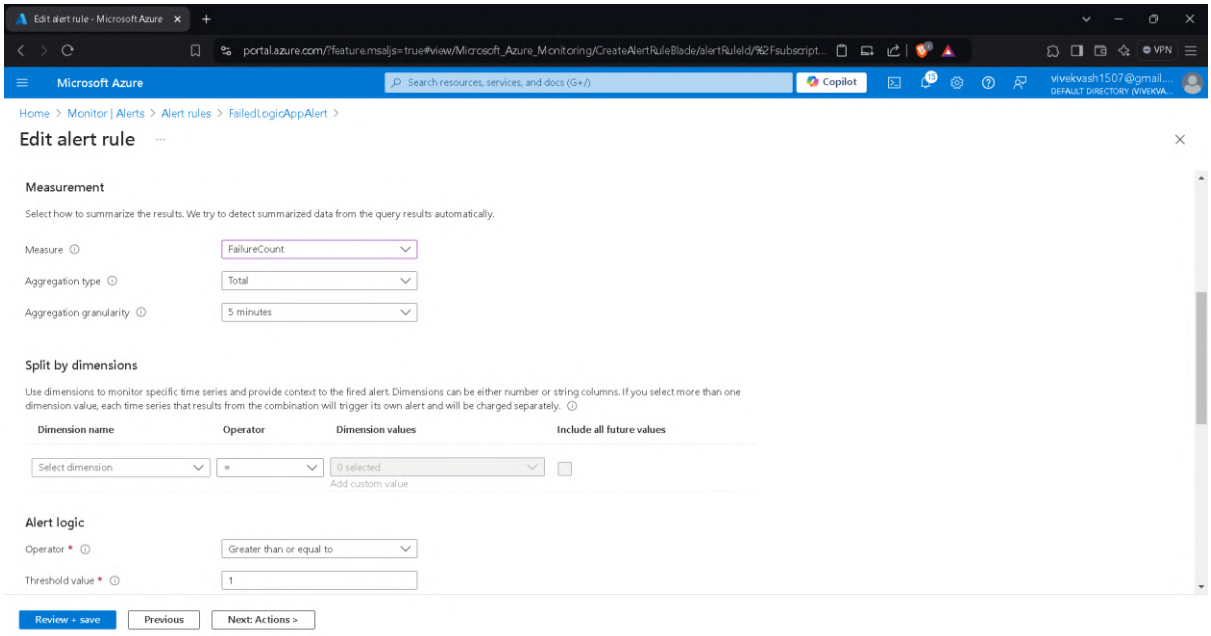
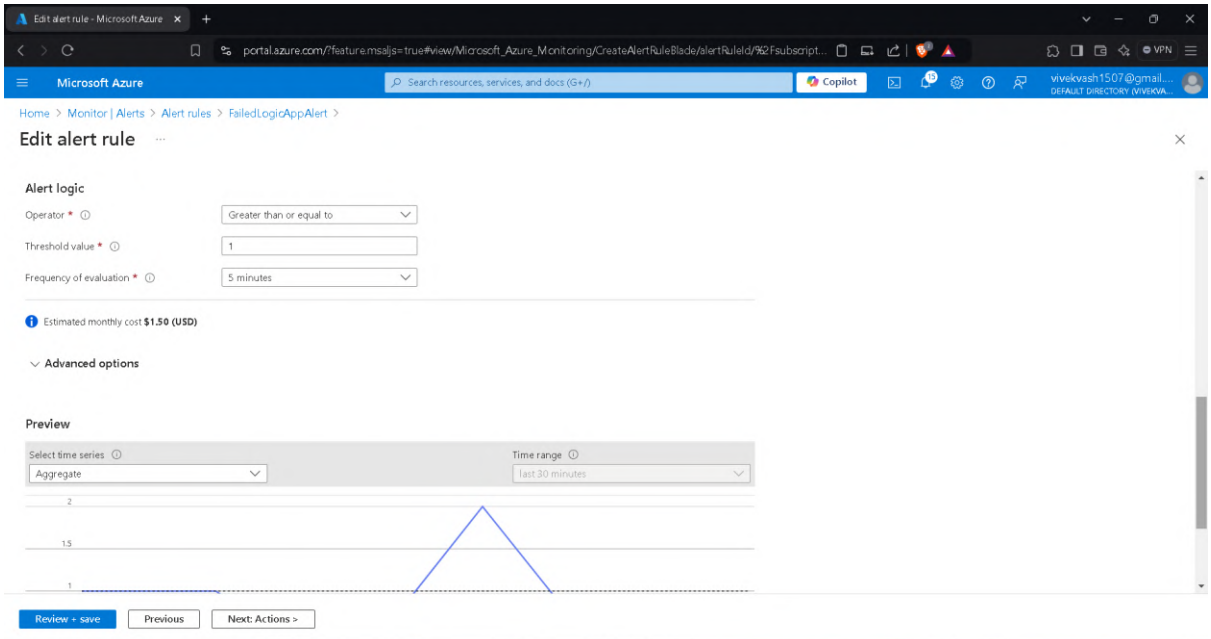
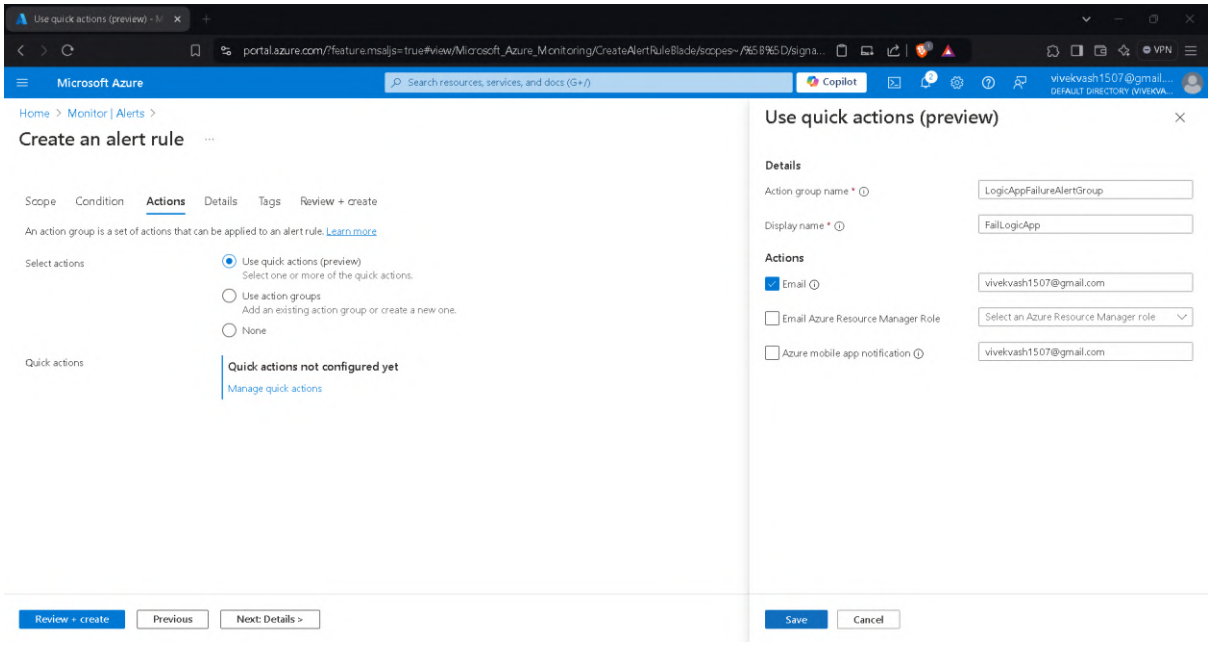
DEFAULT DIRECTORY (VIVEKVA...
Home > Monitor | Alerts >
Create an alert rule
Scope Condition Actions Details Tags Review + create
Create an alert rule to identify and address issues when important conditions are found in your monitoring data. Learn more
Select scope
Resource Hierarchy
InsightScape-LogicApp Azure subscripti... > InsightScape...
Review + create
Previous
Next: Condition >


Logs - Microsoft Azure
Microsoft Azure
Home > Monitor | Alerts >
Create an alert rule
Scope
Condition
Actions
Details
Tags
Review + create
Previous
Next: Actions >
Logs
InsightScape-LogicApp
Run
Time range : Custom
Limit : 1000
AzureDiagnostics
| where ResourceProvider == "MICROSOFT.LOGIC"
| where Category == "WorkflowRuntime"
| where status_s == "Failed"
| where OperationName has "workflowActionCompleted" or OperationName has "workflowTriggerCompleted"
| extend ResourceName = coalesce(resource_actionName_s, resource_triggerName_s)
| extend ResourceCategory = substring(OperationName, 34, strlen(OperationName) - 43) | summarize dcount(resource_runId_s) by code_s, ResourceName, resource_workflowName_s, ResourceCategory, _ResourceId
| project ResourceCategory, ResourceName , FailureCount = dcount_resource_runId_s , ErrorCode = code_s, LogicAppName = resource_workflowName_s, _ResourceId
| order by FailureCount desc
Results
Chart
ResourceCategory
ResourceName
FailureCount
ErrorCode
LogicAppName
_ResourceId
Trigger
When_a_blob_is_added_or_modified_(properties_only)_(...
103
Forbidden
InsightScape-LogicApp
/subscriptions/ee9ea131-d6f1-4e0b-
Measurement
Select how to summarize the results. We try to detect summarized da
View result and edit query in Logs
Continue Editing Alert
Cancel
Continue in Log Analytics


Edit alert rule - Microsoft Azure
Microsoft Azure
Home > Monitor | Alerts > Alert rules > FailedLogicAppAlert >
Edit alert rule
Measurement
Select how to summarize the results. We try to detect summarized data from the query results automatically.
Measure
FailureCount
Aggregation type
Total
Aggregation granularity
5 minutes
Split by dimensions
Use dimensions to monitor specific time series and provide context to the fired alert. Dimensions can be either number or string columns. If you select more than one dimension value, each time series that results from the combination will trigger its own alert and will be charged separately.
Dimension name
Operator
Dimension values
Include all future values
Select dimension
=
0 selected
Add custom value
Alert logic
Operator *
Greater than or equal to
Threshold value *
1
Review + save
Previous
Next: Actions >


Edit alert rule - Microsoft Azure
Microsoft Azure
Home > Monitor | Alerts > Alert rules > FailedLogicAppAlert >
Edit alert rule
Alert logic
Operator *
Greater than or equal to
Threshold value *
1
Frequency of evaluation *
5 minutes
Estimated monthly cost $1.50 (USD)
Advanced options
Preview
Select time series
Aggregate
Time range
last 30 minutes
Review + save
Previous
Next: Actions >


Use quick actions (preview) - M
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Monitoring/CreateAlertRuleBlade/scopes~/%5B%5D/signa...
Microsoft Azure
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Copilot
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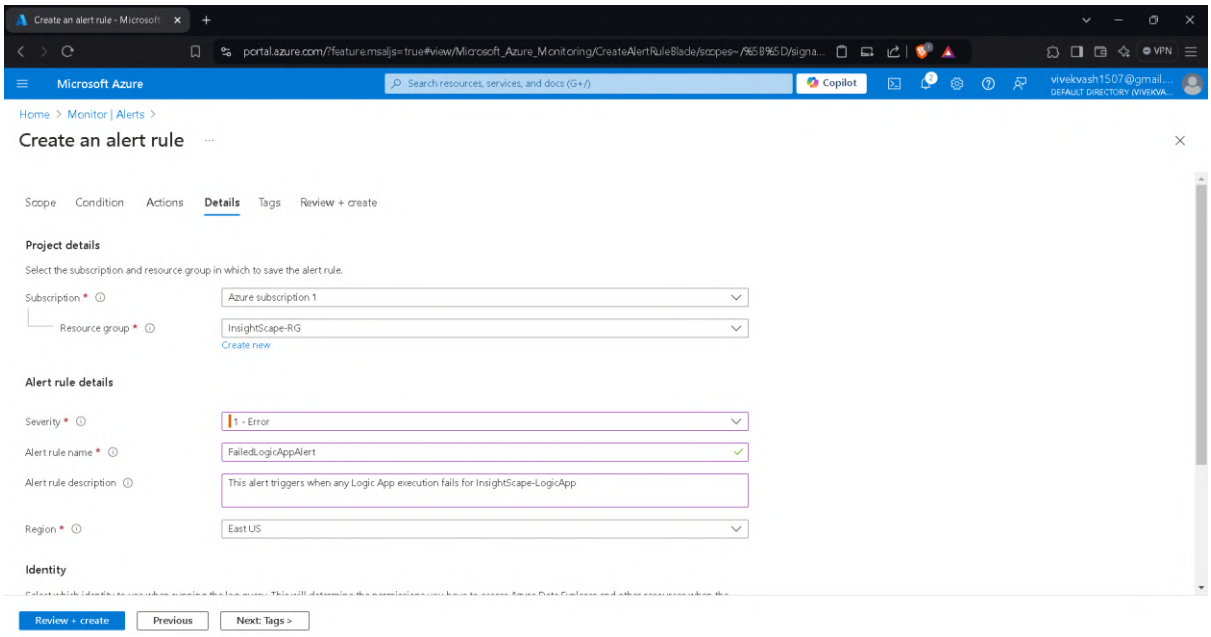
DEFAULT DIRECTORY (VIVEKVA...
Home > Monitor | Alerts >
Create an alert rule
Scope Condition Actions Details Tags Review + create
An action group is a set of actions that can be applied to an alert rule. Learn more
Select actions
Use quick actions (preview)
Select one or more of the quick actions.
Use action groups
Add an existing action group or create a new one.
None
Quick actions
Quick actions not configured yet
Manage quick actions
Review + create
Previous
Next: Details >
Use quick actions (preview)
Details
Action group name *
LogicAppFailureAlertGroup
Display name *
FailLogicApp
Actions
Email
vivekvash1507@gmail.com
Email Azure Resource Manager Role
Select an Azure Resource Manager role
Azure mobile app notification
vivekvash1507@gmail.com
Save
Cancel


Create an alert rule - Microsoft
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Monitoring/CreateAlertRuleBlade/scopes~/%5B%5D/signa...
Microsoft Azure
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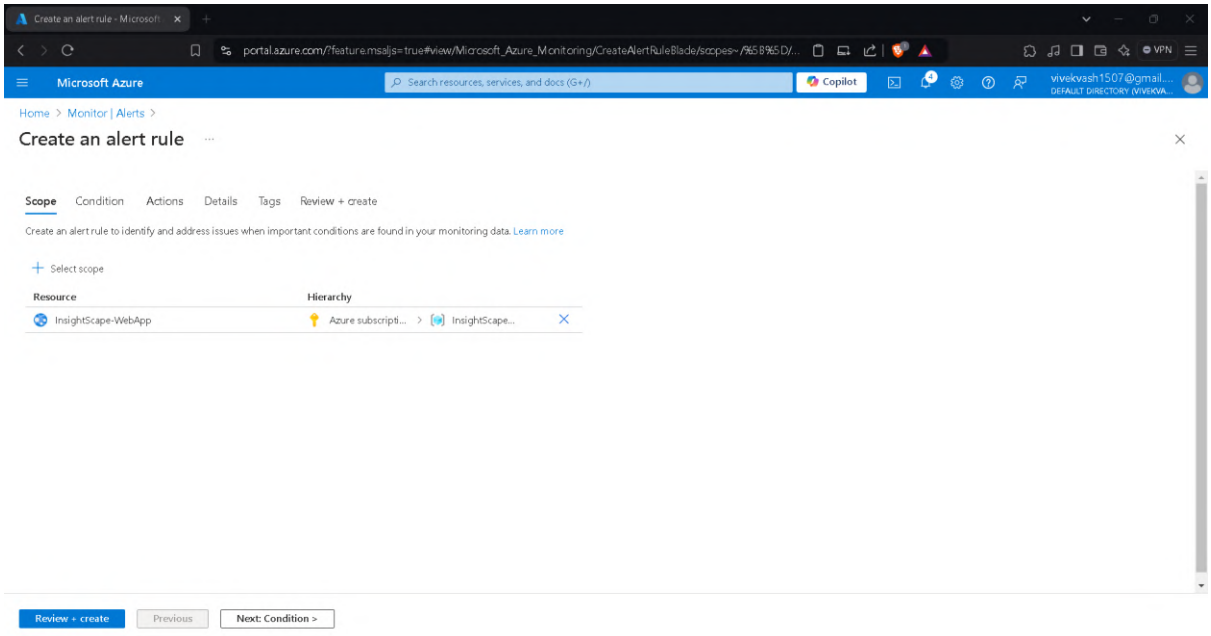
DEFAULT DIRECTORY (VIVEKVA...
Home > Monitor | Alerts >
Create an alert rule
Scope Condition Actions Details Tags Review + create
Project details
Select the subscription and resource group in which to save the alert rule.
Subscription *
Azure subscription 1
Resource group *
InsightScape-RG
Create new
Alert rule details
Severity *
1 - Error
Alert rule name *
FailedLogicAppAlert
Alert rule description
This alert triggers when any Logic App execution fails for InsightScape-LogicApp
Region *
East US
Identity
Review + create
Previous
Next: Tags >


Create an alert rule - Microsoft
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_Monitoring/CreateAlertRuleBlade/scopes~/%5B%5D/...
Microsoft Azure
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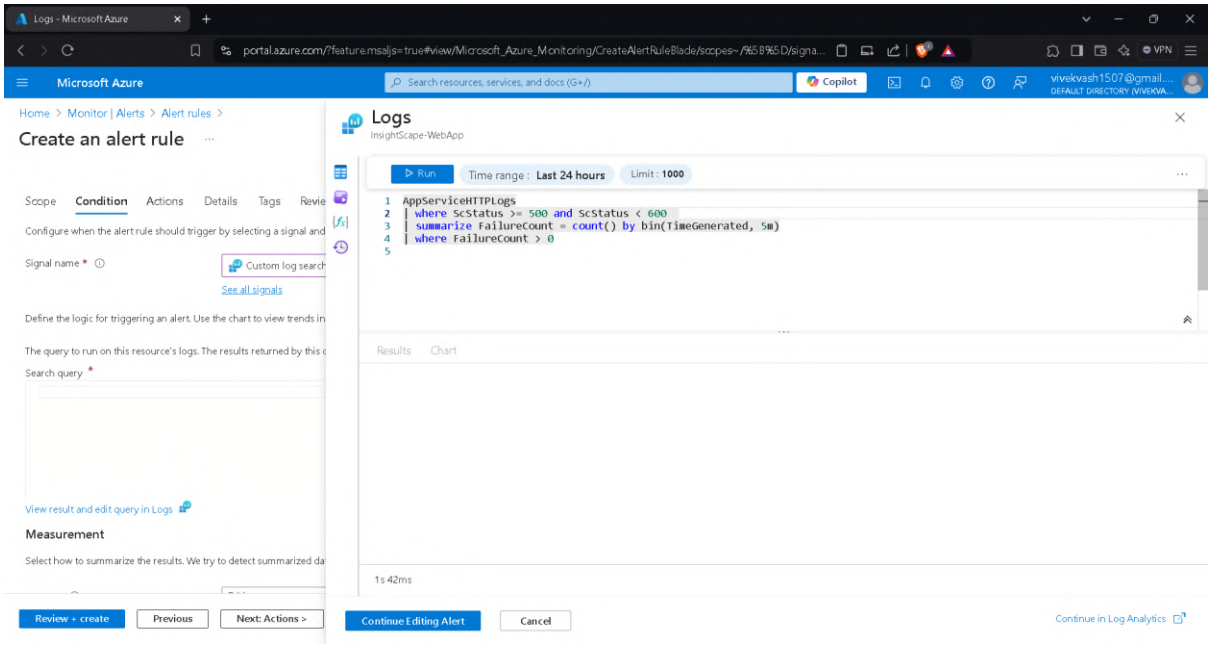
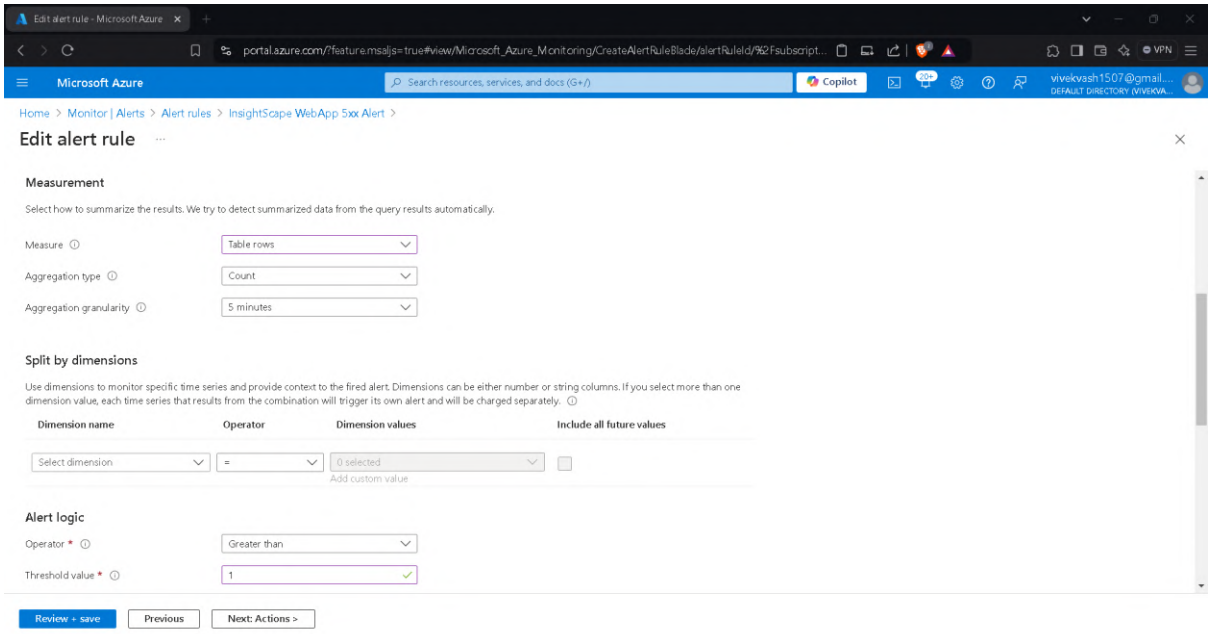
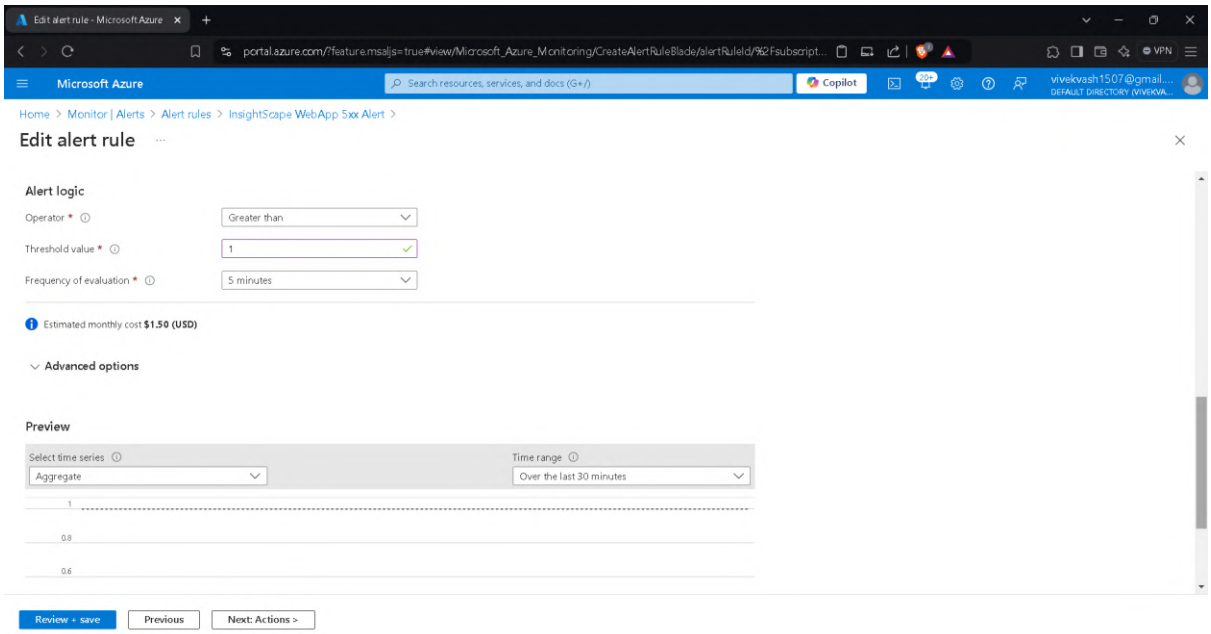
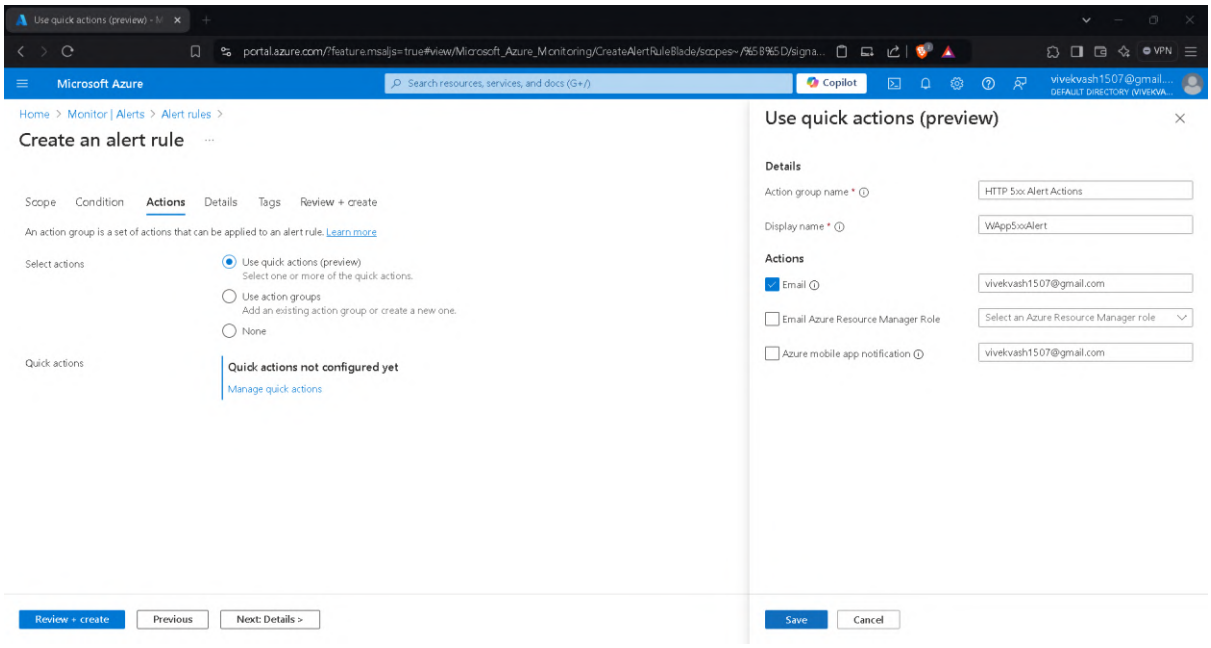
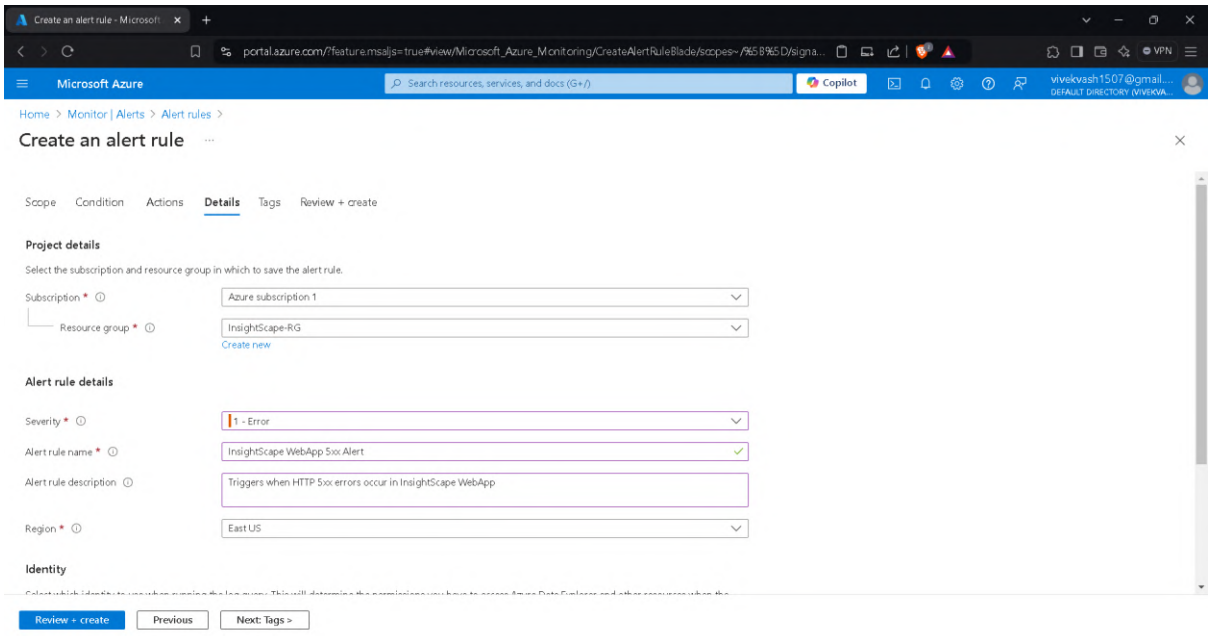
DEFAULT DIRECTORY (VIVEKVA...
Home > Monitor | Alerts >
Create an alert rule
Scope Condition Actions Details Tags Review + create
Create an alert rule to identify and address issues when important conditions are found in your monitoring data. Learn more
Select scope
Resource
Hierarchy
InsightScape-WebApp
Azure subscripti...
InsightScape...
Review + create
Previous
Next: Condition >


Logs - Microsoft Azure
Microsoft Azure
Home > Monitor | Alerts > Alert rules >
Create an alert rule
Scope
Condition
Actions
Details
Tags
Signal name *
Custom log search
See all signals
Define the logic for triggering an alert. Use the chart to view trends in
The query to run on this resource's logs. The results returned by this
Search query *
View result and edit query in Logs
Measurement
Select how to summarize the results. We try to detect summarized da
Review + create
Previous
Next: Actions >
Logs
InsightScape-WebApp
Run
Time range : Last 24 hours
Limit : 1000
1 AppServiceHTTPLogs
2 | where ScStatus >= 500 and ScStatus < 600
3 | summarize FailureCount = count() by bin(TimeGenerated, 5m)
4 | where FailureCount > 0
5
Results
Chart
1s 42ms
Continue Editing Alert
Cancel
Continue in Log Analytics


Edit alert rule - Microsoft Azure
Microsoft Azure
Home > Monitor | Alerts > Alert rules > InsightScape WebApp 5xx Alert >
Edit alert rule
Measurement
Select how to summarize the results. We try to detect summarized data from the query results automatically.
Measure
Table rows
Aggregation type
Count
Aggregation granularity
5 minutes
Split by dimensions
Use dimensions to monitor specific time series and provide context to the fired alert. Dimensions can be either number or string columns. If you select more than one dimension value, each time series that results from the combination will trigger its own alert and will be charged separately.
Dimension name
Operator
Dimension values
Include all future values
Select dimension
=
0 selected
Add custom value
Alert logic
Operator *
Greater than
Threshold value *
1
Review + save
Previous
Next: Actions >


Edit alert rule - Microsoft Azure
Microsoft Azure
Home > Monitor | Alerts > Alert rules > InsightScape WebApp 5xx Alert >
Edit alert rule
Alert logic
Operator *
Greater than
Threshold value *
1
Frequency of evaluation *
5 minutes
Estimated monthly cost $1.50 (USD)
Advanced options
Preview
Select time series
Aggregate
Time range
Over the last 30 minutes
1
0.8
0.6
Review + save
Previous
Next: Actions >


Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
Home > Monitor | Alerts > Alert rules >
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 actions
Use quick actions (preview)
Select one or more of the quick actions.
Use action groups
Add an existing action group or create a new one.
None
Quick actions
Quick actions not configured yet
Manage quick actions
Review + create
Previous
Next: Details >
Use quick actions (preview)
Details
Action group name *
HTTP 5xx Alert Actions
Display name *
WApp5xxAlert
Actions
Email
vivekvash1507@gmail.com
Email Azure Resource Manager Role
Select an Azure Resource Manager role
Azure mobile app notification
vivekvash1507@gmail.com
Save
Cancel


Microsoft Azure
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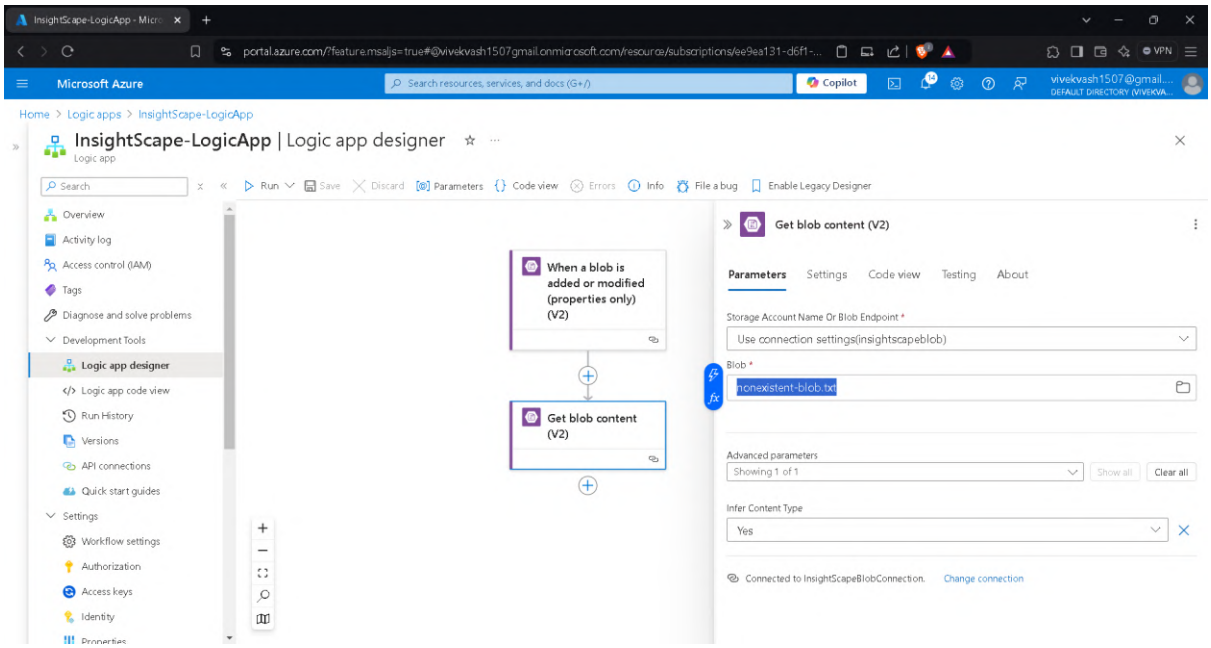
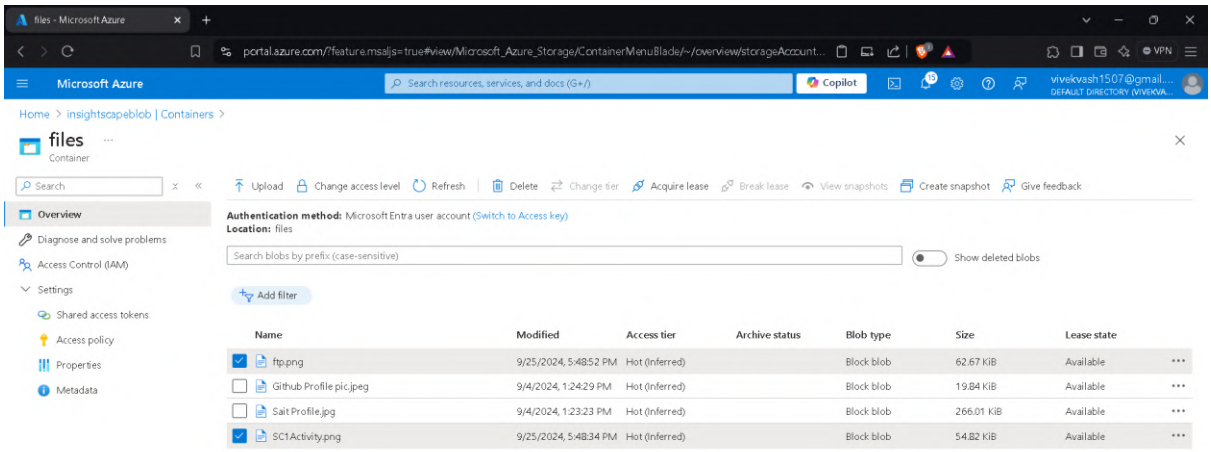
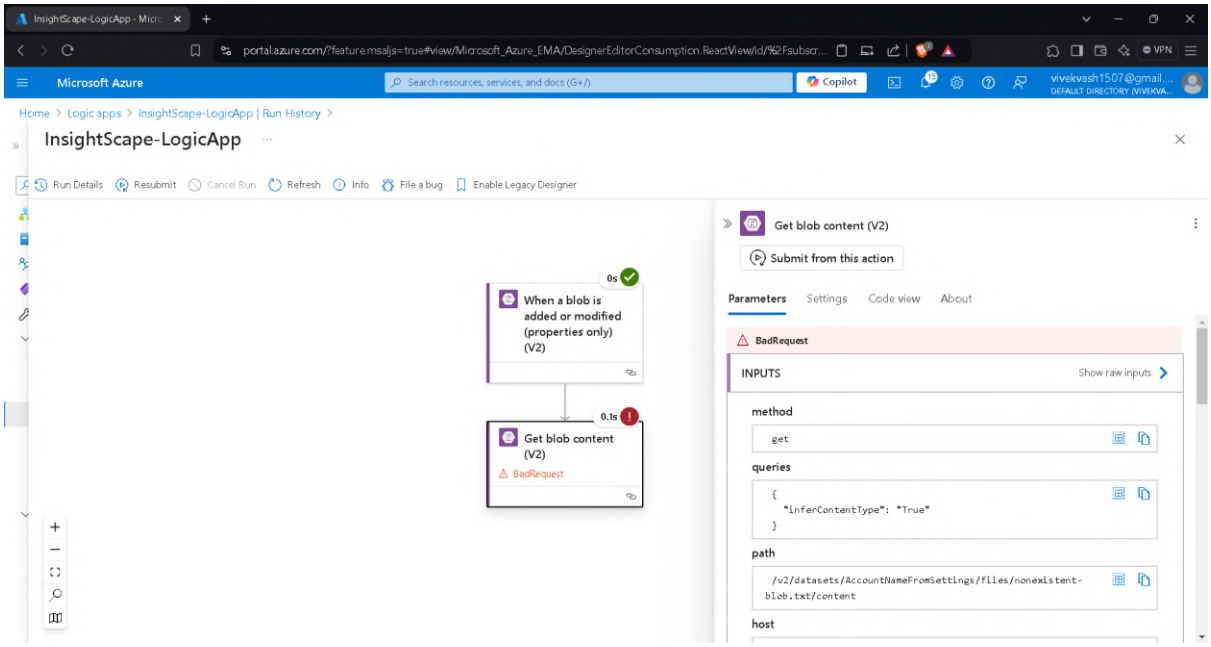
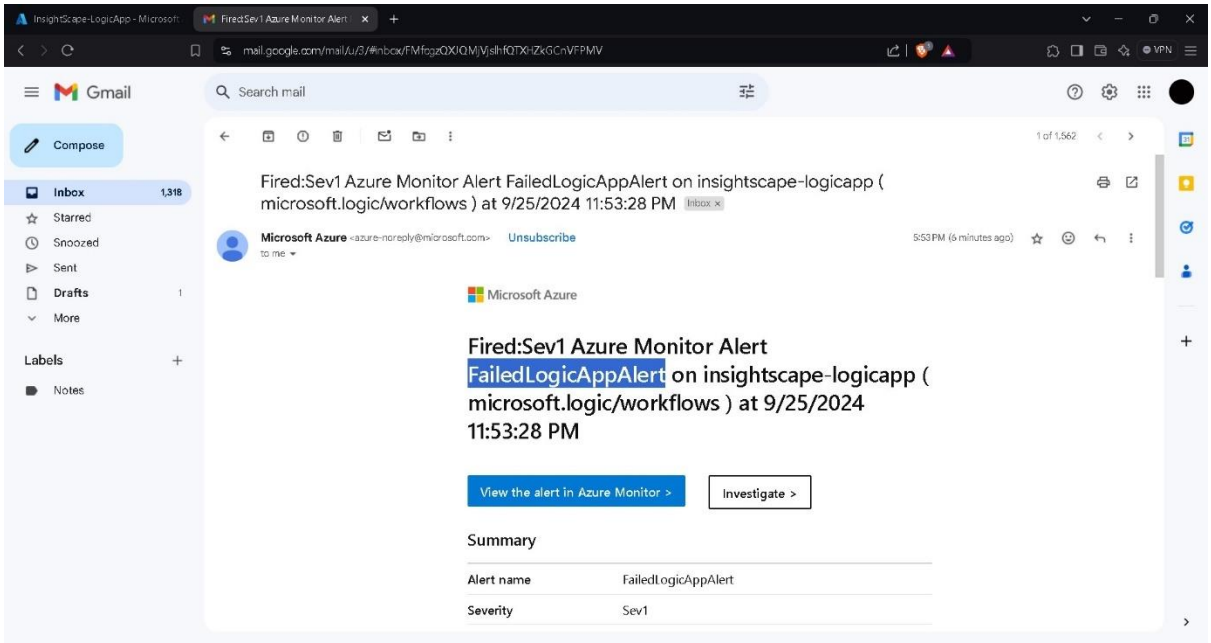
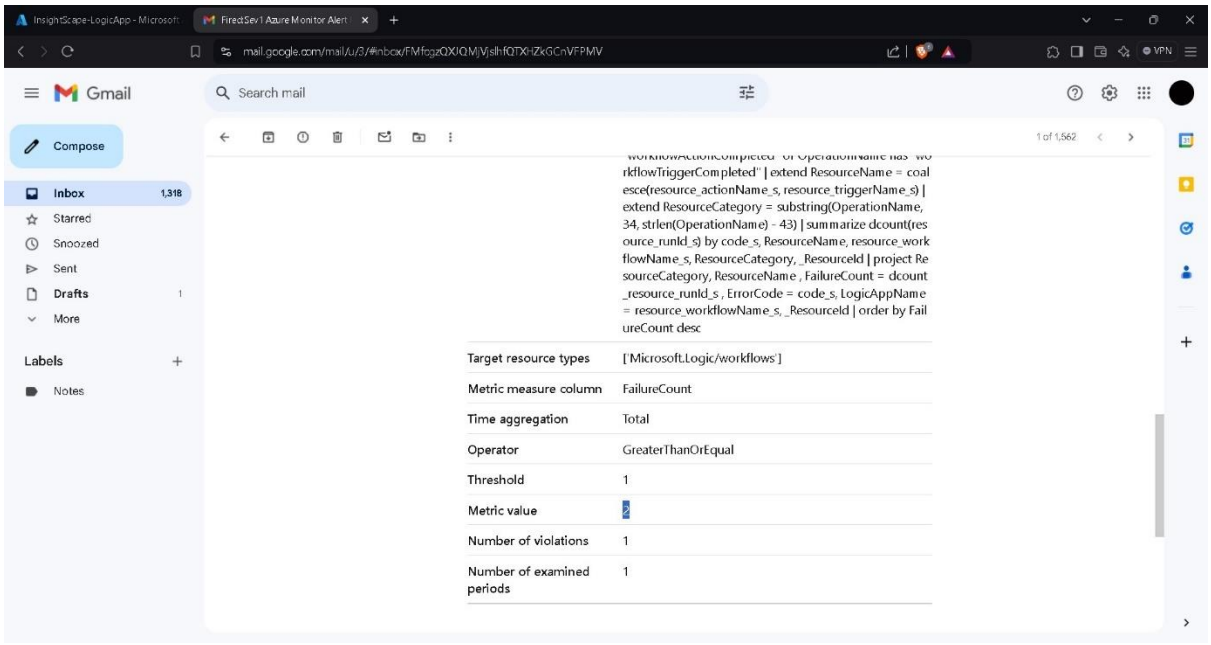
Copilot
Home > Monitor | Alerts > Alert rules >
Create an alert rule
Scope
Condition
Actions
Details
Tags
Review + create
Project details
Select the subscription and resource group in which to save the alert rule.
Subscription *
Azure subscription 1
Resource group *
InsightScape-RG
Create new
Alert rule details
Severity *
1 - Error
Alert rule name *
InsightScape WebApp 5xx Alert
Alert rule description
Triggers when HTTP 5xx errors occur in InsightScape WebApp
Region *
East US
Identity
Review + create
Previous
Next: Tags >

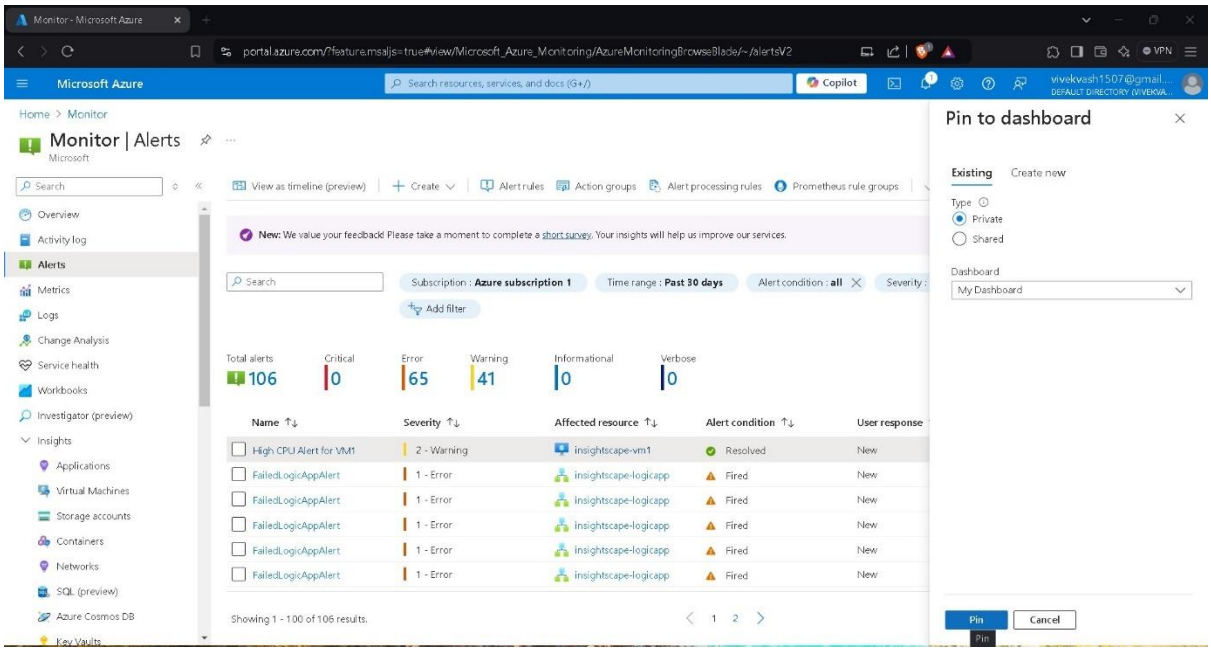

Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
Home > Logic apps > InsightScape-LogicApp
InsightScape-LogicApp | Logic app designer
Logic app
Search
Run
Save
Discard
Parameters
Code view
Errors
Info
File a bug
Enable Legacy Designer
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Development Tools
Logic app designer
Logic app code view
Run History
Versions
API connections
Quick start guides
Settings
Workflow settings
Authorization
Access keys
Identity
When a blob is added or modified (properties only) (V2)
Get blob content (V2)
Get blob content (V2)
Parameters
Settings
Code view
Testing
About
Storage Account Name Or Blob Endpoint *
Use connection settings(insightscapeblob)
Blob *
nonexistent-blob.txt
Advanced parameters
Showing 1 of 1
Show all
Clear all
Infer Content Type
Yes
Connected to InsightScapeBlobConnection.
Change connection

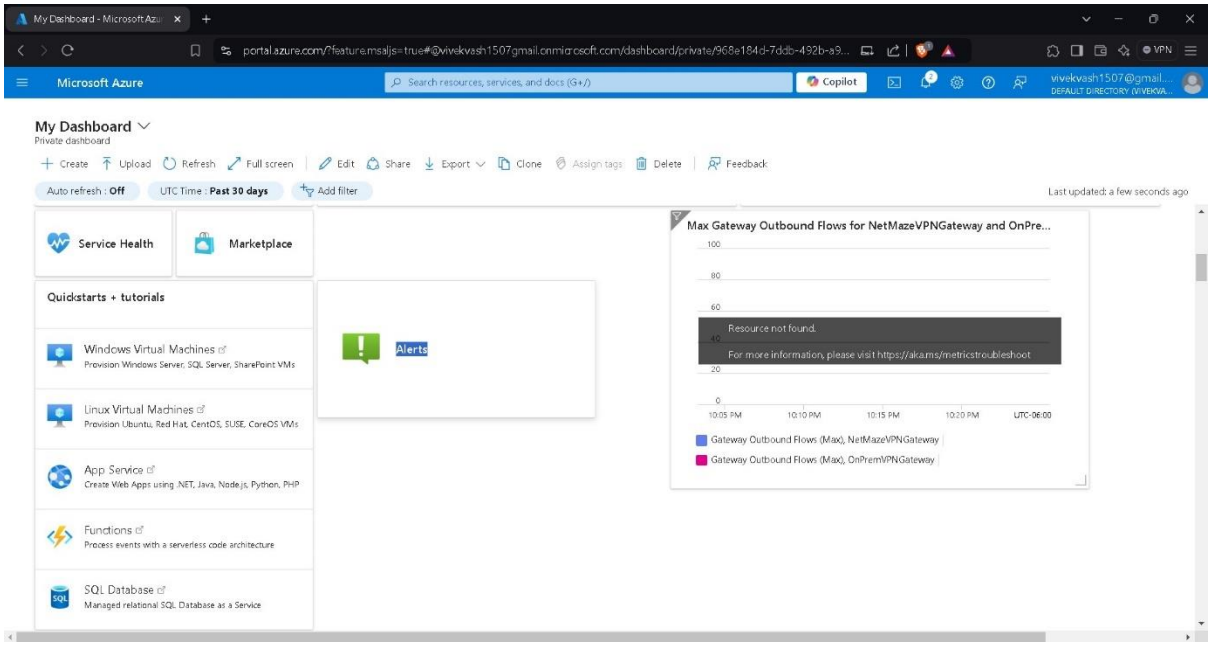

files - Microsoft Azure
Microsoft Azure
Home > insightscapeblob | Containers >
files
Container
Overview
Diagnose and solve problems
Access Control (IAM)
Settings
Shared access tokens
Access policy
Properties
Metadata
Upload
Change access level
Refresh
Delete
Change tier
Acquire lease
Break lease
View snapshots
Create snapshot
Give feedback
Authentication method: Microsoft Entra user account (Switch to Access key)
Location: files
Search blobs by prefix (case-sensitive)
Show deleted blobs
Add filter
Name
Modified
Access tier
Archive status
Blob type
Size
Lease state
ftp.png
9/25/2024, 5:48:52 PM
Hot (Inferred)
Block blob
62.67 KiB
Available
Github Profile pic.jpeg
9/4/2024, 1:24:29 PM
Hot (Inferred)
Block blob
19.84 KiB
Available
Sait Profile.jpg
9/4/2024, 1:23:23 PM
Hot (Inferred)
Block blob
266.01 KiB
Available
SC1Activity.png
9/25/2024, 5:48:34 PM
Hot (Inferred)
Block blob
54.82 KiB
Available


InsightScape-LogicApp - Micro
Microsoft Azure
Home > Logic apps > InsightScape-LogicApp | Run History >
InsightScape-LogicApp
Run Details
Resubmit
Cancel Run
Refresh
Info
File a bug
Enable Legacy Designer
0s
When a blob is added or modified (properties only) (V2)
0.1s
Get blob content (V2)
BadRequest
Get blob content (V2)
Submit from this action
Parameters
Settings
Code view
About
BadRequest
INPUTS
Show raw inputs
method
get
queries
{
"inferContentType": "True"
}
path
/v2/datasets/AccountNameFromSettings/files/nonexistent-blob.txt/content
host


InsightScape-LogicApp - Microsoft
Fired:Sev1 Azure Monitor Alert
mail.google.com/mail/u/3/#inbox/FMfcgzQXJQMjVjslhfQTXHZkGCnVFPMV
Gmail
Search mail
Compose
Inbox 1,318
Starred
Snoozed
Sent
Drafts 1
More
Labels
Notes
1 of 1,562
Fired:Sev1 Azure Monitor Alert FailedLogicAppAlert on insightscape-logicapp (microsoft.logic/workflows) at 9/25/2024 11:53:28 PM
Inbox
Microsoft Azure <azure-noreply@microsoft.com>
Unsubscribe
5:53 PM (6 minutes ago)
to me
Microsoft Azure
Fired:Sev1 Azure Monitor Alert FailedLogicAppAlert on insightscape-logicapp (microsoft.logic/workflows) at 9/25/2024 11:53:28 PM
View the alert in Azure Monitor >
Investigate >
Summary
Alert name
FailedLogicAppAlert
Severity
Sev1


Gmail
Search mail
Compose
Inbox 1,318
Starred
Snoozed
Sent
Drafts 1
More
Labels
Notes
rkflowTriggerCompleted" | extend ResourceName = coal esce(resource_actionName_s, resource_triggerName_s) | extend ResourceCategory = substring(OperationName, 34, strlen(OperationName) - 43) | summarize dcount(res ource_runId_s) by code_s, ResourceName, resource_work flowName_s, ResourceCategory, _ResourceId | project Re sourceCategory, ResourceName , FailureCount = dcount _resource_runId_s , ErrorCode = code_s, LogicAppName = resource_workflowName_s, _ResourceId | order by Fail ureCount desc
Target resource types ['Microsoft.Logic/workflows']
Metric measure column FailureCount
Time aggregation Total
Operator GreaterThanOrEqual
Threshold 1
Metric value 2
Number of violations 1
Number of examined periods 1


Microsoft Azure
Monitor | Alerts
Pin to dashboard
Existing
Create new
Private
Shared
My Dashboard
Pin
Cancel
Total alerts 106
Critical 0
Error 65
Warning 41
Informational 0
Verbose 0


My Dashboard
Private dashboard
Service Health
Marketplace
Quickstarts + tutorials
Windows Virtual Machines
Linux Virtual Machines
App Service
Functions
SQL Database
Alerts
Max Gateway Outbound Flows for NetMazeVPNGateway and OnPre...
Resource not found.
For more information, please visit https://aka.ms/metricstroubleshoot
Gateway Outbound Flows (Max), NetMazeVPNGateway
Gateway Outbound Flows (Max), OnPremVPNGateway

Backup and Disaster Recovery

In this phase of the project, my goal was to work on **Backup and Disaster Recovery**.

a) Confirming Backup Configuration

To begin, I accessed the Backup Items tab in the InsightScape-Vault (Recovery Services Vault) to ensure that InsightScape-VM1 was present in the backup items, as I had configured its backup in the initial phases of the project.

b) Deleting InsightScape-VM1 for Disaster Recovery Validation

Next, to work on Disaster Recovery, I went to InsightScape-VM1 and noted down the details of the VM such as:

- Size: Standard B2s
- Region: East US
- Virtual Network/Subnet: InsightScape-VNet/VM1-Subnet

With these details recorded, I deleted InsightScape-VM1 (but retained the associated resources like Disk, NIC, and Public IP).

c) Restoring the Virtual Machine

After the successful deletion of InsightScape-VM1, it was time to restore the VM to validate the disaster recovery capability within this project.

I went to the Backup Items tab in InsightScape-Vault (Recovery Services Vault). I clicked on the three dots beside the listed InsightScape-VM1 and selected "Restore VM". I chose the latest restore point with the following details:

- Time: 9/28/2024, 4:05:23 AM
- Consistency: Application Consistent
- Recovery Type: Snapshot and Vault Standard

For the Restore Configuration, I chose:

- Restore Type: Create new virtual machine
- Virtual Machine Name: InsightScape-VM1-AfterRestore
- Resource Group: InsightScape-RG
- Virtual Network: InsightScape-VNet (InsightScape-RG)
- Subnet: VM1-Subnet
- Staging Location: insightscapeblob (StandardLRS)

I then clicked on "Restore".

d) Verification of Successful Restore

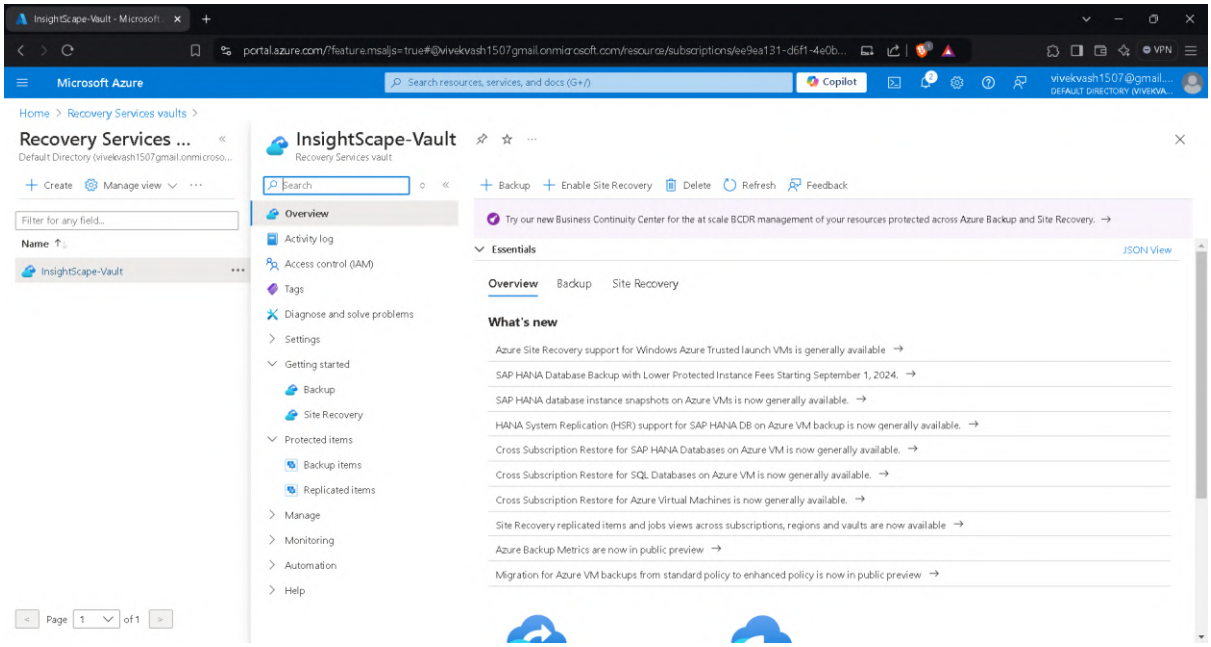
After the successful restore trigger for InsightScape-VM1, I confirmed the restoration using two methods:

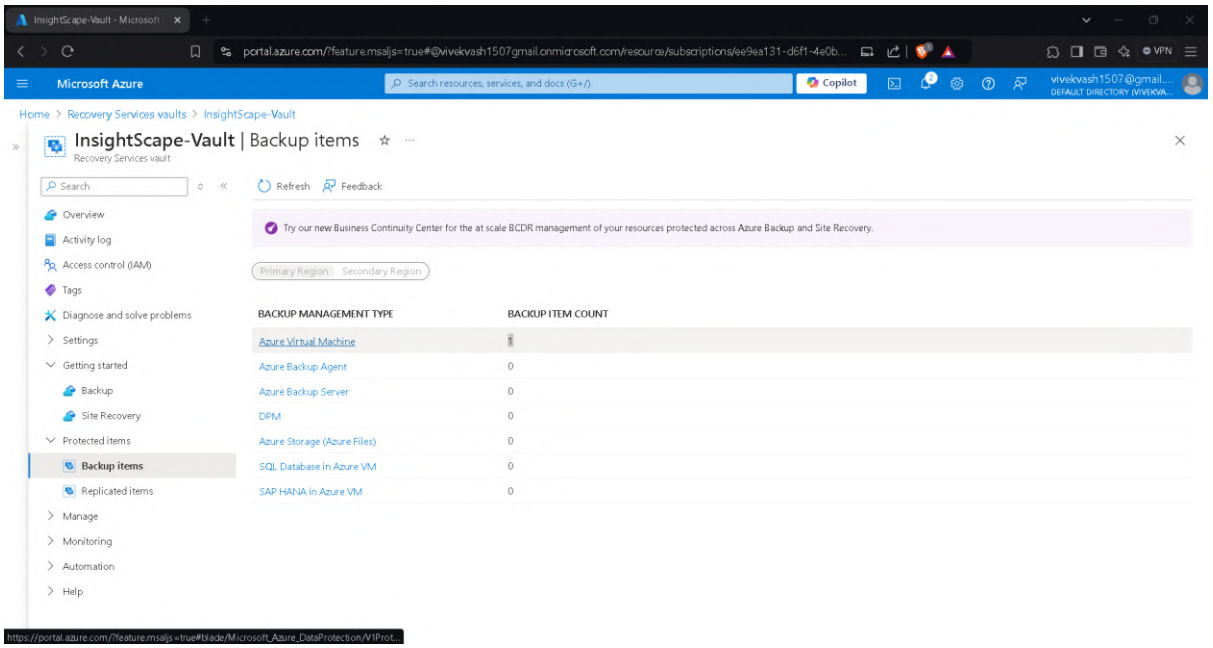
1. Backup Jobs Tab Verification:
    - I accessed the Backup Jobs tab in InsightScape-Vault, where I found the following workload listed:
        - Workload Name: InsightScape-VM1
        - Operation: Restore
        - Status: Completed
        - Type: Azure Virtual Machine
        - Total Duration: 00:02:11
2. Verification of Restored VM Details:
    - I navigated to InsightScape-VM1-AfterRestore and compared its details with those of the original InsightScape-VM1 to ensure they matched. The verified details included:
        - Size: Standard B2s
        - Region: East US
        - Virtual Network/Subnet: InsightScape-VNet/VM1-Subnet
    - The details were identical, confirming that the VM was successfully restored.

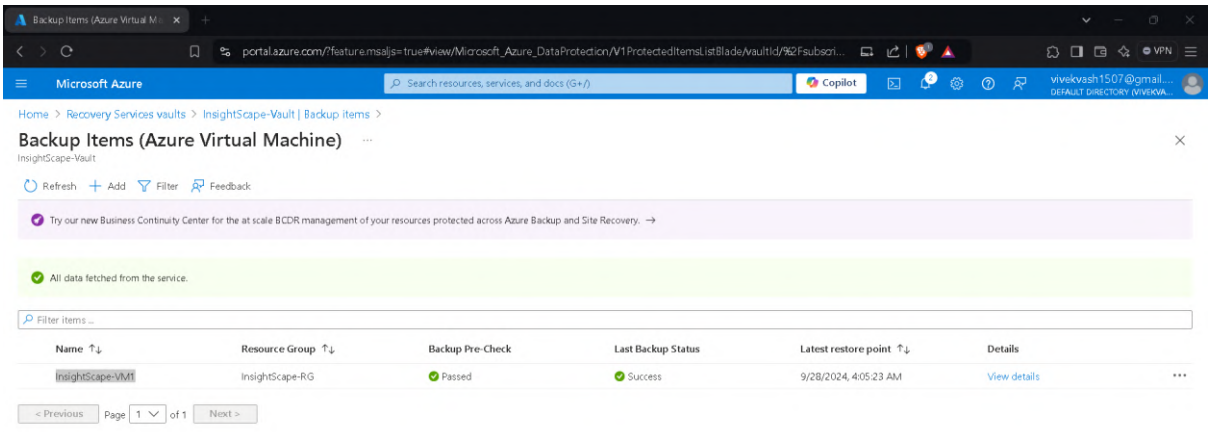
With the successful completion of the Backup and Disaster Recovery phase, I verified that the backup setup and recovery process worked as intended, providing resilience against data loss or failures.

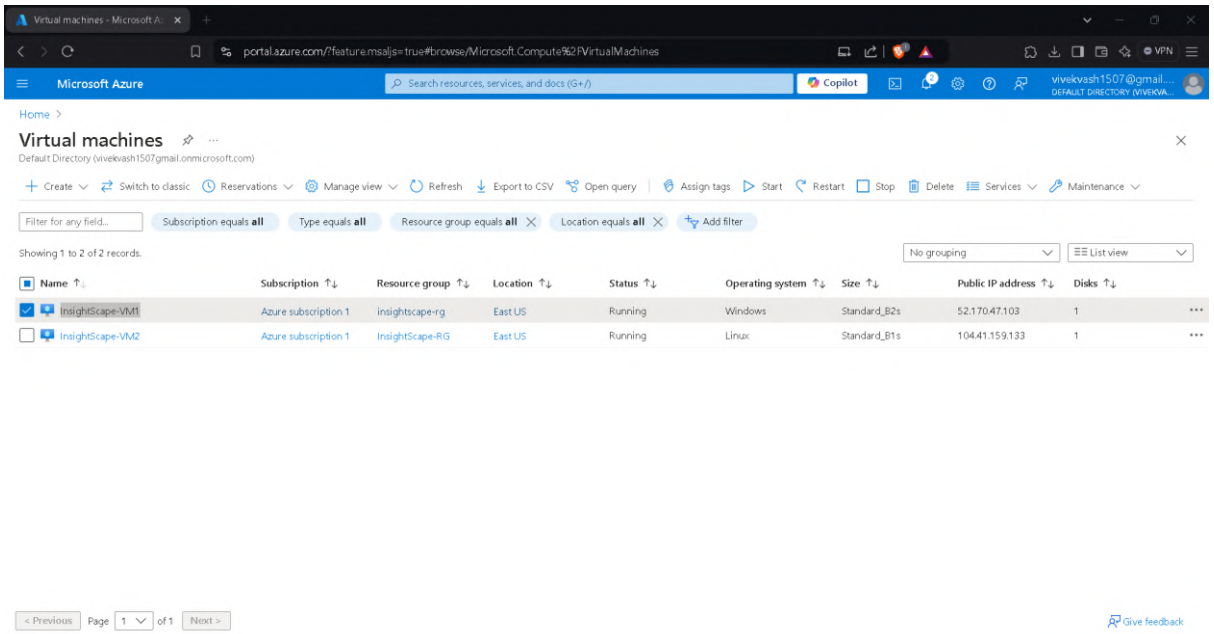
And with this, the entire project was successfully completed!

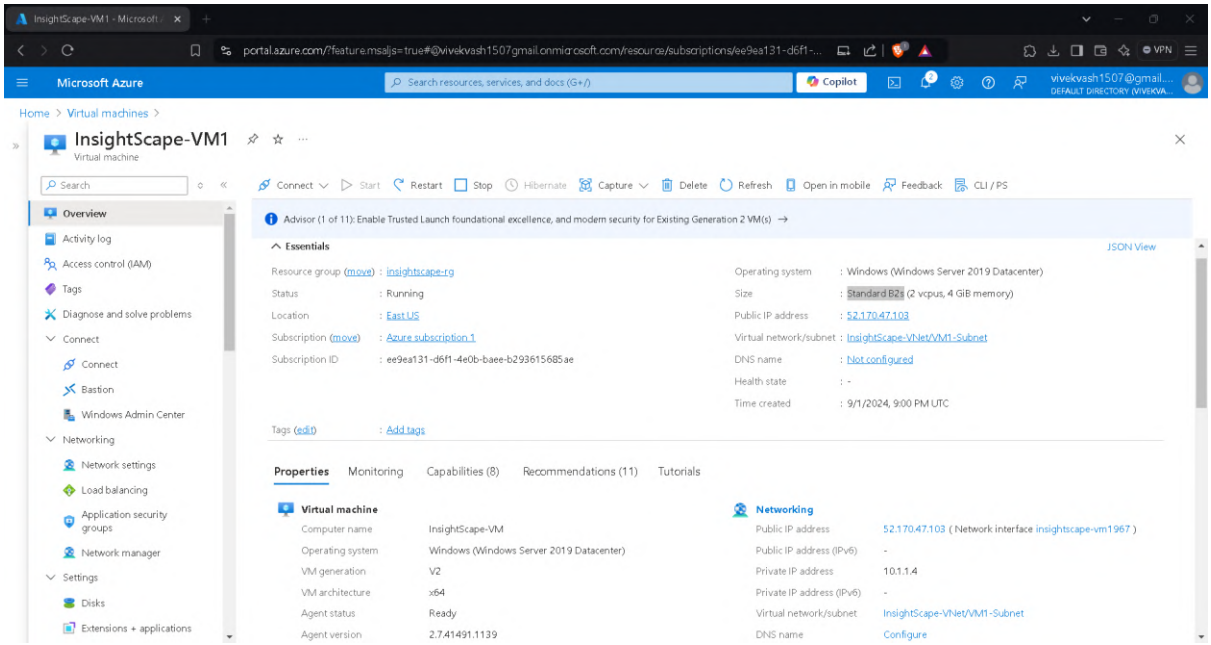
Screenshots

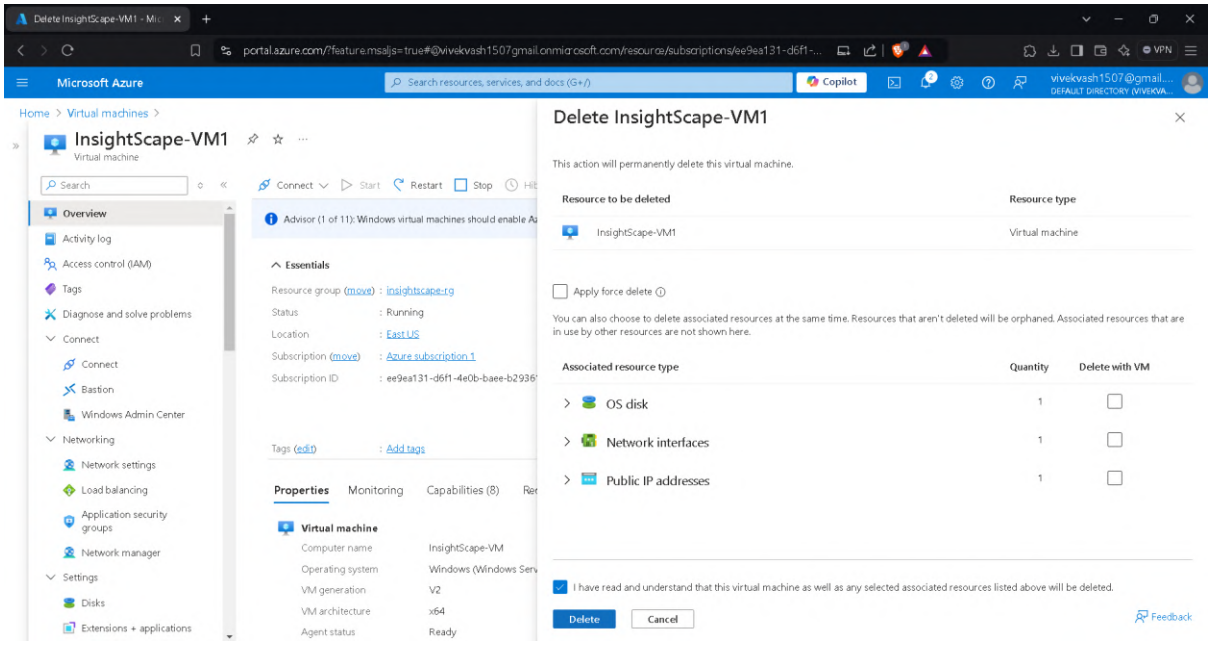


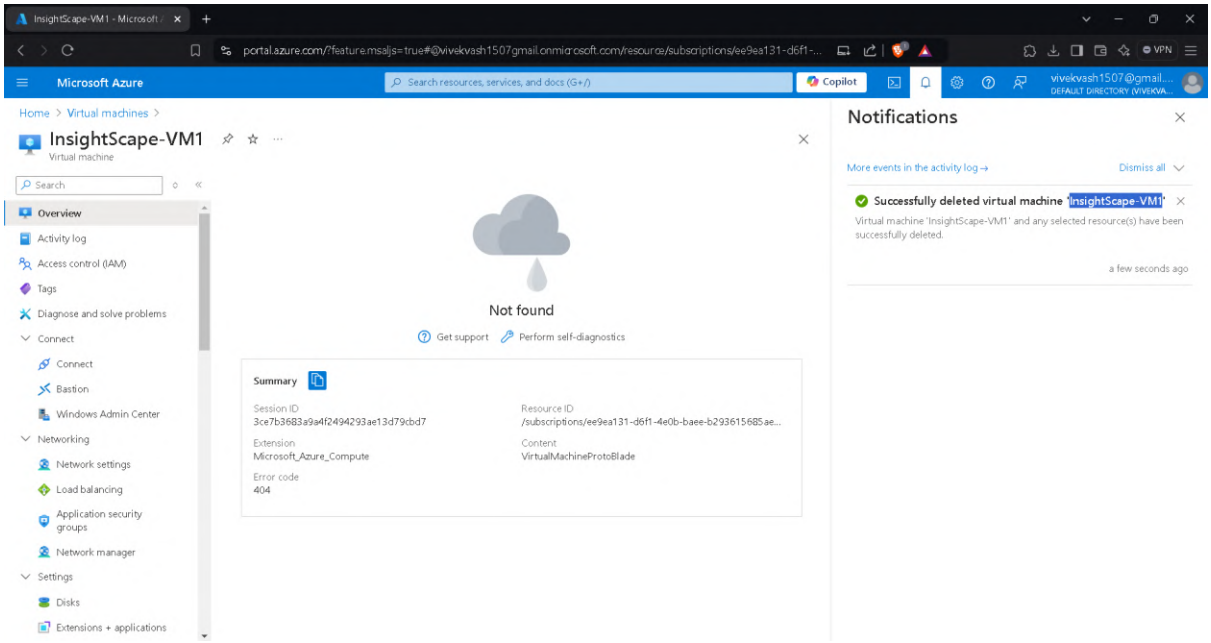

InsightScape-Vault - Microsoft
portal.azure.com/?feature.msaljs=true#@vivekvash1507gmail.onmicrosoft.com/resource/subscriptions/ee9ea131-d6f1-4e0b...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY (VIVEKVA...
Home > Recovery Services vaults > InsightScape-Vault
InsightScape-Vault | Backup items
Recovery Services vault
Search
Refresh
Feedback
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Settings
Getting started
Backup
Site Recovery
Protected items
Backup items
Replicated items
Manage
Monitoring
Automation
Help
Try our new Business Continuity Center for the at scale BCDR management of your resources protected across Azure Backup and Site Recovery.
Primary Region
Secondary Region
BACKUP MANAGEMENT TYPE
BACKUP ITEM COUNT
Azure Virtual Machine 1
Azure Backup Agent 0
Azure Backup Server 0
DPM 0
Azure Storage (Azure Files) 0
SQL Database in Azure VM 0
SAP HANA in Azure VM 0
https://portal.azure.com/?feature.msaljs=true#blade/Microsoft_Azure_DataProtection/V1Prot...

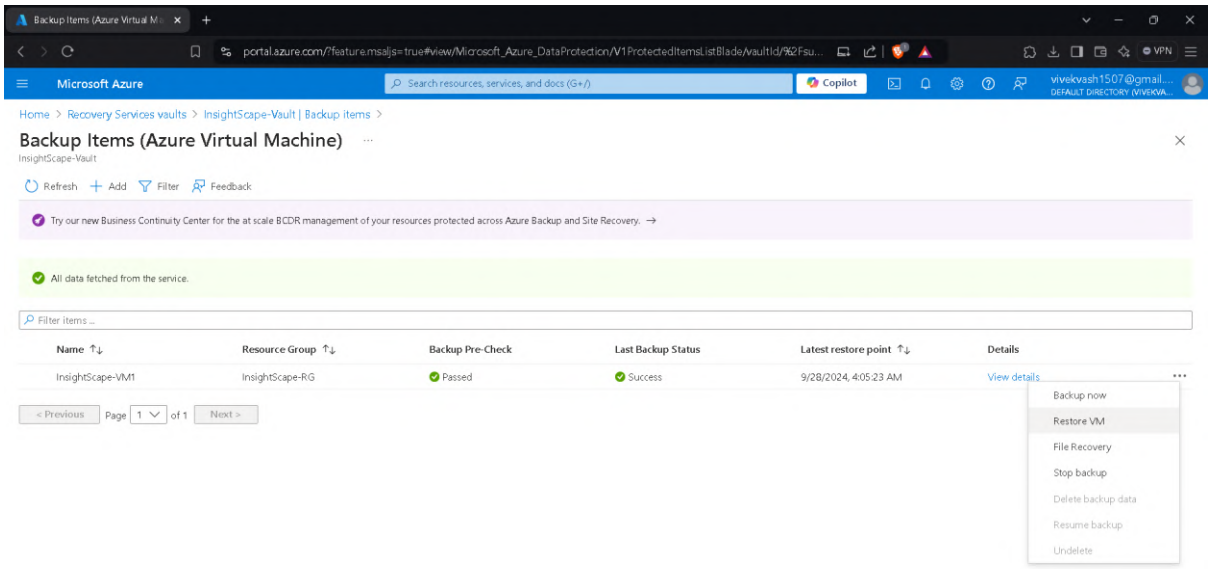

Backup Items (Azure Virtual M...
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_DataProtection/V1ProtectedItemsListBlade/vaultId/%2Fsubscri...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY (VIVEKVA...
Home > Recovery Services vaults > InsightScape-Vault | Backup items >
Backup Items (Azure Virtual Machine)
InsightScape-Vault
Refresh
Add
Filter
Feedback
Try our new Business Continuity Center for the at scale BCDR management of your resources protected across Azure Backup and Site Recovery.
All data fetched from the service.
Filter items ...
Name
Resource Group
Backup Pre-Check
Last Backup Status
Latest restore point
Details
InsightScape-VM1
InsightScape-RG
Passed
Success
9/28/2024, 4:05:23 AM
View details
< Previous
Page 1 of 1
Next >

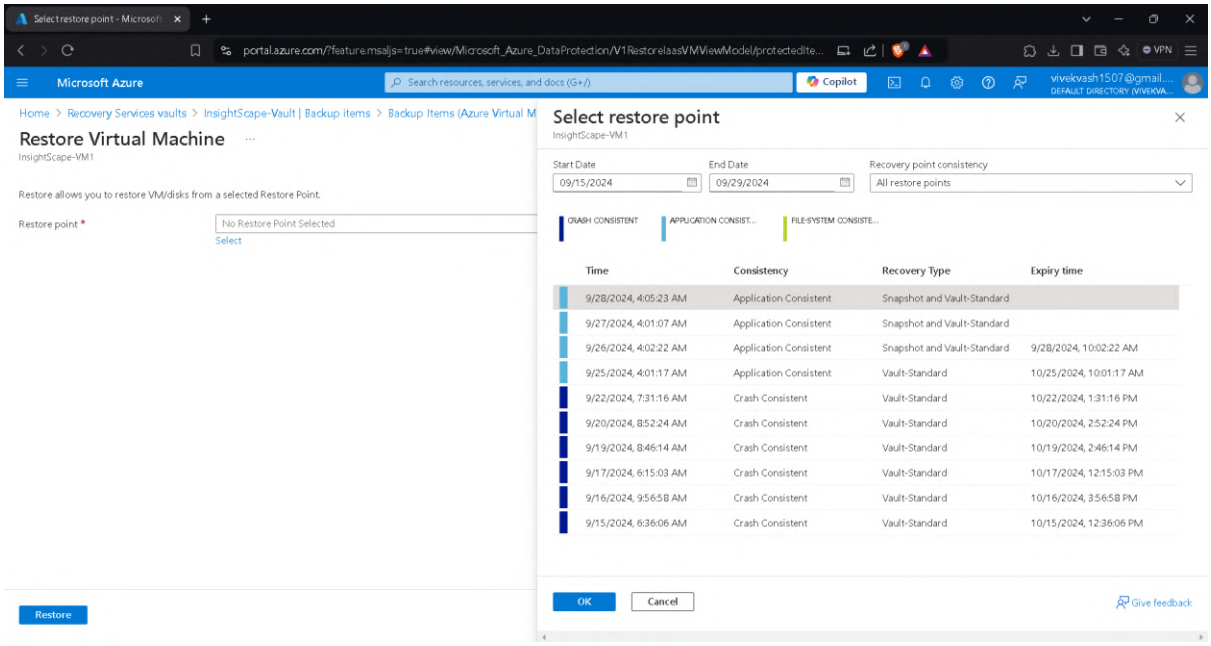

Virtual machines - Microsoft A...
portal.azure.com/?feature.msaljs=true#browse/Microsoft.Compute%2FVirtualMachines
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY (VIVEKVA...
Home >
Virtual machines
Default Directory (vivekvash1507gmail.onmicrosoft.com)
Create
Switch to classic
Reservations
Manage view
Refresh
Export to CSV
Open query
Assign tags
Start
Restart
Stop
Delete
Services
Maintenance
Filter for any field...
Subscription equals all
Type equals all
Resource group equals all
Location equals all
Add filter
Showing 1 to 2 of 2 records.
No grouping
List view
Name
Subscription
Resource group
Location
Status
Operating system
Size
Public IP address
Disks
InsightScape-VM1 Azure subscription 1 insightscape-rg East US Running Windows Standard_B2s 52.170.47.103 1
InsightScape-VM2 Azure subscription 1 InsightScape-RG East US Running Linux Standard_B1s 104.41.159.133 1
< Previous
Page 1 of 1
Next >
Give feedback

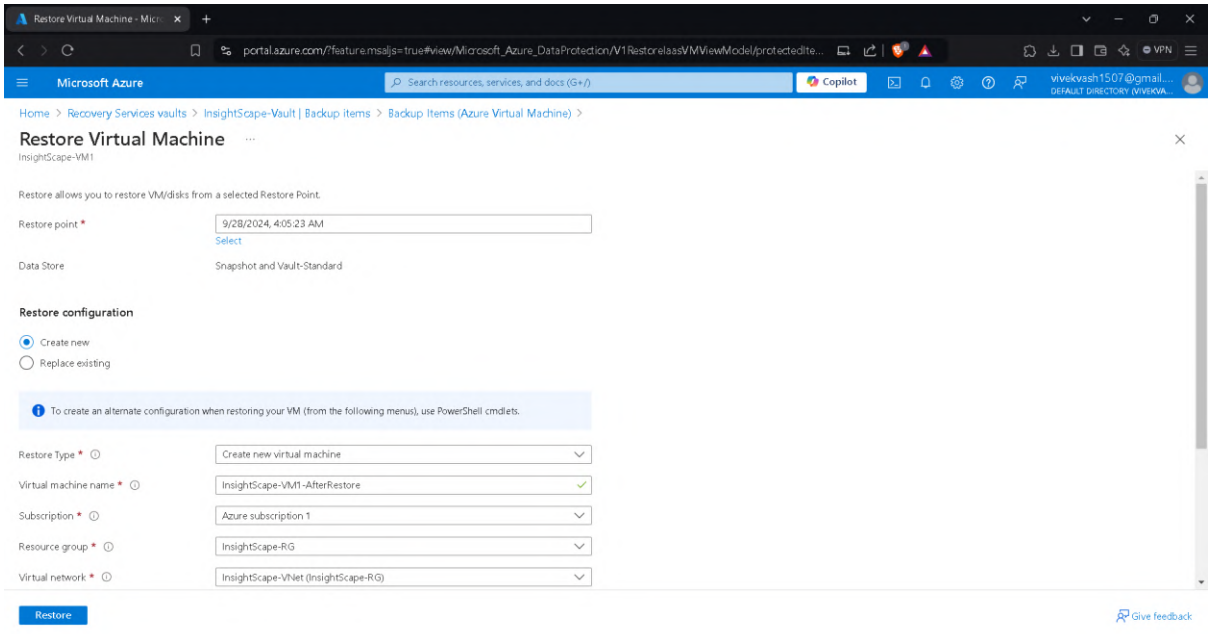

InsightScape-VM1 - Microsoft Azure
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
Home > Virtual machines >
InsightScape-VM1
Virtual machine
Connect
Start
Restart
Stop
Hibernate
Capture
Delete
Refresh
Open in mobile
Feedback
CLI / PS
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Connect
Bastion
Windows Admin Center
Networking
Network settings
Load balancing
Application security groups
Network manager
Settings
Disks
Extensions + applications
Advisor (1 of 11): Enable Trusted Launch foundational excellence, and modern security for Existing Generation 2 VM(s)
Essentials
JSON View
Resource group (move) : insightscape-rg
Status : Running
Location : East US
Subscription (move) : Azure subscription 1
Subscription ID : ee9ea131-d6f1-4e0b-baee-b293615685ae
Operating system : Windows (Windows Server 2019 Datacenter)
Size : Standard B2s (2 vcpus, 4 GiB memory)
Public IP address : 52.170.47.103
Virtual network/subnet : InsightScape-VNet/VM1-Subnet
DNS name : Not configured
Health state : -
Time created : 9/1/2024, 9:00 PM UTC
Tags (edit) : Add tags
Properties
Monitoring
Capabilities (8)
Recommendations (11)
Tutorials
Virtual machine
Computer name InsightScape-VM
Operating system Windows (Windows Server 2019 Datacenter)
VM generation V2
VM architecture x64
Agent status Ready
Agent version 2.7.41491.1139
Networking
Public IP address 52.170.47.103 (Network interface insightscape-vm1967)
Public IP address (IPv6) -
Private IP address 10.1.1.4
Private IP address (IPv6) -
Virtual network/subnet InsightScape-VNet/VM1-Subnet
DNS name Configure

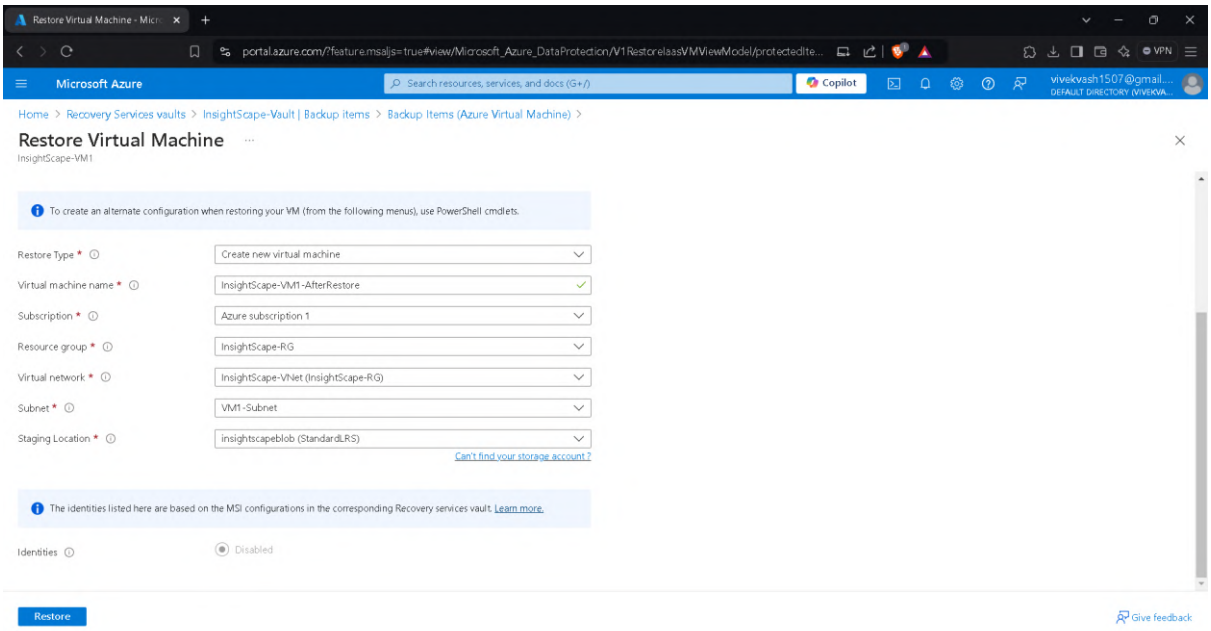

Delete InsightScape-VM1
This action will permanently delete this virtual machine.
Resource to be deleted
Resource type
InsightScape-VM1
Virtual machine
Apply force delete
You can also choose to delete associated resources at the same time. Resources that aren't deleted will be orphaned. Associated resources that are in use by other resources are not shown here.
Associated resource type
Quantity
Delete with VM
OS disk 1
Network interfaces 1
Public IP addresses 1
I have read and understand that this virtual machine as well as any selected associated resources listed above will be deleted.
Delete
Cancel
Feedback

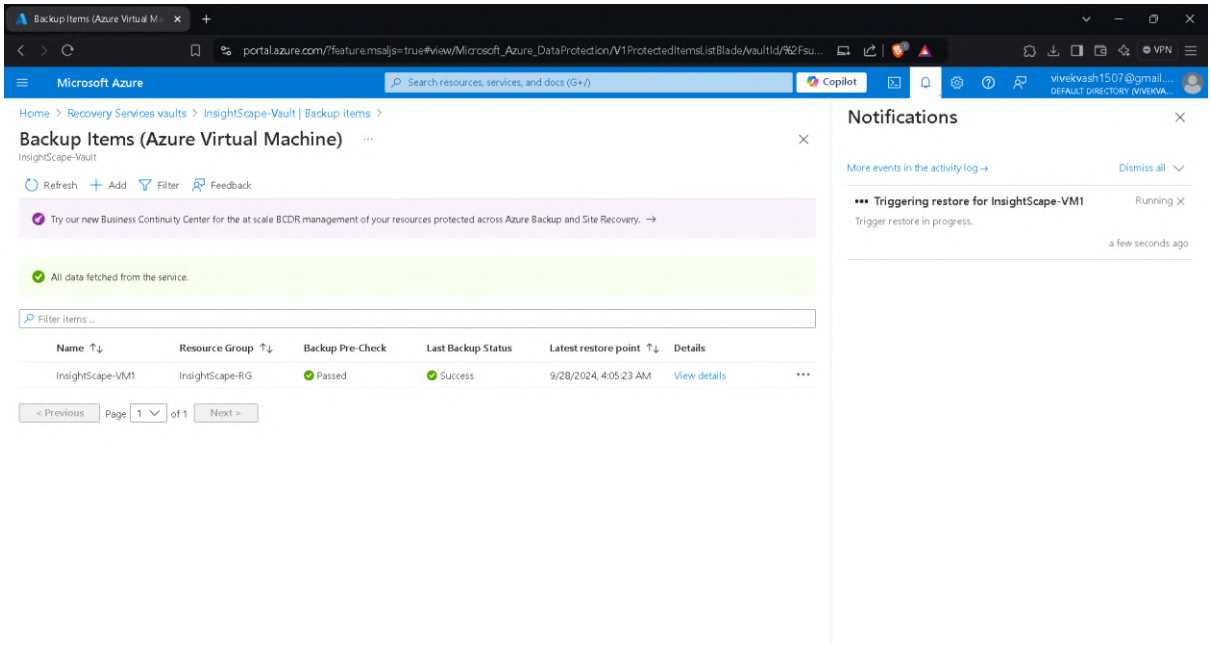

Notifications
More events in the activity log →
Dismiss all
Successfully deleted virtual machine 'InsightScape-VM1'
Virtual machine 'InsightScape-VM1' and any selected resource(s) have been successfully deleted.
a few seconds ago
Not found
Get support
Perform self-diagnostics
Summary
Session ID 3ce7b3683a9a4f2494293ae13d79cbd7
Resource ID /subscriptions/ee9ea131-d6f1-4e0b-baee-b293615685ae...
Extension Microsoft_Azure_Compute
Content VirtualMachineProtoBlade
Error code 404

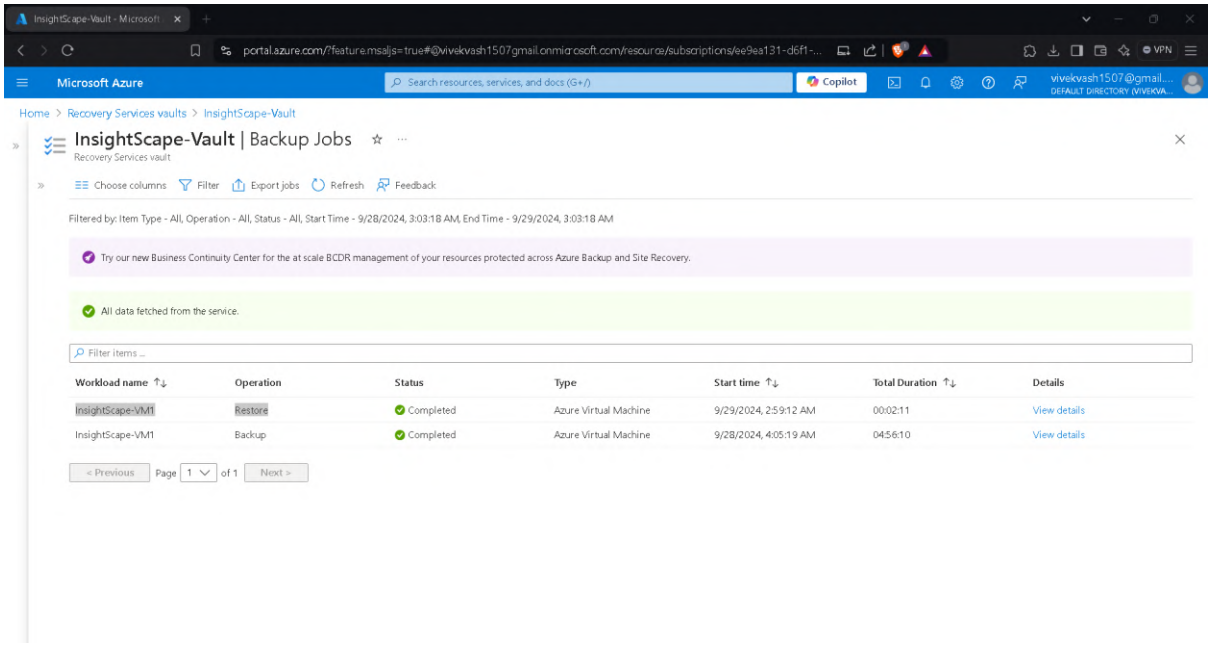

Backup Items (Azure Virtual Machine)
Home > Recovery Services vaults > InsightScape-Vault | Backup items >
Refresh
Add
Filter
Feedback
Try our new Business Continuity Center for the at scale BCDR management of your resources protected across Azure Backup and Site Recovery.
All data fetched from the service.
Name
Resource Group
Backup Pre-Check
Last Backup Status
Latest restore point
Details
InsightScape-VM1
InsightScape-RG
Passed
Success
9/28/2024, 4:05:23 AM
View details
Backup now
Restore VM
File Recovery
Stop backup
Delete backup data
Resume backup
Undelete

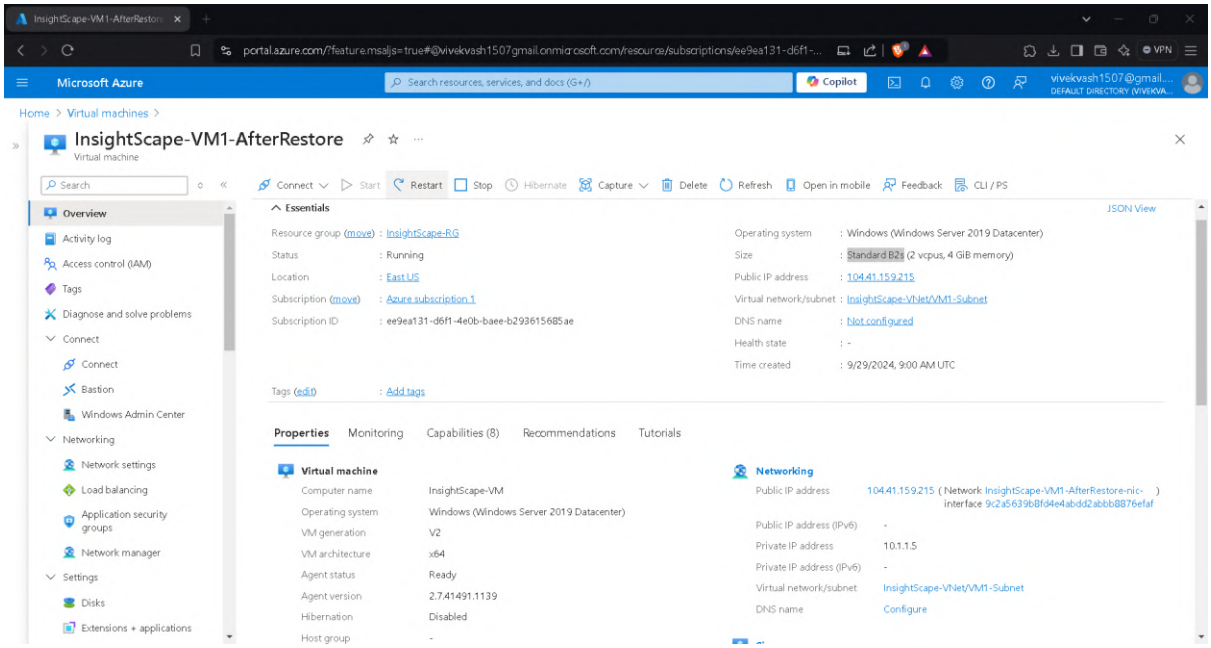

Restore Virtual Machine
Restore allows you to restore VM/disks from a selected Restore Point.
Restore point *
No Restore Point Selected
Select
Restore
Select restore point
Start Date
09/15/2024
End Date
09/29/2024
Recovery point consistency
All restore points
CRASH CONSISTENT
APPLICATION CONSIST...
FILE-SYSTEM CONSISTE...
Time
Consistency
Recovery Type
Expiry time
9/28/2024, 4:05:23 AM
Application Consistent
Snapshot and Vault-Standard
9/27/2024, 4:01:07 AM
Application Consistent
Snapshot and Vault-Standard
9/26/2024, 4:02:22 AM
Application Consistent
Snapshot and Vault-Standard
9/28/2024, 10:02:22 AM
9/25/2024, 4:01:17 AM
Application Consistent
Vault-Standard
10/25/2024, 10:01:17 AM
9/22/2024, 7:31:16 AM
Crash Consistent
Vault-Standard
10/22/2024, 1:31:16 PM
9/20/2024, 8:52:24 AM
Crash Consistent
Vault-Standard
10/20/2024, 2:52:24 PM
9/19/2024, 8:46:14 AM
Crash Consistent
Vault-Standard
10/19/2024, 2:46:14 PM
9/17/2024, 6:15:03 AM
Crash Consistent
Vault-Standard
10/17/2024, 12:15:03 PM
9/16/2024, 9:56:58 AM
Crash Consistent
Vault-Standard
10/16/2024, 3:56:58 PM
9/15/2024, 6:36:06 AM
Crash Consistent
Vault-Standard
10/15/2024, 12:36:06 PM
OK
Cancel
Give feedback


Restore Virtual Machine
Restore allows you to restore VM/disks from a selected Restore Point.
Restore point *
9/28/2024, 4:05:23 AM
Select
Data Store
Snapshot and Vault-Standard
Restore configuration
Create new
Replace existing
To create an alternate configuration when restoring your VM (from the following menus), use PowerShell cmdlets.
Restore Type *
Create new virtual machine
Virtual machine name *
InsightScape-VM1-AfterRestore
Subscription *
Azure subscription 1
Resource group *
InsightScape-RG
Virtual network *
InsightScape-VNet (InsightScape-RG)
Restore
Give feedback


Restore Virtual Machine - Micr
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_DataProtection/V1RestoreIaasVMViewModel/protectedIte...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY (VIVEKVA...
Home > Recovery Services vaults > InsightScape-Vault | Backup items > Backup Items (Azure Virtual Machine) >
Restore Virtual Machine
InsightScape-VM1
To create an alternate configuration when restoring your VM (from the following menus), use PowerShell cmdlets.
Restore Type *
Create new virtual machine
Virtual machine name *
InsightScape-VM1-AfterRestore
Subscription *
Azure subscription 1
Resource group *
InsightScape-RG
Virtual network *
InsightScape-VNet (InsightScape-RG)
Subnet *
VM1-Subnet
Staging Location *
insightscapeblob (StandardLRS)
Can't find your storage account?
The identities listed here are based on the MSI configurations in the corresponding Recovery services vault. Learn more.
Identities
Disabled
Restore
Give feedback


Backup Items (Azure Virtual M...
portal.azure.com/?feature.msaljs=true#view/Microsoft_Azure_DataProtection/V1ProtectedItemsListBlade/vaultId/%2Fsu...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY (VIVEKVA...
Home > Recovery Services vaults > InsightScape-Vault | Backup items >
Backup Items (Azure Virtual Machine)
InsightScape-Vault
Refresh
Add
Filter
Feedback
Try our new Business Continuity Center for the at scale BCDR management of your resources protected across Azure Backup and Site Recovery.
All data fetched from the service.
Filter items ...
Name
Resource Group
Backup Pre-Check
Last Backup Status
Latest restore point
Details
InsightScape-VM1
InsightScape-RG
Passed
Success
9/28/2024, 4:05:23 AM
View details
< Previous
Page 1 of 1
Next >
Notifications
More events in the activity log →
Dismiss all
Triggering restore for InsightScape-VM1
Running
Trigger restore in progress.
a few seconds ago


InsightScape-Vault - Microsoft
portal.azure.com/?feature.msaljs=true#@vivekvash1507gmail.onmicrosoft.com/resource/subscriptions/ee9ea131-d6f1-...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY (VIVEKVA...
Home > Recovery Services vaults > InsightScape-Vault
InsightScape-Vault | Backup Jobs
Recovery Services vault
Choose columns
Filter
Export jobs
Refresh
Feedback
Filtered by: Item Type - All, Operation - All, Status - All, Start Time - 9/28/2024, 3:03:18 AM, End Time - 9/29/2024, 3:03:18 AM
Try our new Business Continuity Center for the at scale BCDR management of your resources protected across Azure Backup and Site Recovery.
All data fetched from the service.
Filter items ...
Workload name
Operation
Status
Type
Start time
Total Duration
Details
InsightScape-VM1
Restore
Completed
Azure Virtual Machine
9/29/2024, 2:59:12 AM
00:02:11
View details
InsightScape-VM1
Backup
Completed
Azure Virtual Machine
9/28/2024, 4:05:19 AM
04:56:10
View details
< Previous
Page 1 of 1
Next >


InsightScape-VM1-AfterRestore
portal.azure.com/?feature.msaljs=true#@vivekvash1507gmail.onmicrosoft.com/resource/subscriptions/ee9ea131-d6f1-...
Microsoft Azure
Search resources, services, and docs (G+/)
Copilot
vivekvash1507@gmail....
DEFAULT DIRECTORY (VIVEKVA...
Home > Virtual machines >
InsightScape-VM1-AfterRestore
Virtual machine
Search
Connect
Start
Restart
Stop
Hibernate
Capture
Delete
Refresh
Open in mobile
Feedback
CLI / PS
Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Connect
Connect
Bastion
Windows Admin Center
Networking
Network settings
Load balancing
Application security groups
Network manager
Settings
Disks
Extensions + applications
Essentials
JSON View
Resource group (move) : InsightScape-RG
Status : Running
Location : East US
Subscription (move) : Azure subscription 1
Subscription ID : ee9ea131-d6f1-4e0b-baee-b2936156B5ae
Operating system : Windows (Windows Server 2019 Datacenter)
Size : Standard B2s (2 vcpus, 4 GiB memory)
Public IP address : 104.41.159.215
Virtual network/subnet : InsightScape-VNet/VM1-Subnet
DNS name : Not configured
Health state : -
Time created : 9/29/2024, 9:00 AM UTC
Tags (edit) : Add tags
Properties
Monitoring
Capabilities (8)
Recommendations
Tutorials
Virtual machine
Computer name InsightScape-VM
Operating system Windows (Windows Server 2019 Datacenter)
VM generation V2
VM architecture x64
Agent status Ready
Agent version 2.7.41491.1139
Hibernation Disabled
Host group -
Networking
Public IP address 104.41.159.215 (Network interface InsightScape-VM1-AfterRestore-nic-9c2a5639b8fd4e4abdd2abbb8876efaf)
Public IP address (IPv6) -
Private IP address 10.1.1.5
Private IP address (IPv6) -
Virtual network/subnet InsightScape-VNet/VM1-Subnet
DNS name Configure

Conclusion

Summary of Steps

- **Set Up Resource Group and Virtual Network**: Created a Resource Group named InsightScape-RG and deployed a Virtual Network (InsightScape-VNet) in the East US region, including configuring VM1-Subnet and VM2-Subnet to accommodate the project requirements.

- **Virtual Machines and Network Security Groups (NSGs)**: Deployed two virtual machines, InsightScape-VM1 (Windows) and InsightScape-VM2 (Linux), each in their respective subnets. Configured NSG rules to manage inbound and outbound traffic, ensuring appropriate security for each virtual machine.

- **Web App Deployment**: Set up an Azure Web App named InsightScape-WebApp with ASP.NET V4.8 runtime, linked to Application Insights for monitoring. Deployed a sample application via GitHub to demonstrate web hosting capabilities.

- **Blob Storage and Logic App Configuration**: Created a Blob Storage Account and a Logic App to automate the process of retrieving blob contents. Successfully verified Logic App trigger and action by uploading documents to the Blob Storage container.

- **Networking Resources**: Enabled Network Watcher for monitoring network health. Configured Packet Capture for InsightScape-VM1 and set up Connection Monitor to verify connectivity between VMs.

- **Azure Backup Setup**: Created a Recovery Services Vault and configured backup for InsightScape-VM1. Successfully triggered and verified backup via the Backup Jobs tab.

- **Azure Monitor Integration**: Enabled VM Insights for InsightScape-VM1 and VM2, monitored performance metrics such as CPU Utilization and Memory Usage, and configured alerts for high CPU usage scenarios.

- **Log Analytics Workspace**: Confirmed resource linkage to Log Analytics Workspace and executed multiple KQL queries to monitor metrics for VMs, Web App, and Logic App. Visualized results on a private dashboard to ensure resource health and efficiency.

- **Application Insights Monitoring**: Integrated Application Insights with InsightScape-WebApp to monitor application performance. Reviewed metrics such as failed requests, server response time, and user interactions to ensure optimal performance.

- **Network Monitoring**: Utilized Network Watcher topology to visualize network infrastructure and analyzed NSG Diagnostics to test the flow of traffic between resources. Adjusted NSG rules to observe how traffic was affected.

- **Security & Compliance**: Leveraged Azure Security Center and Microsoft Defender for Cloud to evaluate security posture and address vulnerabilities. Worked on recommendations such as VM updates, disk encryption, and network security enhancements to strengthen security compliance.

- **Alerts Configuration**: Configured Azure Monitor Alerts for InsightScape-VM1, Logic App, and Web App to detect failed login attempts, failed workflows, and HTTP 5xx errors. Tested and verified alerts to ensure proper notification mechanisms for incidents.

- **Backup and Disaster Recovery**: Validated the backup and disaster recovery process by deleting InsightScape-VM1 and restoring it from the latest backup. Verified the details of the restored VM to confirm a successful recovery process.

Lessons Learned

• **Importance of Proactive Monitoring and Alerts:** Understood how crucial it is to set up proactive monitoring and alert mechanisms for cloud resources, ensuring any anomalies or performance issues are addressed promptly to minimize risks and downtime.

• **Azure Security Best Practices:** Gained deeper insight into Azure's security best practices, including using NSGs, disk encryption, and multi-factor authentication (MFA) to ensure a secure cloud environment.

• **Backup and Disaster Recovery:** Learned the importance of having a robust backup and disaster recovery plan by successfully implementing Azure Backup and testing the recovery process for critical virtual machines.

• **Effective Use of Azure Services for Automation:** Utilized services like Azure Logic Apps for automation, gaining hands-on experience in streamlining resource operations efficiently.

Skills Demonstrated

Through the InsightScape Project, the following skills were demonstrated:

1. **Network Infrastructure Setup:**
    - Designed and deployed Azure Virtual Networks and subnets.
    - Configured NSGs to manage network traffic effectively, ensuring appropriate inbound and outbound security.
2. **Cloud Resource Deployment and Management:**
    - Deployed and configured Azure resources like virtual machines, web apps, and blob storage.
    - Showcased the ability to manage VM access through public IPs and implement resource-specific security configurations.
3. **Automation and Logic Implementation:**
    - Created and automated workflows using Azure Logic Apps.
    - Configured triggers to execute operations, demonstrating automation proficiency in Azure.
4. **Security Enhancements and Compliance:**
    - Worked with Azure Security Center and Microsoft Defender for Cloud to evaluate and improve security posture.
    - Implemented recommendations such as disk encryption, VM patch management, and network security adjustments.
5. **Monitoring and Alert Configuration:**
    - Set up monitoring using Azure Monitor, Application Insights, and Log Analytics Workspace to ensure real-time insights into resource health.
    - Configured custom alerts for various scenarios, including failed login attempts and application errors, ensuring prompt response to potential issues.

6. **Backup and Disaster Recovery Implementation:**
    - Configured and validated Azure Backup for disaster recovery.
    - Successfully tested restoring a deleted virtual machine, ensuring that critical data and applications can be recovered in emergencies.
7. **Performance and Availability Testing:**
    - Conducted performance monitoring for virtual machines and web applications, analyzing metrics such as CPU utilization, memory availability, and server response times.
    - Demonstrated ability to identify and resolve performance bottlenecks, ensuring high availability.
8. **Network Analysis and Troubleshooting:**
    - Utilized Network Watcher for visualizing and troubleshooting network infrastructure.
    - Configured Packet Capture and analyzed network traffic to identify and address issues affecting communication between resources.
9. **Cost Management and Resource Cleanup:**
    - Demonstrated cost management awareness by cleaning up unnecessary resources post-validation and testing.
    - Managed Azure resource lifecycle to ensure cost-effective use of services.

And Strong **Hands-on** Capabilities in the

(Monitor and maintain Azure resources)

Scope of **Microsoft Certified: Azure Administrator Associate (AZ-104)**