

# PROJECT PART 1

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Kevon Mahban

# 1. New VPC with mahbank-INFO300-VPC1 naming, 10.12.0.0/16, and App tag

VPC > Your VPCs > vpc-095f07b4f7a36209e

vpc-095f07b4f7a36209e / mahbank-INFO300-VPC1 Actions ▼

**Details** [Info](#)

VPC ID  vpc-095f07b4f7a36209e	State  Available	DNS hostnames Disabled	DNS resolution Enabled
Tenancy Default	DHCP option set <a href="#">dopt-093f51e5fe0e4ce32</a>	Main route table <a href="#">rtb-01e6806fd7ed292db</a>	Main network ACL <a href="#">acl-0e9688b059c756e0e</a>
Default VPC No	IPv4 CIDR <u>10.12.0.0/16</u>	IPv6 pool –	IPv6 CIDR (Network border group) –
Network Address Usage metrics Disabled	Route 53 Resolver DNS Firewall rule groups  Failed to load rule groups	Owner ID  851725197441	

# 1. New VPC with mahbank-INFO300-VPC1 naming, 10.12.0.0/16, and App tag

Region	Default	Default option set	dopt-093f51e5fe0e4ce32	Main route table	rtb-01e6806fd7ed292db	Main network ACL	acl-0e9688b059c756e0e
Default VPC	No	IPv4 CIDR	10.12.0.0/16	IPv6 pool	–	IPv6 CIDR (Network border group)	–
Network Address Usage metrics	Disabled	Route 53 Resolver DNS Firewall rule groups	⊗ Failed to load rule groups	Owner ID	851725197441		

Resource map | CIDRs | Flow logs | **Tags** | Integrations

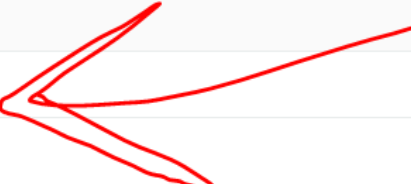
### Tags

Manage tags

Q Search tags

< 1 > ⚙

Key	Value
Name	mahbank-INFO300-VPC1
App	INFO300



## 2. Public subnets and one private subnet. IPv4 address 10.12.3.0/24. Different availability zones, and changed the DNS A record/auto assign IPv4

subnet-097cbd1ef1da77475 / mahbank-INFO300-Public-SN-1				Actions ▼
Details				
Subnet ID 📄 subnet-097cbd1ef1da77475	Subnet ARN 📄 arn:aws:ec2:us-east-1:851725197441:subnet/subnet-097cbd1ef1da77475	State ✅ Available	IPv4 CIDR 📄 10.12.1.0/24	
Available IPv4 addresses 📄 251	IPv6 CIDR -	Availability Zone 📄 us-east-1a	Availability Zone ID 📄 use1-az1	
Network border group 📄 us-east-1	VPC vpc-095f07b4f7a36209e   mahbank-INFO300-VPC1	Route table rtb-01e6806fd7ed292db	Network ACL acl-0e9688b059c756e0e	
Default subnet No	Auto-assign public IPv4 address Yes	Auto-assign IPv6 address No	Auto-assign customer-owned IPv4 address No	
Customer-owned IPv4 pool -	Outpost ID -	IPv4 CIDR reservations -	IPv6 CIDR reservations -	
IPv6-only No		Resource name DNS A record Enabled	Resource name DNS AAAA record Disabled	

## 2. Public subnets and one private subnet. IPv4 address 10.12.3.0/24. Different availability zones, and changed the DNS A record/auto assign IPv4

subnet-0ca8cf25a318e088a / mahbank>-INFO300-Public-SN-2				Actions ▼
Details				
Subnet ID 📄 subnet-0ca8cf25a318e088a	Subnet ARN 📄 arn:aws:ec2:us-east-1:851725197441:subnet/subnet-0ca8cf25a318e088a	State ✅ Available	IPv4 CIDR 📄 10.12.2.0/24	
Available IPv4 addresses 📄 251	IPv6 CIDR -	Availability Zone 📄 <u>us-east-1b</u>	Availability Zone ID 📄 use1-az2	
Network border group 📄 us-east-1	Route table rtb-01e6806fd7ed292db	Network ACL acl-0e9688b059c756e0e		
Default subnet No	VPC vpc-095f07b4f7a36209e   mahbank-INFO300-VPC1	Auto-assign IPv6 address No	Auto-assign customer-owned IPv4 address No	
Customer-owned IPv4 pool -	Auto-assign public IPv4 address Yes	IPv4 CIDR reservations -	IPv6 CIDR reservations -	
IPv6-only No	Outpost ID -	Resource name DNS A record <u>Enabled</u>	Resource name DNS AAAA record Disabled	

2. Public subnets and one private subnet. IPv4 address 10.12.3.0/24. Different availability zones, and changed the DNS A record/auto assign IPv4 disabled

subnet-002bb3a13cf64b9ef / mahbank-INFO300-Private-SN-1				Actions ▾
Details				
Subnet ID 📄 subnet-002bb3a13cf64b9ef	Subnet ARN 📄 arn:aws:ec2:us-east-1:851725197441:subnet/subnet-002bb3a13cf64b9ef	State 🟢 Available	IPv4 CIDR 📄 10.12.3.0/24	
Available IPv4 addresses 📄 251	IPv6 CIDR –	Availability Zone 📄 us-east-1b	Availability Zone ID 📄 use1-az2	
Network border group 📄 us-east-1	VPC vpc-095f07b4f7a36209e   mahbank-INFO300-VPC1	Route table rtb-01e6806fd7ed292db	Network ACL acl-0e9688b059c756e0e	
Default subnet No	Auto-assign public IPv4 address No	Auto-assign IPv6 address No	Auto-assign customer-owned IPv4 address No	
Customer-owned IPv4 pool –	Outpost ID –	IPv4 CIDR reservations –	IPv6 CIDR reservations –	
IPv6-only No		Resource name DNS A record Disabled	Resource name DNS AAAA record	

### 3. 1<sup>st</sup> Public subnet connected with routing table, connection to the internet 0.0.0.0/0, has local routes within vpc

**Subnets (1/11)** [Info](#)

Find resources by attribute or tag

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	Name	Subnet ID	State	VPC
<input checked="" type="checkbox"/>	mahbank-INFO300-Public-SN-1	<a href="#">subnet-097cbd1ef1da77475</a>	Available	<a href="#">vpc-095f07b4f7a36209e</a>   <a href="#">mahbank-INFO300-VPC-1</a>
<input type="checkbox"/>	-	<a href="#">subnet-0ce514a7ba0745a6b</a>	Available	<a href="#">vpc-06d11c4908d467699</a>

#### Route table: [rtb-0387d066bb8b97dd9](#) / [mahbank-INFO300-Public-RT-1](#)

[Edit route table association](#)

##### Routes (2)

Filter routes

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Destination	Target
10.12.0.0/16	local
0.0.0.0/0	<a href="#">igw-0cb11a21d51e1fc1e</a>

### 3. 2<sup>nd</sup> Public subnet connected with routing table, connection to the internet 0.0.0.0/0, has local routes within vpc

**Subnets (1/11)** [Info](#)

Find resources by attribute or tag

< 1 > ⚙

	Name	Subnet ID	State	VPC
<input checked="" type="checkbox"/>	<u>mahbank&gt;-INFO300-Public-SN-2</u>	<a href="#">subnet-0ca8cf25a318e088a</a>	Available	<a href="#">vpc-095f07b4f7a36209e</a>   mah

Details | Flow logs | **Route table** | Network ACL | CIDR reservations | Sharing | Tags

**Route table: [rtb-0387d066bb8b97dd9](#) / mahbank-INFO300-Public-RT-1** [Edit route table association](#)

**Routes (2)**

Filter routes

< 1 > ⚙

Destination	Target
10.12.0.0/16	local
0.0.0.0/0	<a href="#">igw-0cb11a21d51e1fc1e</a>



3. Private subnet connected with routing table, it ONLY has connections within vpc.

**Subnets (1/11)** [Info](#)

Find resources by attribute or tag

< 1 > ⚙

Name

Subnet ID

State

VPC

☒

mahbank-INFO300-Private-SN-1

[subnet-002bb3a13cf64b9ef](#)

✓ Available

[vpc-095f07b4f7a36209e](#) | mah

subnet-002bb3a13cf64b9ef / mahbank-INFO300-Private-SN-1

Details

Flow logs

**Route table**

Network ACL

CIDR reservations

Sharing

Tags

Route table: [rtb-0f4b3248d63889dff](#) / mahbank-INFO300-Private-RT-1

Edit route table association

**Routes (1)**

Filter routes

< 1 > ⚙

Destination

10.12.0.0/16

Target

local

### 3. Internet gateway attached to VPC with specific required tags

igw-0cb11a21d51e1fc1e / mahban-INFO300-IG-1 Actions ▾

**Details** [Info](#)


Internet gateway ID igw-0cb11a21d51e1fc1e	State ✓ Attached	VPC ID <a href="#">vpc-095f07b4f7a36209e</a> <a href="#">mahbank-INFO300-VPC1</a>	Owner 851725197441
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**Tags** Manage tags

Search tags

Key	Value
Access	Public
App	INFO300
Name	mahban-INFO300-IG-1


## 4. Private Security Group, displaying ssh type for both public. Protocol, port range, and source.


**Security Groups (1/3)** [Info](#)  **Actions** ▼ **Export security groups to CSV** ▼ **Create security group**

 **Clear filters** < 1 > 

Security group ID	Security group name	VPC ID	Description
<a href="#">sg-0d27663c7ef4ccd92</a>	mahbank-INFO300-Private-SG-1	<a href="#">vpc-095f07b4f7a36209e</a>	Private

=

**Inbound rules (2)**  **Manage tags** **Edit inbound rules**

< 1 > 

Type	Protocol	Port range	Source	Description
SSH	TCP	22	10.12.2.0/24	public 2
SSH	TCP	22	10.12.1.0/24	public 1

## 4. Public Security Group, allows RDP, VCU and own IP. Given Protocol, port range, source, and more

Security Groups (1/3) Info [Actions](#) [Export security groups to CSV](#) [Create security group](#)

[X](#) [Clear filters](#) [< 1 >](#) [⚙](#)

Security group ID	Security group name	VPC ID	Description
<a href="#">sg-0fcc3b178e7ca2cf4</a>	mahbank-INFO300-Public-SG-1	<a href="#">vpc-095f07b4f7a36209e</a>	Public

[Inbound rules \(6\)](#) [Manage tags](#) [Edit inbound rules](#)

[< 1 >](#) [⚙](#)

Type	Protocol	Port range	Source	Description
HTTP	TCP	80	128.172.0.0/16	VCU
HTTPS	TCP	443	128.172.0.0/16	VCU
RDP	TCP	3389	96.228.43.23/32	My IP
HTTP	TCP	80	96.228.43.23/32	My IP
RDP	TCP	3389	128.172.0.0/16	VCU
HTTPS	TCP	443	96.228.43.23/32	My IP

[Inbound rules \(6\)](#) [Manage tags](#) [Edit inbound rules](#)

[< 1 >](#) [⚙](#)

<input type="checkbox"/>	Name	Security group rule...	IP version	Type	Protocol
<input type="checkbox"/>	-	sgr-0ddaba3cb6d122cc5	IPv4	HTTP	TCP
<input type="checkbox"/>	-	sgr-03dd7c9983976c64c	IPv4	HTTPS	TCP

## 5. mahbank-INFO300-Public-EC2, Public Windows instance. public address 3.231.215.132 and internal of 10.12.1.39

Instances (1/2) [Info](#)

All states ▾ < 1 > ⚙️

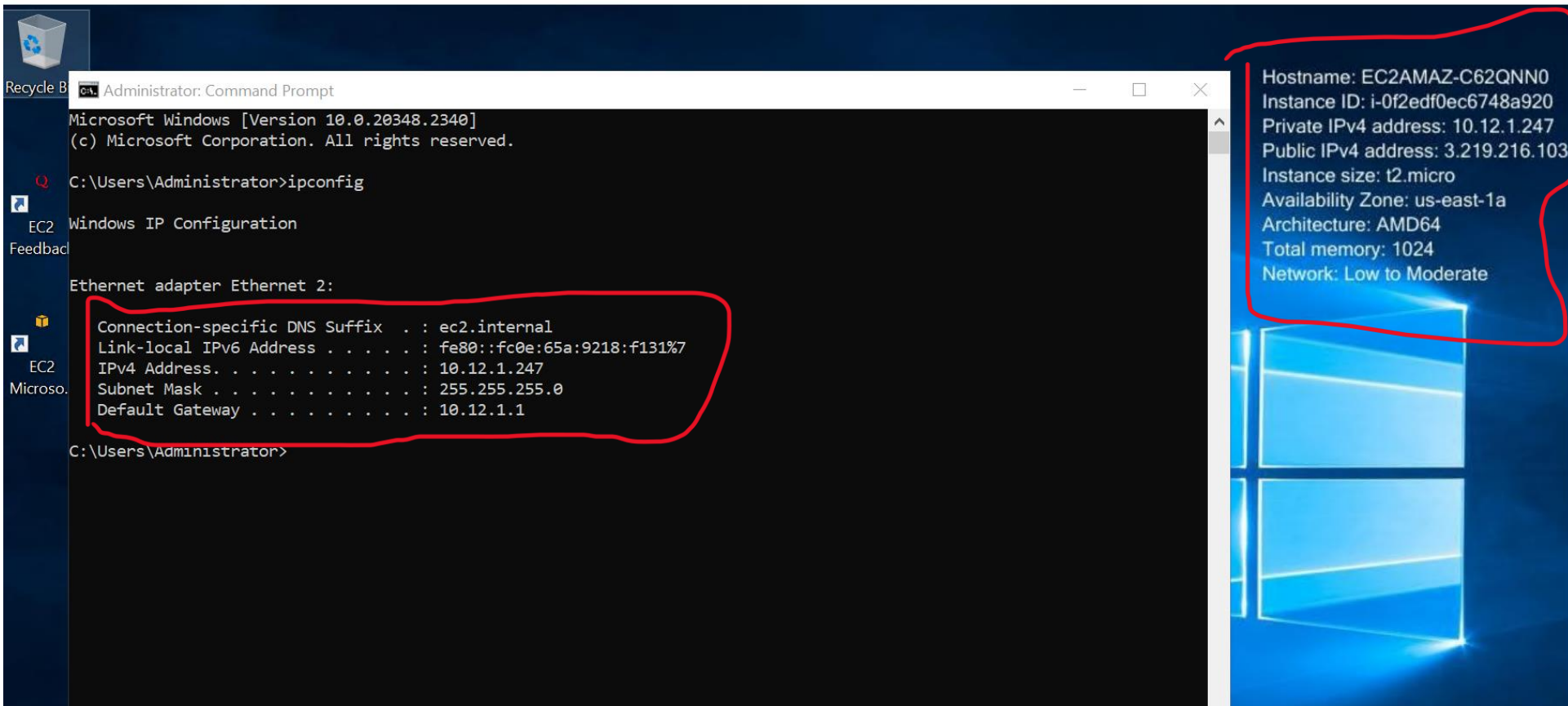
<input type="checkbox"/>	Name	Instance ID	Instance state	Instance type	Status check	Alarm status
<input type="checkbox"/>	mahbank-INF...	i-0cf008a82e50aa081	✓ Running	t2.micro	⌚ Initializing	<a href="#">View alarms</a>
<input checked="" type="checkbox"/>	mahbank-INF...	i-0ccf3869056d66f17	✓ Running	t2.micro	✓ 2/2 checks passed	<a href="#">View alarms</a>

### Instance: i-0ccf3869056d66f17 (mahbank-INFO300-Public-EC2)

Instance ID i-0ccf3869056d66f17 (mahbank-INFO300-Public-EC2)	Public IPv4 address 3.231.215.132 <a href="#"> open address</a>	Private IPv4 addresses 10.12.1.39
IPv6 address -	Instance state ✓ Running	Public IPv4 DNS -
Hostname type	Private IP DNS name (IPv4 only)	

## 5. Connection with Public Ec2, Private ip of 10.12.1.247 and public ip of 3.219.216.103

3.219.216.103 - Remote Desktop Connection



Administrator: Command Prompt

```
Microsoft Windows [Version 10.0.20348.2340]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Administrator>ipconfig

Windows IP Configuration

Ethernet adapter Ethernet 2:

    Connection-specific DNS Suffix  . : ec2.internal
    Link-local IPv6 Address . . . . . : fe80::fc0e:65a:9218:f131%7
    IPv4 Address. . . . . : 10.12.1.247
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 10.12.1.1

C:\Users\Administrator>
```

Hostname: EC2AMAZ-C62QNN0  
Instance ID: i-0f2edf0ec6748a920  
Private IPv4 address: 10.12.1.247  
Public IPv4 address: 3.219.216.103  
Instance size: t2.micro  
Availability Zone: us-east-1a  
Architecture: AMD64  
Total memory: 1024  
Network: Low to Moderate

5. public instance with the internal IP address of 10.12.1.247 to the mahbank-INFO300-Private-EC2 private instance with the internal IP address of 10.12.3.246 over SSH. Due to connection and outages, it failed to connect but it should work regardless .

3.219.216.103 - Remote Desktop Connection

Recycle Bin

EC2 Feedback

EC2 Microsoft Store

key

INFO300-...

Administrator: Command Prompt

Microsoft Windows [Version 10.0.20348.2340]  
(c) Microsoft Corporation. All rights reserved.

C:\Users\Administrator>ipconfig

Windows IP Configuration

Ethernet adapter Ethernet 2:

Connection-specific DNS Suffix . : ec2.internal  
Link-local IPv6 Address . . . . . : fe80::fc0e:65a:9218:f131%7  
IPv4 Address. . . . . : 10.12.1.247  
Subnet Mask . . . . . : 255.255.255.0  
Default Gateway . . . . . : 10.12.1.1

C:\Users\Administrator>ssh -i .\desktop\INFO300-mahbank-AWS-KEY-Sprg2024.pem ec2-user@10.12.3.246  
ssh: connect to host 10.12.3.246 port 22: Connection timed out

C:\Users\Administrator>ssh -i .\desktop\INFO300-mahbank-AWS-KEY-Sprg2024.pem  
usage: ssh [-46AaCfGgKkMnqsTtVvXxYy] [-B bind\_interface]  
[-b bind\_address] [-c cipher\_spec] [-D [bind\_address:]port]  
[-E log\_file] [-e escape\_char] [-F configfile] [-I pkcs11]  
[-i identity\_file] [-J [user@]host[:port]] [-L address]  
[-l login\_name] [-m mac\_spec] [-O ctl\_cmd] [-o option] [-p port]  
[-Q query\_option] [-R address] [-S ctl\_path] [-W host:port]  
[-w local\_tun[:remote\_tun]] destination [command]

C:\Users\Administrator>

Hostname: EC2AMAZ-C62QNN0  
Instance ID: i-0f2edf0ec6748a920  
Private IPv4 address: 10.12.1.247  
Public IPv4 address: 3.219.216.103  
Instance size: t2.micro  
Availability Zone: us-east-1a  
Architecture: AMD64  
Total memory: 1024  
Network: Low to Moderate