

Name: **Pradeep Medagiri**

You are hired as a network consultant to create a network for a startup company. The startup company is in Columbus, **Ohio**. And of course, they want to have the smallest latency for their systems. They have decided to use AWS and the network must be a customized network. At the moment, they only have 2 organizations: Operations and Sales. They want each organization to have its own subnet. Each subnet must be able to handle up to 9 hosts although they currently only have 1 host in each subnet. In addition, the subnets must be in different AZs.

The two organizations need a shared file system (EFS) to be able to work together.

These are other parameters they give you, if not mentioned you decide:

- Region: select the smallest latency to office
- VPC name: yourlastname-VPC
- Subnet Operations name: yourlastname-Ops
 - Upto 9 hosts
 - Name the single EC2: yourlastname-Ops-1
- Subnet Sales name: yourlastname-Sales
 - Upto 9 hosts
 - Name the single EC2: yourlastname-Sales-1
- EC2 configuration:
 - AMI: ubuntu 18.04
 - Instance: t2.micro
 - Allow ping and ssh from everywhere
- EFS
 - Set an EFS that can be shared by the two hosts.
 - Remove “root access only” from the mounted EFS so you don’t need to use sudo command all the time.

What to submit:

1. AWS Region: _____ (1) Amazon EC2 - US East (Ohio)

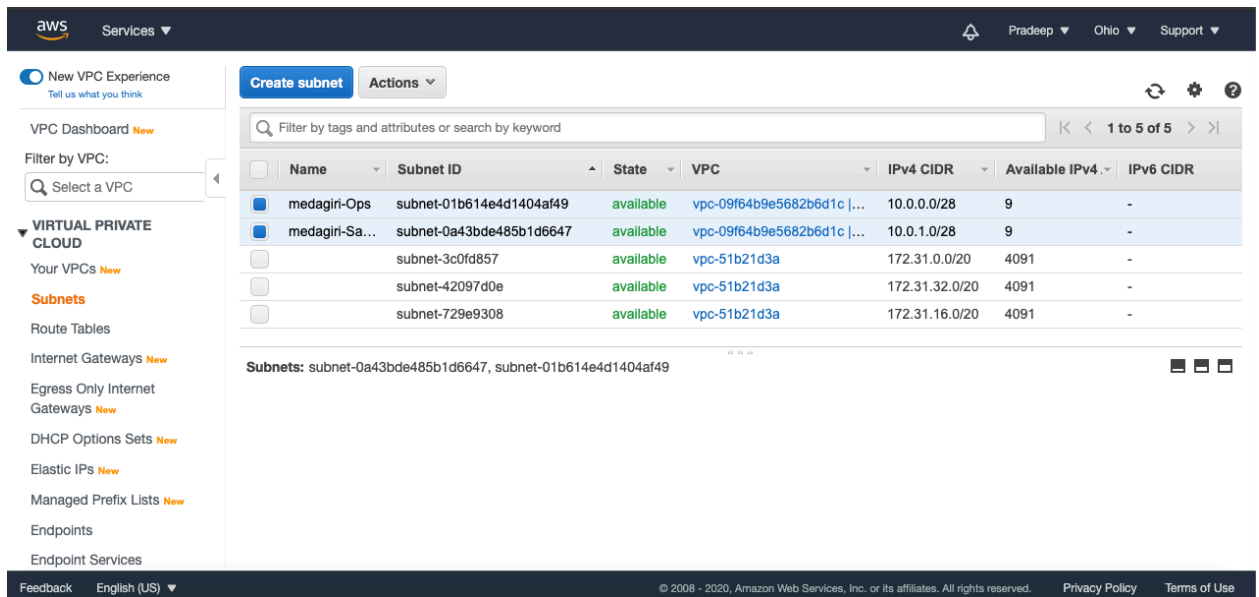
The screenshot shows the AWS Management Console VPC Dashboard for the Ohio region. The left sidebar contains navigation links for VPC Dashboard, Subnets, Route Tables, Internet Gateways, Egress Only Internet Gateways, DHCP Options Sets, Elastic IPs, Managed Prefix Lists, Endpoints, and Endpoint Services. The main content area displays 'Resources by Region' for Ohio, showing counts for VPCs (2), Subnets (5), Route Tables (3), Internet Gateways (2), Egress-only Internet Gateways (0), NAT Gateways (0), VPC Peering Connections (0), Network ACLs (2), Security Groups (4), and Customer Gateways (0). The 'Service Health' section indicates that Amazon EC2 - US East (Ohio) is operating normally. The 'Settings' section shows 'Zones' and 'Console Experiments'. The 'Additional Information' section provides links to VPC Documentation, All VPC Resources, Forums, and Report an Issue.

2. Your VPC CIDR: _____ (1) 10.0.0.0/16

The screenshot shows the AWS Management Console VPC Details page for the VPC with ID vpc-09f64b9e5682b6d1c, named 'medagiri-VPC'. The breadcrumb navigation shows 'VPC > Your VPCs > vpc-09f64b9e5682b6d1c'. The 'Details' tab is selected, displaying a table with the following information:

Property	Value
VPC ID	vpc-09f64b9e5682b6d1c
State	Available
DNS hostnames	Enabled
DNS resolution	Enabled
Tenancy	Default
DHCP options set	dopt-c8c343a3
Route table	rtb-0bc7139967fddd16f
Network ACL	acl-0bcd1b62e853395d9
Default VPC	No
IPv4 CIDR	10.0.0.0/16
IPv6 pool	-
IPv6 CIDR	-
Owner ID	431429019981

3. Your yourlastname-Ops CIDR: _____ (1) 10.0.0.0/28

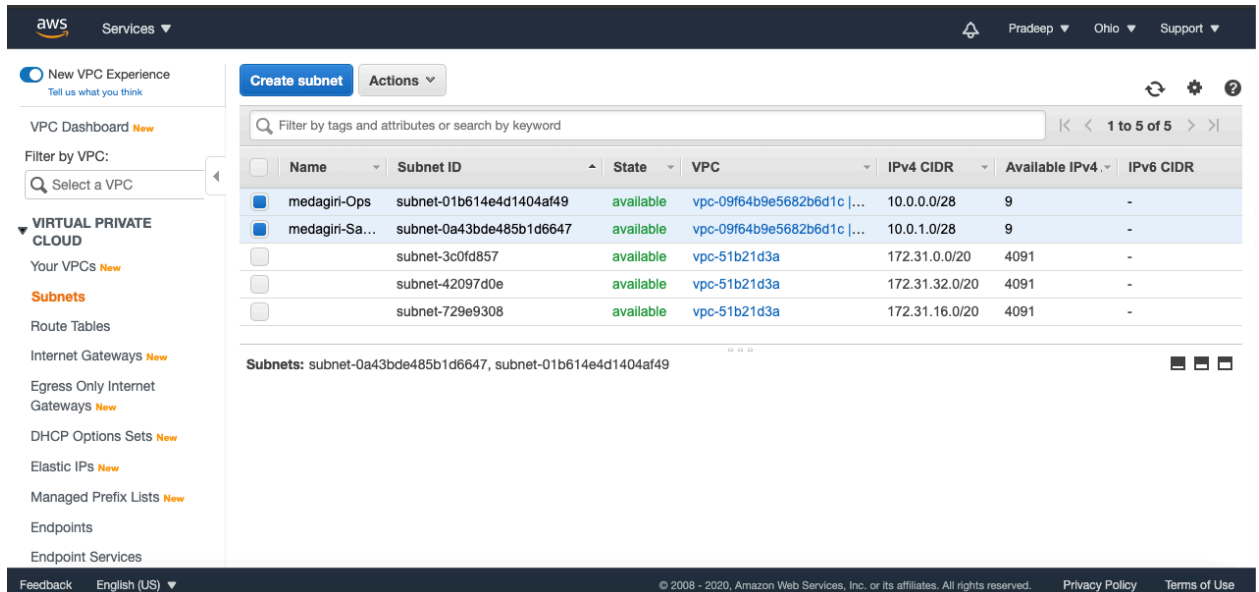


The screenshot shows the AWS Management Console interface for the 'Subnets' page. The left sidebar contains navigation links for VPC Dashboard, Subnets, Route Tables, Internet Gateways, Egress Only Internet Gateways, DHCP Options Sets, Elastic IPs, Managed Prefix Lists, Endpoints, and Endpoint Services. The main content area displays a table of subnets. The table has columns for Name, Subnet ID, State, VPC, IPv4 CIDR, Available IPv4, and IPv6 CIDR. There are five subnets listed. The first two subnets, 'medagiri-Ops' and 'medagiri-Sa...', are highlighted in blue. The 'medagiri-Sa...' subnet has an IPv4 CIDR of 10.0.1.0/28. Below the table, there is a summary of subnets: 'Subnets: subnet-0a43bde485b1d6647, subnet-01b614e4d1404af49'.

Name	Subnet ID	State	VPC	IPv4 CIDR	Available IPv4	IPv6 CIDR
medagiri-Ops	subnet-01b614e4d1404af49	available	vpc-09f64b9e5682b6d1c ...	10.0.0.0/28	9	-
medagiri-Sa...	subnet-0a43bde485b1d6647	available	vpc-09f64b9e5682b6d1c ...	10.0.1.0/28	9	-
	subnet-3c0fd857	available	vpc-51b21d3a	172.31.0.0/20	4091	-
	subnet-42097d0e	available	vpc-51b21d3a	172.31.32.0/20	4091	-
	subnet-729e9308	available	vpc-51b21d3a	172.31.16.0/20	4091	-

Subnets: subnet-0a43bde485b1d6647, subnet-01b614e4d1404af49

4. Your yourlastname-Sales CIDR: _____ (1) 10.0.1.0/28

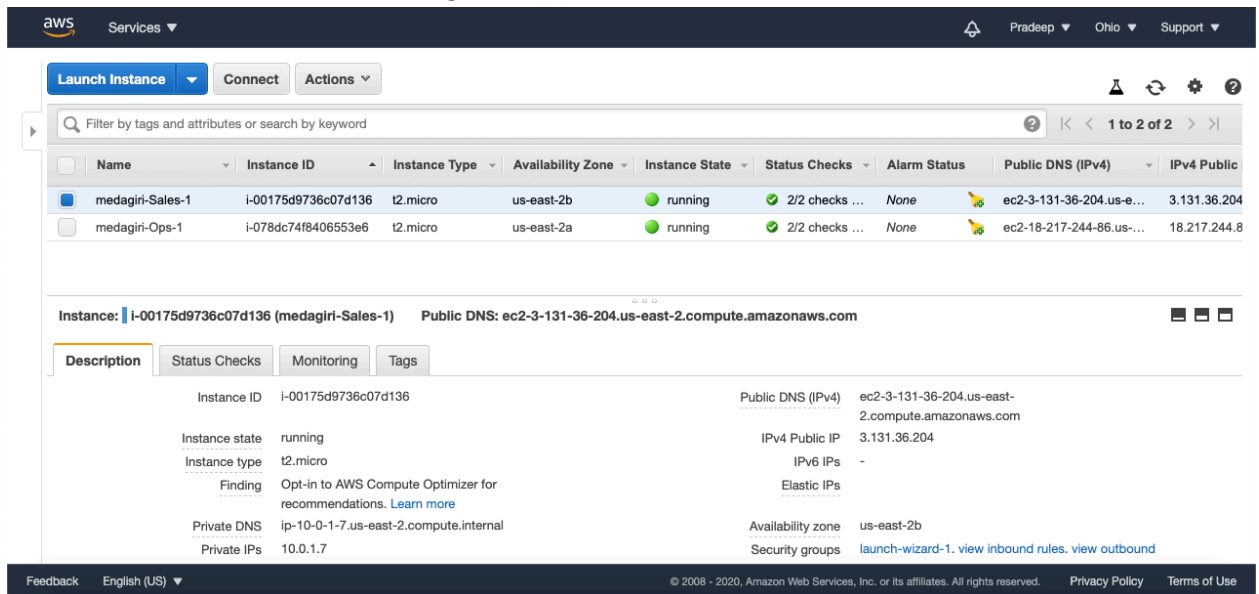


The screenshot shows the AWS Management Console interface for the 'Subnets' page. The left sidebar contains navigation links for VPC Dashboard, Subnets, Route Tables, Internet Gateways, Egress Only Internet Gateways, DHCP Options Sets, Elastic IPs, Managed Prefix Lists, Endpoints, and Endpoint Services. The main content area displays a table of subnets. The table has columns for Name, Subnet ID, State, VPC, IPv4 CIDR, Available IPv4, and IPv6 CIDR. There are five subnets listed. The first two subnets, 'medagiri-Ops' and 'medagiri-Sa...', are highlighted in blue. The 'medagiri-Sa...' subnet has an IPv4 CIDR of 10.0.1.0/28. Below the table, there is a summary of subnets: 'Subnets: subnet-0a43bde485b1d6647, subnet-01b614e4d1404af49'.

Name	Subnet ID	State	VPC	IPv4 CIDR	Available IPv4	IPv6 CIDR
medagiri-Ops	subnet-01b614e4d1404af49	available	vpc-09f64b9e5682b6d1c ...	10.0.0.0/28	9	-
medagiri-Sa...	subnet-0a43bde485b1d6647	available	vpc-09f64b9e5682b6d1c ...	10.0.1.0/28	9	-
	subnet-3c0fd857	available	vpc-51b21d3a	172.31.0.0/20	4091	-
	subnet-42097d0e	available	vpc-51b21d3a	172.31.32.0/20	4091	-
	subnet-729e9308	available	vpc-51b21d3a	172.31.16.0/20	4091	-

Subnets: subnet-0a43bde485b1d6647, subnet-01b614e4d1404af49

5. Submit the screenshot of the EC2s together. (1)



The screenshot shows the AWS Management Console with two EC2 instances listed:

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)	IPv4 Public
medagiri-Sales-1	i-00175d9736c07d136	t2.micro	us-east-2b	running	2/2 checks ...	None	ec2-3-131-36-204.us-east-2.compute.amazonaws.com	3.131.36.204
medagiri-Ops-1	i-078dc74f8406553e6	t2.micro	us-east-2a	running	2/2 checks ...	None	ec2-18-217-244-86.us-east-2.compute.amazonaws.com	18.217.244.86

Below the list, the details for instance i-00175d9736c07d136 (medagiri-Sales-1) are shown:

- Instance ID: i-00175d9736c07d136
- Instance state: running
- Instance type: t2.micro
- Private DNS: ip-10-0-1-7.us-east-2.compute.internal
- Private IPs: 10.0.1.7
- Public DNS (IPv4): ec2-3-131-36-204.us-east-2.compute.amazonaws.com
- IPv4 Public IP: 3.131.36.204
- Availability zone: us-east-2b
- Security groups: launch-wizard-1, view inbound rules, view outbound

6. Submit the screenshot of df -T printout from yourlastname-Ops-1. (5)

```
ubuntu@ip-10-0-0-5:~$ cd ef2
ubuntu@ip-10-0-0-5:~/ef2$ df -T
```

Filesystem	Type	1K-blocks	Used	Available	Use%	Mounted on
udev	devtmpfs	486680	0	486680	0%	/dev
tmpfs	tmpfs	100212	756	99456	1%	/run
/dev/xvda1	ext4	8065444	1344440	6704620	17%	/
tmpfs	tmpfs	501052	0	501052	0%	/dev/shm
tmpfs	tmpfs	5120	0	5120	0%	/run/lock
tmpfs	tmpfs	501052	0	501052	0%	/sys/fs/cgroup
/dev/loop0	squashfs	98944	98944	0	100%	/snap/core/9804
/dev/loop1	squashfs	28800	28800	0	100%	/snap/amazon-ssm-agent/2012
tmpfs	tmpfs	100208	0	100208	0%	/run/user/1000
fs-9bde4de3.efs.us-east-2.amazonaws.com:/	nfs4	9007199254739968	0	9007199254739968	0%	/home/ubuntu/ef2

7. Submit the screenshot of df -T printout from yourlastname-Sales-1. (5)

```
ubuntu@ip-10-0-1-7:~/ef1$ df -T
```

Filesystem	Type	1K-blocks	Used	Available	Use%	Mounted on
udev	devtmpfs	486680	0	486680	0%	/dev
tmpfs	tmpfs	100212	756	99456	1%	/run
/dev/xvda1	ext4	8065444	1344444	6704616	17%	/
tmpfs	tmpfs	501052	0	501052	0%	/dev/shm
tmpfs	tmpfs	5120	0	5120	0%	/run/lock
tmpfs	tmpfs	501052	0	501052	0%	/sys/fs/cgroup
/dev/loop0	squashfs	98944	98944	0	100%	/snap/core/9804
/dev/loop1	squashfs	28800	28800	0	100%	/snap/amazon-ssm-agent/2012
fs-9bde4de3.efs.us-east-2.amazonaws.com:/	nfs4	9007199254739968	0	9007199254739968	0%	/home/ubuntu/ef1
tmpfs	tmpfs	100208	0	100208	0%	/run/user/1000

8. Submit the screenshot of ls -l of the folder that contains the EFS from yourlastname-Ops-1 (5)

```
ubuntu@ip-10-0-0-5:~/ef2$ ls -l
```

```
total 8
drwxrwxr-x 2 ubuntu ubuntu 6144 Oct 12 18:23 testa
drwxrwxr-x 2 ubuntu ubuntu 6144 Oct 12 18:20 testb
ubuntu@ip-10-0-0-5:~/ef2$
```

9. Submit the screenshot of ls -l of the folder that contains the EFS from yourlastname-Sales-1 (5)

```
ubuntu@ip-10-0-1-7:~/ef1$ ls -l
total 8
drwxrwxr-x 2 ubuntu ubuntu 6144 Oct 12 18:23 testa
drwxrwxr-x 2 ubuntu ubuntu 6144 Oct 12 18:28 testb
ubuntu@ip-10-0-1-7:~/ef1$
```