

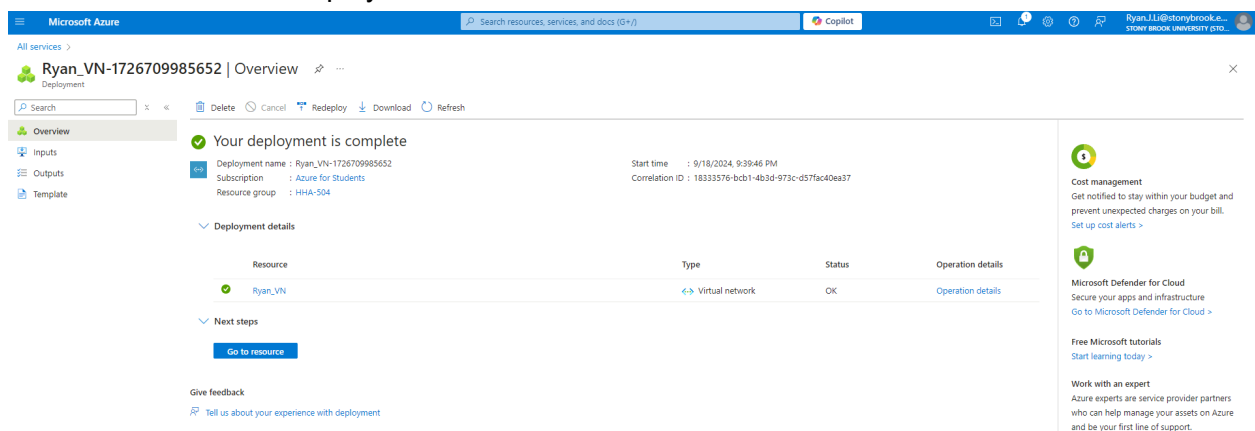
Ryan Li

HHA504_assignment_networking

Azure

1. Create a Virtual Private Cloud (VPC)

- Go to virtual networks
- Click create to start setting up the VNET
- Choose student subscription
- Create a new resource group or click on existing one
- Enter name - ryan_VN
- Choose region
- Select IP address - 10.0.0.0/16
- Click create to deploy virtual network



The screenshot shows the Microsoft Azure portal interface. At the top, the header includes the Microsoft Azure logo, a search bar, and the Copilot button. Below the header, the page title is "Ryan_VN-1726709985652 | Overview". The left sidebar contains navigation links for Overview, Inputs, Outputs, and Template. The main content area displays a message: "Your deployment is complete". Below this message, the deployment details are shown, including the deployment name, subscription, and resource group. A table lists the resources deployed, showing a Virtual Network named "Ryan_VN" with a status of "OK". The right sidebar contains several recommendations, including Cost management, Microsoft Defender for Cloud, and Free Microsoft tutorials.

Microsoft Azure

Search resources, services, and docs (G+7)

Copilot

Ryan.Li@stonybrook.edu... Ryan.Li@stonybrook.edu...

All services >

Ryan_VN-1726709985652 | Overview

Deployment

Search

Delete Cancel Redeploy Download Refresh

Overview

Inputs

Outputs

Template

✓ Your deployment is complete

Deployment name : Ryan_VN-1726709985652

Subscription : Azure for Students

Resource group : HHA-504

Start time : 9/18/2024, 9:39:46 PM

Correlation ID : 18333576-bcb1-4b3d-973c-d57fac40ea37

Deployment details

Resource	Type	Status	Operation details
✓ Ryan_VN	Virtual network	OK	Operation details

Next steps

Go to resource

Give feedback

Tell us about your experience with deployment

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 >

Free Microsoft tutorials

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.

2. Assign a Dedicated IP

- Search for public IP addresses and click create
- Choose subscription
- Select resource group that contains the VM or create new one
- Enter name - ryan-static-ip
- Select region - needs to be the same region as VN
- Choose standard or basic - standard supports zone redundancy, basic used for production environments
- Click create to serve the static IP address

[All services](#) >

PublicIPAddress-ARM | Overview

Deployment

Search x « Delete Cancel Redeploy Download Refresh

Overview

Inputs

Outputs

Template

✓ Your deployment is complete

Deployment name : PublicIPAddress-ARM
Subscription : Azure for Students
Resource group : HHA-504

Start time : 9/18/2024, 9:52:47 PM
Correlation ID : c722de62-14c1-451a-a3c3-0979d31d6655

> Deployment details

✓ Next steps

[Go to resource](#)

3. Map IP to a Domain

- Search for Azure DNS zones
- Select student subscription
- Choose resource group
- Enter domain name - ryandomain.com
- Choose location for the DNS zone
- Click create

[All services](#) >

ryandomain.com_1726711571855 | Overview

Deployment

Search x « Delete Cancel Redeploy Download Refresh

Overview

Inputs

Outputs

Template

✓ Your deployment is complete

Deployment name : ryandomain.com_1726711571855
Subscription : Azure for Students
Resource group : HHA-504

Start time : 9/18/2024, 10:06:12 PM
Correlation ID : cd730f66-0f6e-467b-abcf-379876e3449d

> Deployment details

✓ Next steps

[Go to resource](#)

4. Explore VPN and Tunnels (Optional)

1. Create virtual network and gateway subnet
2. Create a VPN gateway and select the VN that was just created. Create a new public IP address for the gateway
3. Select create to deploy VPN gateway
4. Ran into deployment failed error

Home > Microsoft.VirtualNetworkGateway-20240918222724 | Overview

Deployment

Search [x] [Delete] [Cancel] [Redeploy] [Download] [Refresh]

Overview

Inputs

Outputs

Template

Your deployment failed

Deployment name : Microsoft.VirtualNetworkGateway-20240918222724
Subscription : Azure for Students
Resource group : HHA-504

Start time : 9/18/2024, 10:29:00 PM
Correlation ID : e16560f1-7e72-42a1-89ee-b0e7e35f07c8

Resource /subscriptions/cbda5-7d9f-4f10-94ff-3716c516fbc0/resourceGroups/HHA-504/providers/Microsoft.Network/virtualNetworks/Ryan_VN/subnets/GatewaySubnet referenced by resource /subscriptions/cbda5-7d9f-4f10-94ff-3716c516fbc0/resourceGroups/HHA-504/providers/Microsoft.Network/virtualNetworkGateways/MyVPNGateway was not found. Please make sure that the referenced resource exists, and that both resources are in the same region. Click here for details

Deployment details

Resource	Type	Status	Operation details
MyVPNGateway	Virtual network gateway	BadRequest (Error details)	Operation details
Ryan2VPNGatewayIP	Public IP address	OK	Operation details
RyanVPNGatewayIP	Public IP address	OK	Operation details

Give feedback
Tell us about your experience with deployment

Microsoft Defender for Secure your apps and in Go to Microsoft Defendi

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Work with an expert Azure experts are service who can help manage y and be your first line of: Find an Azure expert >

GCP

1. Create a Virtual Private Cloud (VPC)

- Search VPC networks
- Create VPC network
- Name VPC - ryan-VPC
- Select custom subnet mode
- Add a subnet: 10.0.0.0/24
- Select create to deploy the VPC

Google Cloud Ryan-LHH504 Search (/) for resources, docs, products, and more

VPC Network VPC networks CREATE VPC NETWORK REFRESH LEARN

VPC networks

IP addresses

Internal ranges

Bring your own IP

Firewall

Routes

VPC network peering

Shared VPC

Serverless VPC access

Packet mirroring

VPC Flow Logs

NETWORKS IN CURRENT PROJECT SUBNETS IN CURRENT PROJECT

SMTP port 25 disallowed in this project. Learn more

VPC networks

Filter Enter property name or value

Name	Subnets	MTU	Mode	IPv6 ULA range	Gateways	Firewall rules	Global dynamic routing
default	42	1460	Auto			6	Off
ryan-vpc	1	1460	Custom			0	Off

Get started with VPC

Virtual Private Cloud overview Get an overview of Virtual Private Cloud networks.

Subnets overview Get an overview of subnets.

Create and configure Virtual Private Cloud networks and subnets Create, update, list, and delete Virtual Private Cloud networks and subnets.

All VPC documentation

2. Assign a Dedicated IP

- Search for external IP address
- Click reserve static address on external IP addresses page
- Name IP address - ryan-static-ip
- Assign to a region
- Select standard network tier

- Reserve the IP
- Assign ip to compute engine - select the served static ip
- Save the configuration to assign the static IP to the instance

Google Cloud | Ryan-LHHA504 | vpc net

VPC Network

IP addresses

RESERVE EXTERNAL STATIC IP ADDRESS RESERVE INTERNAL STATIC IP ADDRESS REFRESH RELEASE STATIC ADDRESS

ALL INTERNAL IP ADDRESSES EXTERNAL IP ADDRESSES IPV4 ADDRESSES IPV6 ADDRESSES

Filter Enter property name or value

Name	IP address	Access type	Region	Type	Version	In use by	Subnetwork	VPC Network	Network Tier
ryan-static-ip	35.208.195.119	External	us-central1	Static	IPv4	VM instance ryan-scratch-instance (Zone us-central1-c)			Standard
-	10.128.0.2	Internal	us-central1	Ephemeral	IPv4	VM instance instance-20240914-154701 (Zone us-central1-c)	default	default	
-	10.128.0.3	Internal	us-central1	Ephemeral	IPv4	VM instance ryan-scratch-instance (Zone us-central1-c)	default	default	

3. Map IP to a Domain

- Search for Cloud DNS
- Click create zone on top
- Enter name for DNS zone - ryan-dns-zone
- Enter domain name - ryandomain.com
- DNSSEC off
- Click create

Network Services

Zone details

EDIT DELETE ZONE LOGS

ryan-dns-zone

DNS name ryandomain.com.

Type Public

DNSSEC Off

Cloud Logging Off

RECORD SETS

ADD STANDARD ADD WITH ROUTING POLICY DELETE RECORD SETS REFRESH

Filter Filter record sets

DNS name	Type	TTL (seconds)	Routing policy
ryandomain.com.	SOA	21600	Default
ryandomain.com.	NS	21600	Default

EQUIVALENT REST