

HOMEWORK 4:

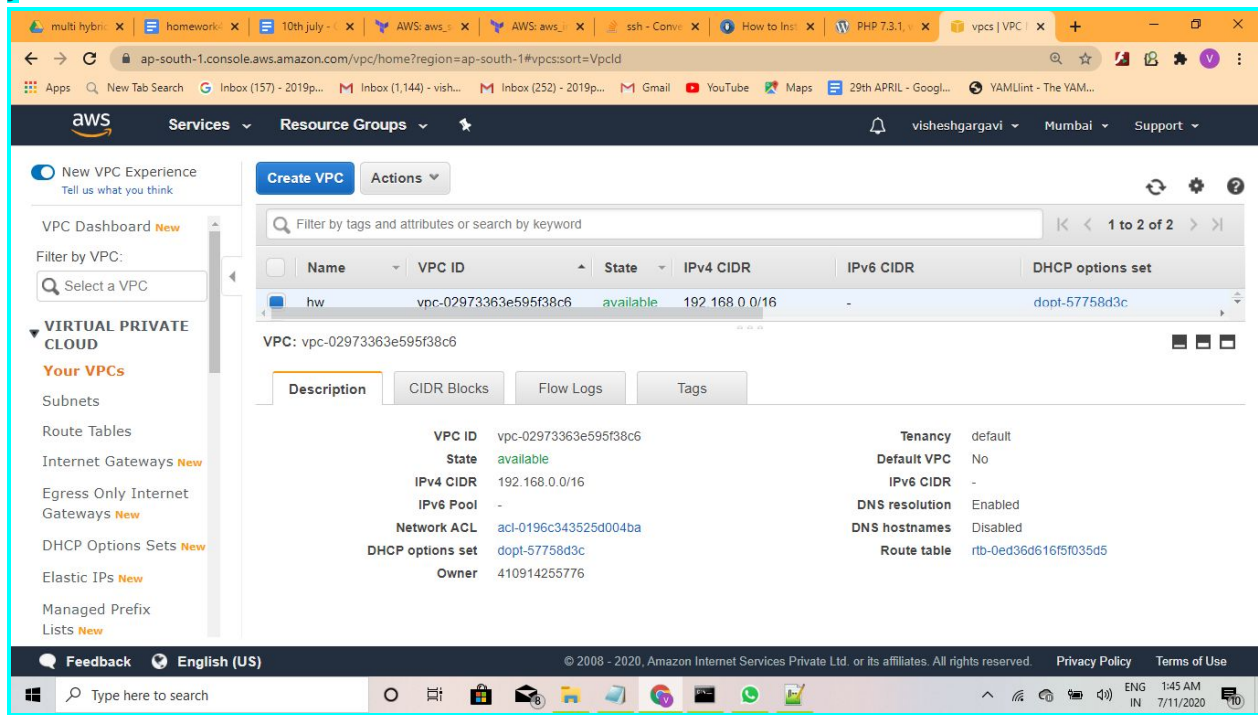
> login in aws

> create a vpc

```
provider "aws" {  
  region = "ap-south-1"  
  profile = "myvishesh"  
}
```

```
resource "aws_vpc" "hw" {  
  cidr_block = "192.168.0.0/16"  
  instance_tenancy = "default"
```

```
  tags = {  
    Name = "hw"  
  }  
}
```



> creating two subnet 1 has auto-launch ip

```
resource "aws_subnet" "hw_subnet-1a" {  
  vpc_id = "${aws_vpc.hw.id}"  
  cidr_block = "192.168.0.0/24"
```

```
availability_zone = "ap-south-1a"  
map_public_ip_on_launch = true  
}  
resource "aws_subnet" "hw_subnet-1b" {  
  vpc_id    = "${aws_vpc.hw.id}"  
  cidr_block = "192.168.1.0/24"  
  availability_zone = "ap-south-1b"  
}
```

multi hybrid x homework x 10th july x AWS: aws x AWS: aws x ssh - Conve x How to Inst x PHP 7.3.1 x Subnets | V x + -

ap-south-1.console.aws.amazon.com/vpc/home?region=ap-south-1#subnets:sort=AvailabilityZone

aws Services Resource Groups visheshgargavi Mumbai Support

New VPC Experience Tell us what you think

Filter by VPC: vpc-02973...

VPC Dashboard New

Filter by VPC: vpc-02973363e595f38c6 hw Owner: 410914255776

VIRTUAL PRIVATE CLOUD

Your VPCs

Subnets

Route Tables

Internet Gateways New

Egress Only Internet Gateways New

DHCP Options Sets New

Create subnet Actions

Filter by tags and attributes or search by keyword

Name	Subnet ID	State	VPC	IPv4 CIDR	Available IP	IPv6 CIDR	Av
	subnet-03c940b59379d112e	available	vpc-02973363e595f38c6 ...	192.168.0.0/24	249	-	ap-
	subnet-09fdbb2e1248e3d56	available	vpc-02973363e595f38c6 ...	192.168.1.0/24	250	-	ap-

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ap-south-1.console.aws.amazon.com/vpc/home?region=ap-south-1#subnets:sort=AvailabilityZone

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New VPC Experience Tell us what you think

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Filter by VPC: vpc-02973363e595f38c6 hw Owner: 410914255776

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Create subnet Actions

Filter by tags and attributes or search by keyword

VPC	IPv4 CIDR	Available IP	IPv6 CIDR	Availability Zone	Availability Zone ID	Route table
c-02973363e595f38c6 ...	192.168.0.0/24	249	-	ap-south-1a	aps1-az1	rtb-01babc1ec000de765 hw_r
c-02973363e595f38c6 ...	192.168.1.0/24	250	-	ap-south-1b	aps1-az3	rtb-0ed36d616f5f035d5

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multi hybrid X homework X 10th july - X AWS: aws_ X AWS: aws_ X ssh - Conve X How to Inst X PHP 7.3.1 X Modify auti X

ap-south-1.console.aws.amazon.com/vpc/home?region=ap-south-1#ModifyAutoAssignIpSettings:SubnetId=subnet-03c940b59379d112e

Apps New Tab Search Inbox (157) - 2019p... Inbox (1,144) - vish... Inbox (252) - 2019p... Gmail YouTube Maps 29th APRIL - Googl... YAMLLint - The YAM...

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Subnets > Modify auto-assign IP settings

Modify auto-assign IP settings

Enable the auto-assign IP address setting to automatically request a public IPv4 or IPv6 address for an instance launched in this subnet. You can override the auto-assign IP settings for an instance at launch time.

Subnet ID subnet-03c940b59379d112e

Auto-assign IPv4 ☒ Enable auto-assign public IPv4 address ⓘ

* Required

Cancel Save

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Windows Taskbar: Type here to search, Task View, File Explorer, Mail, Edge, Chrome, WhatsApp, Telegram, System tray: Network, Volume, Bluetooth, ENG IN, 1:45 AM 7/11/2020, Notifications

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New VPC Experience Tell us what you think

VPC Dashboard New

Filter by VPC: vpc-02973...

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DHCP Options Sets New

Elastic IPs New

Managed Prefix

Filter by tags and attributes or search by keyword

Name	Subnet ID	State	VPC	IPv4 CIDR	Available IPv4	IPv6 CIDR	Avail...
	subnet-03c940b59379d112e	available	vpc-02973363e595f38c6 ...	192.168.0.0/24	249	-	ap-
	subnet-09fdbb2e1248e3d56	available	vpc-02973363e595f38c6 ...	192.168.1.0/24	250	-	ap-

Subnet ID: subnet-03c940b59379d112e

VPC: vpc-02973363e595f38c6 | hw

State: available

IPv4 CIDR: 192.168.0.0/24

Available IPv4 Addresses: 249

Availability Zone: ap-south-1a (aps1-az1)

Network ACL: acl-0196c343525d004ba

Auto-assign public IPv4 address: Yes

Outpost ID: -

Route Table: rtb-01babc1ec000de765 | hw_route_table

Default subnet: No

Auto-assign IPv6 address: No

Owner: 410914255776

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New VPC Experience Tell us what you think

VPC Dashboard New

Filter by VPC: vpc-02973...

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DHCP Options Sets New

Elastic IPs New

Managed Prefix

Filter by tags and attributes or search by keyword

Name	Subnet ID	State	VPC	IPv4 CIDR	Available IPv4	IPv6 CIDR	Avail...
	subnet-03c940b59379d112e	available	vpc-02973363e595f38c6 ...	192.168.0.0/24	249	-	ap-
	subnet-09fdbb2e1248e3d56	available	vpc-02973363e595f38c6 ...	192.168.1.0/24	250	-	ap-

Subnet ID: subnet-09fdbb2e1248e3d56

VPC: vpc-02973363e595f38c6 | hw

State: available

IPv4 CIDR: 192.168.1.0/24

Available IPv4 Addresses: 250

Availability Zone: ap-south-1b (aps1-az3)

Network ACL: acl-0196c343525d004ba

Auto-assign public IPv4 address: No

Outpost ID: -

Route Table: rtb-0ed36d616f5f035d5

Default subnet: No

Auto-assign IPv6 address: No

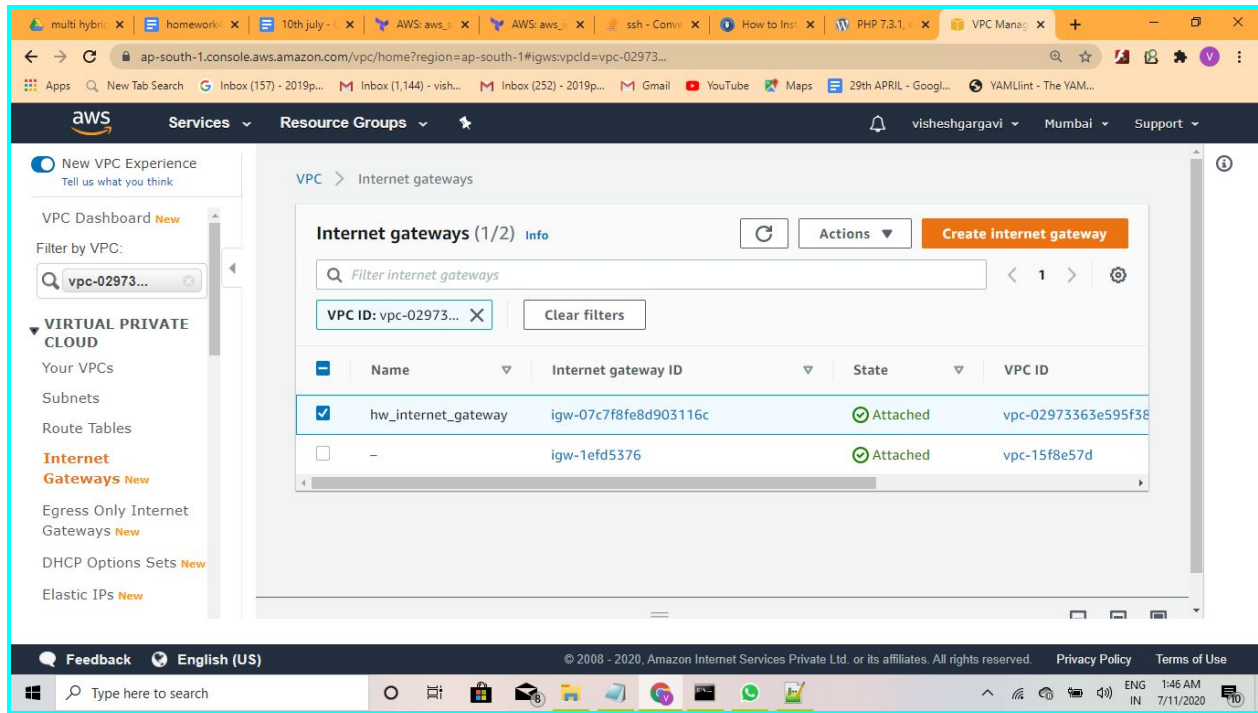
Owner: 410914255776

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> creating an internet gateway for a subnet id in 1a

```
resource "aws_internet_gateway" "hw_internet_gateway" {
  vpc_id = "${aws_vpc.hw.id}"
```

```
tags = {
  Name = "hw_internet_gateway"
```



> creating a route-table

> associating route-table with the internet gateway

```
resource "aws_route_table" "hw_route_table" {
  vpc_id = "${aws_vpc.hw.id}"
```

```
  route {
    cidr_block = "0.0.0.0/0"
    gateway_id = "${aws_internet_gateway.hw_internet_gateway.id}"
  }
```

```
  tags = {
    Name = "hw_route_table"
  }
}
```


Filter by tags and attributes or search by keyword

Name	Route Table ID	Explicit subnet association	Edge associations	Main	VPC ID
hw_route_t...	rtb-01babc1ec000de765	subnet-03c940b59379d112e	-	No	vpc-029733
	rtb-0ed36d616f5f035d5	-	-	Yes	vpc-029733

Route Table: rtb-01babc1ec000de765

Summary Routes Subnet Associations Edge Associations Route Propagation Tags

Route Table ID: rtb-01babc1ec000de765
Main: No
Explicitly Associated with: subnet-03c940b59379d112e
VPC: vpc-02973363e595f38c6 | hw
Owner: 410914255776

Filter by tags and attributes or search by keyword

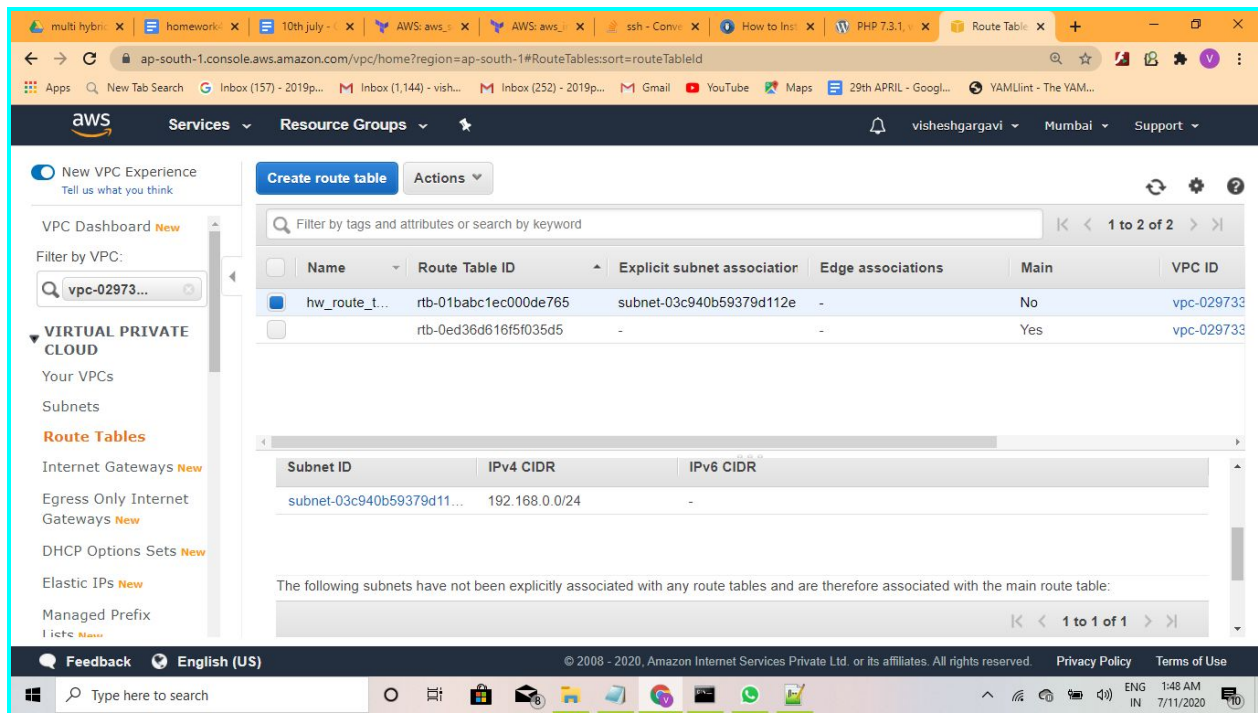
Name	Route Table ID	Explicit subnet association	Edge associations	Main	VPC ID
hw_route_t...	rtb-01babc1ec000de765	subnet-03c940b59379d112e	-	No	vpc-029733
	rtb-0ed36d616f5f035d5	-	-	Yes	vpc-029733

View: All routes

Destination	Target	Status	Propagated
192.168.0.0/16	local	active	No
0.0.0.0/0	igw-07c7f8fe8d903116c	active	No

> associating route table with subnet

```
resource "aws_route_table_association" "a" {
  subnet_id      = aws_subnet.hw_subnet-1a.id
  route_table_id = "${aws_route_table.hw_route_table.id}"
}
```



> creating the security group with ingress(ssh,http and icmpv4 protocol)

> myweb

```
resource "aws_security_group" "myweb" {
  name      = "myweb"
  description = "Allow ssh http and icmp"
  vpc_id    = "${aws_vpc.hw.id}"
```

```
  ingress {
    description = "http"
    from_port   = 80
    to_port     = 80
    protocol    = "tcp"
    cidr_blocks = ["0.0.0.0/0"]
  }
```

```
  ingress {
    description = "ssh"
    from_port   = 22
    to_port     = 22
    protocol    = "tcp"
    cidr_blocks = ["0.0.0.0/0"]
  }
```

```
  ingress {
```



```
    description = "ICMP-IPv4"
    from_port   = 0
    to_port     = 0
    protocol    = "-1"
    cidr_blocks = ["0.0.0.0/0"]
}
```

```
egress {
    from_port = 0
    to_port   = 0
    protocol  = "-1"
    cidr_blocks = ["0.0.0.0/0"]
}
```

```
tags = {
    Name = "myweb"
}
}
```

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ap-south-1.console.aws.amazon.com/vpc/home?region=ap-south-1#SecurityGroups:vpc-id=vpc-02973363e595f38c6

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New VPC Experience Tell us what you think

VPC Dashboard New

Filter by VPC:

Q vpc-02973...

vpc-02973363e595f38c6
hw
Owner: 410914255776

VIRTUAL PRIVATE CLOUD

Your VPCs

Subnets

Route Tables

Internet Gateways New

Egress Only Internet Gateways New

DHCP Options Sets New

Security Groups (5) Info

Filter security groups

VPC ID: vpc-02973363e595f38c6 X Clear filters

	Name	Security group ID	Security group name	VPC ID
<input type="checkbox"/>	myweb	sg-00403fe0ed551bd3c	myweb	vpc-02973363e595f38c6
<input type="checkbox"/>	mybastion	sg-087485e43647d1d62	mybastion	vpc-02973363e595f38c6
<input type="checkbox"/>	mysql	sg-0b51375c9bd222be6	mysql	vpc-02973363e595f38c6
<input type="checkbox"/>	mysqlallow	sg-0c0b663c8bf40207c	mysqlallow	vpc-02973363e595f38c6
<input type="checkbox"/>	-	sg-0d13995efbac315ee	default	vpc-02973363e595f38c6

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ap-south-1.console.aws.amazon.com/vpc/home?region=ap-south-1#SecurityGroup:groupId=sg-00403fe0ed551bd3c

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New VPC Experience Tell us what you think

VPC Dashboard New

Filter by VPC:

Q vpc-02973...

VIRTUAL PRIVATE CLOUD

Your VPCs

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DHCP Options Sets New

Elastic IPs New

Managed Prefix

VPC > Security Groups > sg-00403fe0ed551bd3c - myweb

sg-00403fe0ed551bd3c - myweb

Delete security group Copy to new security group

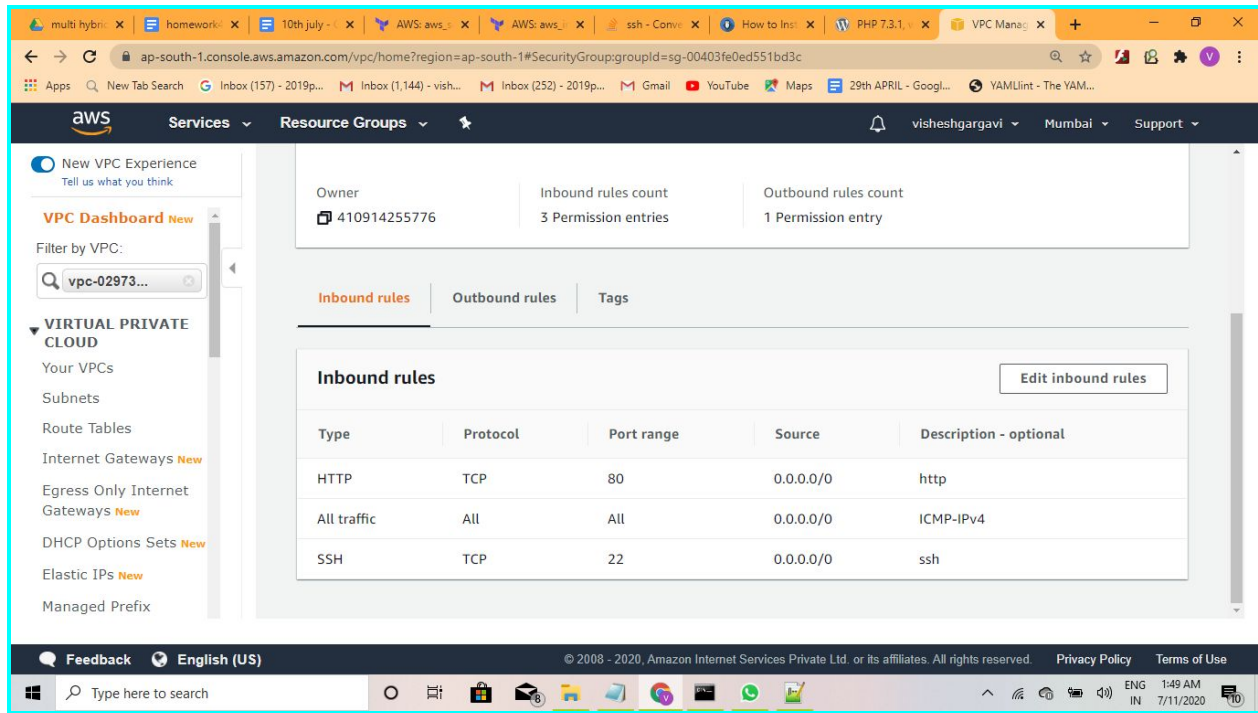
Details

Security group name myweb	Security group ID sg-00403fe0ed551bd3c	Description Allow ssh http and icmp	VPC ID vpc-02973363e595f38c6
Owner 410914255776	Inbound rules count 3 Permission entries	Outbound rules count 1 Permission entry	

Inbound rules Outbound rules Tags

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Type here to search



> creating a subnet group with MYSQL protocol and value of security_id(myweb)
> mysql

```
resource "aws_security_group" "mysql" {
  name     = "mysql"
  description = "Allow sql"
  vpc_id   = "${aws_vpc.hw.id}"
```

```
  ingress {
    description = "MYSQL"
    security_groups = [ "${aws_security_group.myweb.id}" ]
    from_port     = 3306
    to_port       = 3306
    protocol      = "tcp"
  }
```

```
  egress {
    from_port = 0
    to_port   = 0
    protocol  = "-1"
    cidr_blocks = ["0.0.0.0/0"]
  }
```

```
  tags = {
```

Name = "mysql"

```
}  
}  
}
```

The screenshot shows the AWS Management Console interface. The top navigation bar includes the AWS logo, 'Services', 'Resource Groups', and a user profile for 'visheshgargavi' in 'Mumbai'. The left sidebar shows the 'VPC Dashboard' with a search filter 'vpc-02973...' and a list of VPCs. The main content area displays the details for a security group named 'mysql' with ID 'sg-0b51375c9bd222be6'. The details table shows the security group name, ID, description 'Allow sql', VPC ID, owner, and rule counts. Below the details are tabs for 'Inbound rules', 'Outbound rules', and 'Tags'.

sg-0b51375c9bd222be6 - mysql			
Details			
Security group name mysql	Security group ID sg-0b51375c9bd222be6	Description Allow sql	VPC ID vpc-02973363e595f38c6
Owner 410914255776	Inbound rules count 1 Permission entry	Outbound rules count 1 Permission entry	

Below the details are tabs for **Inbound rules**, **Outbound rules**, and **Tags**.

This screenshot shows the 'Inbound rules' tab for the 'mysql' security group. It displays a table with one rule for MySQL/Aurora on TCP port 3306, sourced from 'sg-00403fe0ed551bd3c (myweb)'. An 'Edit inbound rules' button is visible in the top right of the rules section.

Inbound rules				
Type	Protocol	Port range	Source	Description - optional
MYSQL/Aurora	TCP	3306	sg-00403fe0ed551bd3c (myweb)	MYSQL

> creating a security group with ssh protocol

> bastion

```
resource "aws_security_group" "mybastion" {  
  name      = "mybastion"  
  description = "Allow ssh for bastion"  
  vpc_id    = "${aws_vpc.hw.id}"  
  
  ingress {  
    description = "ssh"  
    from_port   = 22  
    to_port     = 22  
    protocol    = "tcp"  
    cidr_blocks = ["0.0.0.0/0"]  
  }  
  egress {  
    from_port = 0  
    to_port   = 0  
    protocol  = "-1"  
    cidr_blocks = ["0.0.0.0/0"]  
  }  
  
  tags = {  
    Name = "mybastion"  
  }  
}
```


The image displays two screenshots of the AWS Management Console, specifically the 'Security Groups' page for a security group named 'sg-087485e43647d1d62 - mybastion' in the 'ap-south-1' region. The top screenshot shows the 'Details' tab, which includes fields for the security group name, ID, description, VPC ID, owner, and rule counts. The bottom screenshot shows the 'Inbound rules' tab, which contains a table of rules.

Security Group Details:

Field	Value
Security group name	mybastion
Security group ID	sg-087485e43647d1d62
Description	Allow ssh for bastion
VPC ID	vpc-02973363e595f38c6
Owner	410914255776
Inbound rules count	1 Permission entry
Outbound rules count	1 Permission entry

Inbound rules:

Type	Protocol	Port range	Source	Description - optional
Custom TCP	TCP	0	0.0.0.0/0	ssh

> creating a subnet group with ssh protocol and value as security_id(mybastion)
> mysqlallow

```
resource "aws_security_group" "mysqlallow" {  
  name = "mysqlallow"
```

```
description = "ssh allow to the mysql"
```

```
vpc_id      = "${aws_vpc.hw.id}"
```

```
ingress {
```

```
  description = "ssh"
```

```
  security_groups=[ "${aws_security_group.mybastion.id}" ]
```

```
  from_port = 22
```

```
  to_port   = 22
```

```
  protocol  = "tcp"
```

```
}
```

```
egress {
```

```
  from_port = 0
```

```
  to_port   = 0
```

```
  protocol  = "-1"
```

```
  cidr_blocks = ["0.0.0.0/0"]
```

```
}
```

```
tags = {
```

```
  Name = "mysqlallow"
```

```
}
```

```
}
```

The image displays two screenshots of the AWS Management Console, specifically the 'Security Groups' page for a security group named 'mysqlallow' (ID: sg-0c0b663c8bf40207c) in the 'ap-south-1' region. The console shows the 'Details' tab, which includes the security group name, ID, description ('ssh allow to the mysql'), VPC ID, owner, and rule counts. The 'Inbound rules' tab is also visible, showing a single rule for SSH access from a specific source.

Screenshot 1: Security Group Details

Details			
Security group name mysqlallow	Security group ID sg-0c0b663c8bf40207c	Description ssh allow to the mysql	VPC ID vpc-02973363e595f38c6
Owner 410914255776	Inbound rules count 1 Permission entry	Outbound rules count 1 Permission entry	

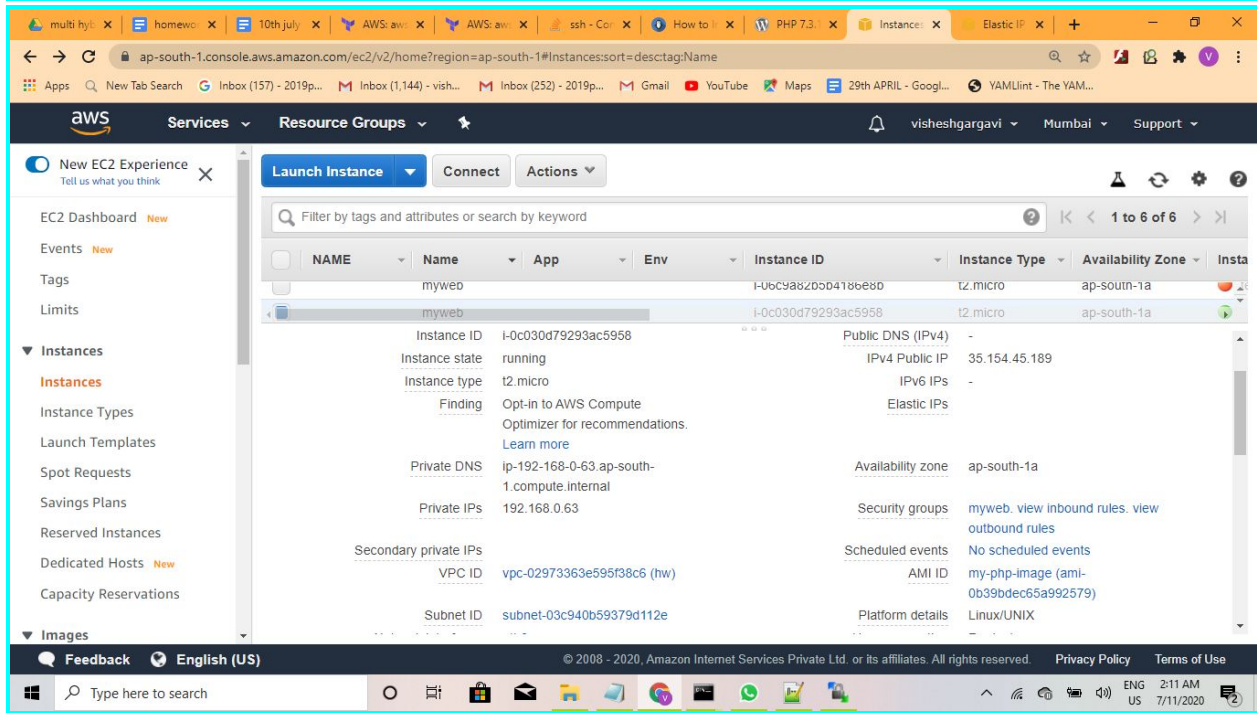
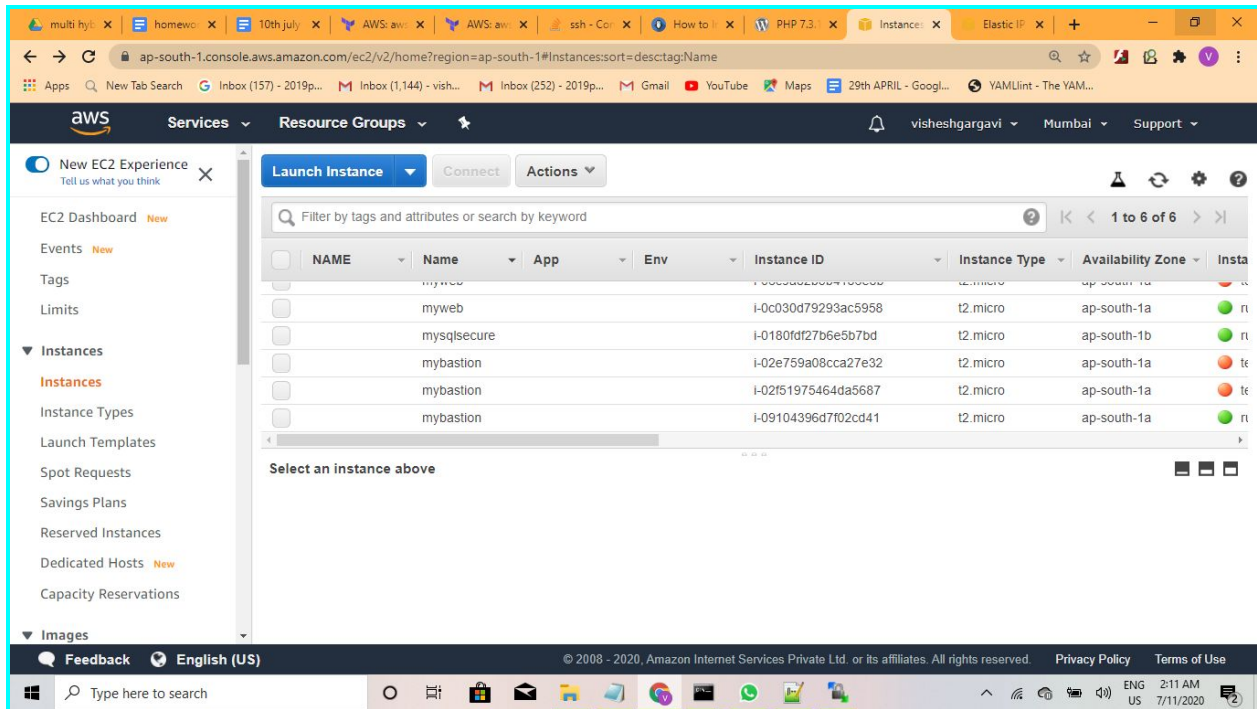
Screenshot 2: Inbound Rules

Type	Protocol	Port range	Source	Description - optional
SSH	TCP	22	sg-087485e43647d1d62 (mybastion)	ssh

> launching the instance with the ami image in the 1a region and attaching the security group myweb
> enabling the public-ip

resource "aws_instance" "myweb" {

```
ami      = "ami-0b39bdec65a992579"
instance_type = "t2.micro"
key_name  = "mykey1111.pem"
availability_zone = "ap-south-1a"
subnet_id = "${aws_subnet.hw_subnet-1a.id}"
security_groups = [ "${aws_security_group.myweb.id}" ]
tags = {
    Name = "myweb"
}
```



> launching the instance with the ami image in the region 1b and attaching the security group mysql and mysqlallow
> not enabling the public-ip

```
resource "aws_instance" "mysqlsecure" {
  ami           = "ami-0b39bdec65a992579"
  instance_type = "t2.micro"
```

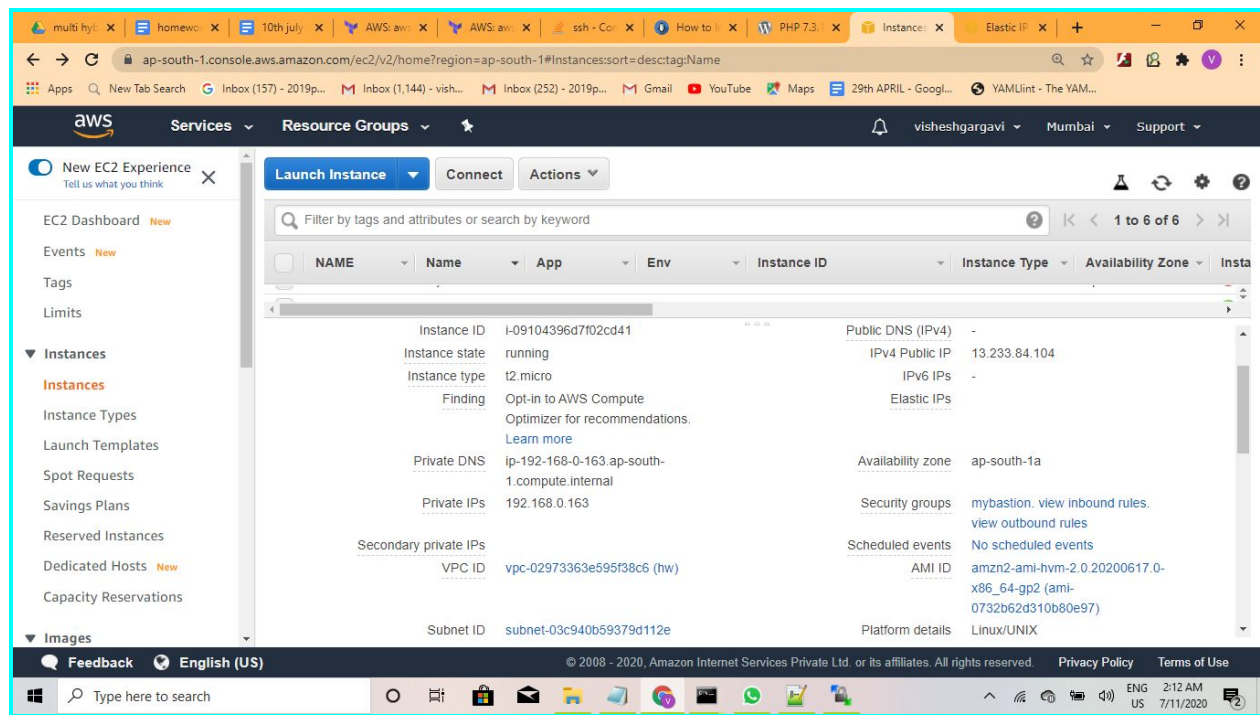


```

key_name = "mykey1111.pem"
availability_zone = "ap-south-1b"
subnet_id = "${aws_subnet.hw_subnet-1b.id}"
security_groups = [ "${aws_security_group.mysql.id}",
"${aws_security_group.mysqlallow.id}" ]

tags = {
  Name = "mysqlsecure"
}
}

```



> launching the instance with the linux image in the region 1a and attaching the security group mybastion
> enabling the public-ip

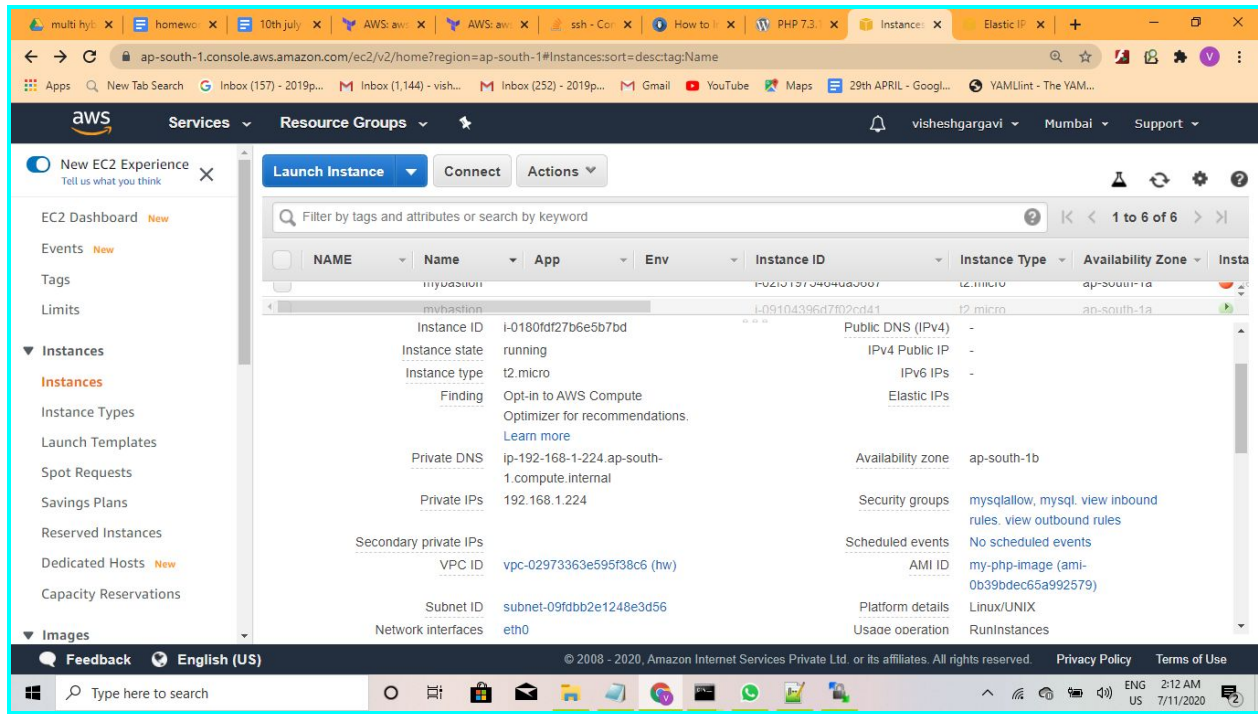
```

resource "aws_instance" "mybastion" {
  ami = "ami-0732b62d310b80e97"
  instance_type = "t2.micro"
  key_name = "mykey1111.pem"
  availability_zone = "ap-south-1a"
  subnet_id = "${aws_subnet.hw_subnet-1a.id}"
  security_groups = [ "${aws_security_group.mybastion.id}" ]
  tags = {

```

Name = "mybastion"

```
}  
}
```



>> creating an elastic ip for allowing the NAT CONNECTIVITY

> creating a nat gateway and associating the nat_gateway with the elastic_ip

> associating the nat_gateway with the route table

```
resource "aws_eip" "hw_eip" {  
  vpc = true
```

```
  instance           = "${aws_instance.mysql.id}"  
  associate_with_private_ip = "10.0.0.12"  
  depends_on         = ["aws_internet_gateway.hw_internet_gateway"]  
}
```

```
resource "aws_nat_gateway" "hw_nat_gateway" {  
  allocation_id = "${aws_eip.hw_eip.id}"  
  subnet_id     = "${aws_subnet.hw_subnet-1b.id}"
```

```
  tags = {  
    Name = "hw_nat_gateway"  
  }
```

```
}
```

```
resource "aws_route_table" "hw_route_table2" {  
  vpc_id = "${aws_vpc.hw.id}"
```

```
  route {
```

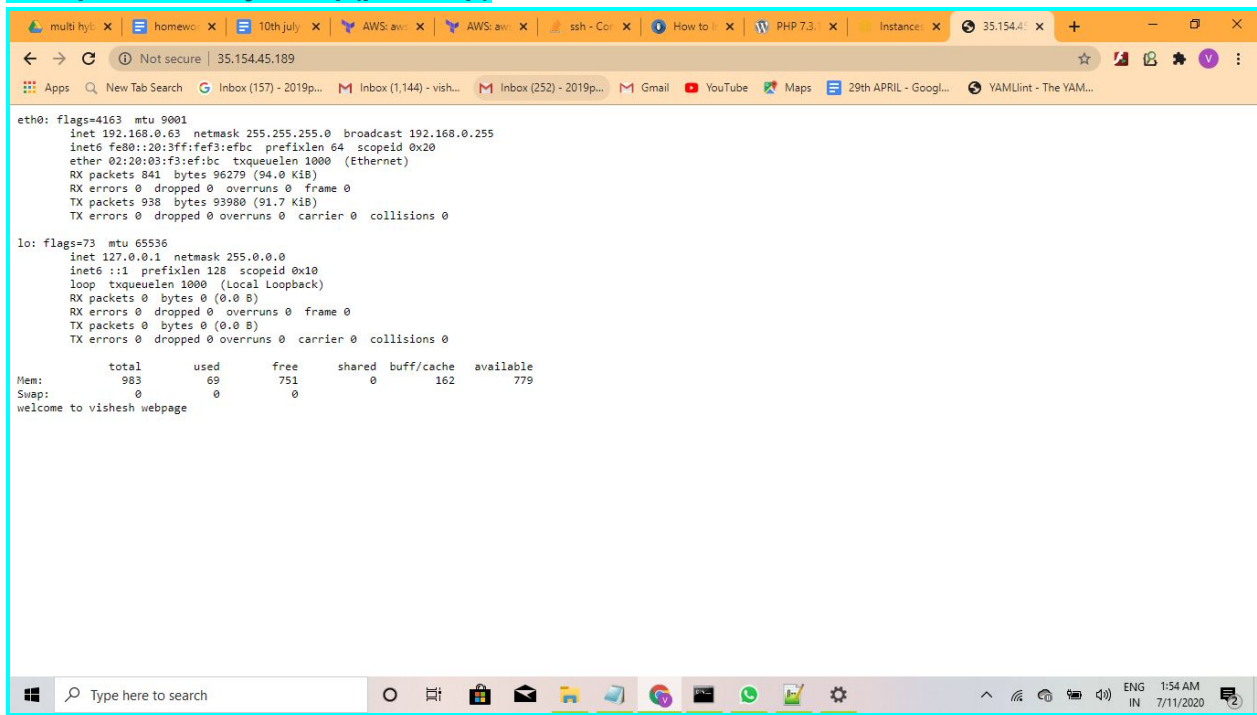
```
    cidr_block = "0.0.0.0/0"
```

```
    nat_gateway_id = "${aws_nat_gateway.hw_nat_gateway.id}"
```

```
  }
```

```
}
```

> output of the myweb ip(public ip)

A screenshot of a web browser window displaying network statistics. The browser has multiple tabs open, including 'multi hy...', 'homewo...', '10th july...', 'AWS: aw...', 'ssh - Co...', 'How to...', 'PHP 7.3...', 'Instance: x', and '35.154.4...'. The address bar shows 'Not secure | 35.154.45.189'. The main content area displays network statistics for two interfaces: eth0 and lo. For eth0, it shows flags=4163, mtu=9001, inet address 192.168.0.63, netmask 255.255.255.0, broadcast 192.168.0.255, and various packet statistics. For lo, it shows flags=73, mtu=65536, inet address 127.0.0.1, netmask 255.0.0.0, and similar packet statistics. Below the interface statistics, there is a memory usage table with columns: total, used, free, shared, buff/cache, and available. The values are: total 983, used 69, free 751, shared 0, buff/cache 162, available 779. At the bottom, it says 'welcome to vishesh webpage'. The Windows taskbar is visible at the bottom with the search bar and various application icons.

```
C:\Users\user\Desktop\terraform\vpc-inst>terraform apply
```

An execution plan has been generated and is shown below.
Resource actions are indicated with the following symbols:

+ create

Terraform will perform the following actions:

aws_instance.mybastion will be created

+ resource "aws_instance" "mybastion" {

+ ami = "ami-0732b62d310b80e97"

+ arn = (known after apply)

```
+ associate_public_ip_address = (known after apply)
+ availability_zone           = "ap-south-1a"
+ cpu_core_count              = (known after apply)
+ cpu_threads_per_core        = (known after apply)
+ get_password_data           = false
+ host_id                     = (known after apply)
+ id                           = (known after apply)
+ instance_state               = (known after apply)
+ instance_type                = "t2.micro"
+ ipv6_address_count           = (known after apply)
+ ipv6_addresses               = (known after apply)
+ key_name                     = "mykey1111.pem"
+ network_interface_id         = (known after apply)
+ outpost_arn                  = (known after apply)
+ password_data                = (known after apply)
+ placement_group              = (known after apply)
+ primary_network_interface_id = (known after apply)
+ private_dns                  = (known after apply)
+ private_ip                   = (known after apply)
+ public_dns                   = (known after apply)
+ public_ip                    = (known after apply)
+ security_groups               = (known after apply)
+ source_dest_check             = true
+ subnet_id                    = (known after apply)
+ tags                          = {
  + "Name" = "mybastion"
}
+ tenancy                      = (known after apply)
+ volume_tags                  = (known after apply)
+ vpc_security_group_ids       = (known after apply)
```

```
+ ebs_block_device {
  + delete_on_termination = (known after apply)
  + device_name            = (known after apply)
  + encrypted              = (known after apply)
  + iops                   = (known after apply)
  + kms_key_id             = (known after apply)
  + snapshot_id            = (known after apply)
  + volume_id              = (known after apply)
  + volume_size            = (known after apply)
  + volume_type            = (known after apply)
}
```

```
+ ephemeral_block_device {  
  + device_name = (known after apply)  
  + no_device   = (known after apply)  
  + virtual_name = (known after apply)  
}
```

```
+ metadata_options {  
  + http_endpoint      = (known after apply)  
  + http_put_response_hop_limit = (known after apply)  
  + http_tokens        = (known after apply)  
}
```

```
+ network_interface {  
  + delete_on_termination = (known after apply)  
  + device_index          = (known after apply)  
  + network_interface_id = (known after apply)  
}
```

```
+ root_block_device {  
  + delete_on_termination = (known after apply)  
  + device_name           = (known after apply)  
  + encrypted             = (known after apply)  
  + iops                  = (known after apply)  
  + kms_key_id            = (known after apply)  
  + volume_id             = (known after apply)  
  + volume_size           = (known after apply)  
  + volume_type           = (known after apply)  
}  
}
```

```
# aws_instance.mysqlsecure will be created  
+ resource "aws_instance" "mysqlsecure" {  
  + ami              = "ami-0b39bdec65a992579"  
  + arn              = (known after apply)  
  + associate_public_ip_address = (known after apply)  
  + availability_zone = "ap-south-1b"  
  + cpu_core_count    = (known after apply)  
  + cpu_threads_per_core = (known after apply)  
  + get_password_data = false  
  + host_id           = (known after apply)  
  + id                = (known after apply)  
  + instance_state    = (known after apply)  
  + instance_type      = "t2.micro"
```



```

+ ipv6_address_count      = (known after apply)
+ ipv6_addresses          = (known after apply)
+ key_name                 = "mykey1111.pem"
+ network_interface_id    = (known after apply)
+ outpost_arn             = (known after apply)
+ password_data           = (known after apply)
+ placement_group         = (known after apply)
+ primary_network_interface_id = (known after apply)
+ private_dns             = (known after apply)
+ private_ip              = (known after apply)
+ public_dns              = (known after apply)
+ public_ip               = (known after apply)
+ security_groups         = (known after apply)
+ source_dest_check       = true
+ subnet_id               = (known after apply)
+ tags                    = {
  + "Name" = "mysqlsecure"
}
+ tenancy                 = (known after apply)
+ volume_tags             = (known after apply)
+ vpc_security_group_ids  = (known after apply)

+ ebs_block_device {
  + delete_on_termination = (known after apply)
  + device_name           = (known after apply)
  + encrypted             = (known after apply)
  + iops                  = (known after apply)
  + kms_key_id            = (known after apply)
  + snapshot_id           = (known after apply)
  + volume_id             = (known after apply)
  + volume_size           = (known after apply)
  + volume_type           = (known after apply)
}

+ ephemeral_block_device {
  + device_name = (known after apply)
  + no_device   = (known after apply)
  + virtual_name = (known after apply)
}

+ metadata_options {
  + http_endpoint      = (known after apply)
  + http_put_response_hop_limit = (known after apply)
}

```

```
+ http_tokens      = (known after apply)
}
```

```
+ network_interface {
  + delete_on_termination = (known after apply)
  + device_index          = (known after apply)
  + network_interface_id  = (known after apply)
}
```

```
+ root_block_device {
  + delete_on_termination = (known after apply)
  + device_name           = (known after apply)
  + encrypted             = (known after apply)
  + iops                  = (known after apply)
  + kms_key_id            = (known after apply)
  + volume_id             = (known after apply)
  + volume_size           = (known after apply)
  + volume_type           = (known after apply)
}
}
```

```
# aws_instance.myweb will be created
+ resource "aws_instance" "myweb" {
  + ami              = "ami-0b39bdec65a992579"
  + arn              = (known after apply)
  + associate_public_ip_address = (known after apply)
  + availability_zone = "ap-south-1a"
  + cpu_core_count   = (known after apply)
  + cpu_threads_per_core = (known after apply)
  + get_password_data = false
  + host_id           = (known after apply)
  + id                = (known after apply)
  + instance_state    = (known after apply)
  + instance_type      = "t2.micro"
  + ipv6_address_count = (known after apply)
  + ipv6_addresses    = (known after apply)
  + key_name           = "mykey1111.pem"
  + network_interface_id = (known after apply)
  + outpost_arn        = (known after apply)
  + password_data      = (known after apply)
  + placement_group    = (known after apply)
  + primary_network_interface_id = (known after apply)
  + private_dns        = (known after apply)
}
```

```
+ private_ip      = (known after apply)
+ public_dns      = (known after apply)
+ public_ip       = (known after apply)
+ security_groups = (known after apply)
+ source_dest_check = true
+ subnet_id       = (known after apply)
+ tags            = {
  + "Name" = "myweb"
}
+ tenancy          = (known after apply)
+ volume_tags      = (known after apply)
+ vpc_security_group_ids = (known after apply)
```

```
+ ebs_block_device {
  + delete_on_termination = (known after apply)
  + device_name           = (known after apply)
  + encrypted             = (known after apply)
  + iops                  = (known after apply)
  + kms_key_id            = (known after apply)
  + snapshot_id          = (known after apply)
  + volume_id             = (known after apply)
  + volume_size           = (known after apply)
  + volume_type           = (known after apply)
}
```

```
+ ephemeral_block_device {
  + device_name = (known after apply)
  + no_device   = (known after apply)
  + virtual_name = (known after apply)
}
```

```
+ metadata_options {
  + http_endpoint      = (known after apply)
  + http_put_response_hop_limit = (known after apply)
  + http_tokens        = (known after apply)
}
```

```
+ network_interface {
  + delete_on_termination = (known after apply)
  + device_index          = (known after apply)
  + network_interface_id  = (known after apply)
}
```

```

+ root_block_device {
  + delete_on_termination = (known after apply)
  + device_name           = (known after apply)
  + encrypted              = (known after apply)
  + iops                   = (known after apply)
  + kms_key_id             = (known after apply)
  + volume_id              = (known after apply)
  + volume_size            = (known after apply)
  + volume_type            = (known after apply)
}
}

```

```

# aws_internet_gateway.hw_internet_gateway will be created
+ resource "aws_internet_gateway" "hw_internet_gateway" {
  + arn      = (known after apply)
  + id       = (known after apply)
  + owner_id = (known after apply)
  + tags     = {
    + "Name" = "hw_internet_gateway"
  }
  + vpc_id = (known after apply)
}

```

```

# aws_route_table.hw_route_table will be created
+ resource "aws_route_table" "hw_route_table" {
  + id           = (known after apply)
  + owner_id     = (known after apply)
  + propagating_vgws = (known after apply)
  + route        = [
    + {
      + cidr_block              = "0.0.0.0/0"
      + egress_only_gateway_id = ""
      + gateway_id              = (known after apply)
      + instance_id             = ""
      + ipv6_cidr_block          = ""
      + nat_gateway_id          = ""
      + network_interface_id     = ""
      + transit_gateway_id       = ""
      + vpc_peering_connection_id = ""
    },
  ]
  + tags         = {
    + "Name" = "hw_route_table"
  }
}

```

```
    }  
    + vpc_id      = (known after apply)  
  }  
}
```

```
# aws_route_table_association.a will be created  
+ resource "aws_route_table_association" "a" {  
  + id          = (known after apply)  
  + route_table_id = (known after apply)  
  + subnet_id   = (known after apply)  
}
```

```
# aws_security_group.mybastion will be created  
+ resource "aws_security_group" "mybastion" {  
  + arn          = (known after apply)  
  + description  = "Allow ssh for bastion"  
  + egress       = [  
    + {  
      + cidr_blocks = [  
        + "0.0.0.0/0",  
      ]  
      + description = ""  
      + from_port   = 0  
      + ipv6_cidr_blocks = []  
      + prefix_list_ids = []  
      + protocol    = "-1"  
      + security_groups = []  
      + self        = false  
      + to_port     = 0  
    },  
  ]  
  + id          = (known after apply)  
  + ingress     = [  
    + {  
      + cidr_blocks = [  
        + "0.0.0.0/0",  
      ]  
      + description = "ssh"  
      + from_port   = 0  
      + ipv6_cidr_blocks = []  
      + prefix_list_ids = []  
      + protocol    = "tcp"  
      + security_groups = []  
      + self        = false
```



```

    + to_port      = 0
  },
]
+ name            = "mybastion"
+ owner_id        = (known after apply)
+ revoke_rules_on_delete = false
+ tags            = {
  + "Name" = "mybastion"
}
+ vpc_id          = (known after apply)
}

```

```

# aws_security_group.mysql will be created
+ resource "aws_security_group" "mysql" {
  + arn            = (known after apply)
  + description    = "Allow sql"
  + egress         = [
    + {
      + cidr_blocks = [
        + "0.0.0.0/0",
      ]
      + description = ""
      + from_port   = 0
      + ipv6_cidr_blocks = []
      + prefix_list_ids = []
      + protocol    = "-1"
      + security_groups = []
      + self        = false
      + to_port     = 0
    },
  ]
  + id              = (known after apply)
  + ingress         = [
    + {
      + cidr_blocks = []
      + description = "MYSQL"
      + from_port   = 3306
      + ipv6_cidr_blocks = []
      + prefix_list_ids = []
      + protocol    = "tcp"
      + security_groups = (known after apply)
      + self        = false
      + to_port     = 3306
    },
  ]
}

```

```

    },
  ],
  + name = "mysql"
  + owner_id = (known after apply)
  + revoke_rules_on_delete = false
  + tags = {
    + "Name" = "mysql"
  }
  + vpc_id = (known after apply)
}

```

```

# aws_security_group.mysqlallow will be created
+ resource "aws_security_group" "mysqlallow" {
  + arn = (known after apply)
  + description = "ssh allow to the mysql"
  + egress = [
    + {
      + cidr_blocks = [
        + "0.0.0.0/0",
      ]
      + description = ""
      + from_port = 0
      + ipv6_cidr_blocks = []
      + prefix_list_ids = []
      + protocol = "-1"
      + security_groups = []
      + self = false
      + to_port = 0
    },
  ]
  + id = (known after apply)
  + ingress = [
    + {
      + cidr_blocks = []
      + description = "ssh"
      + from_port = 22
      + ipv6_cidr_blocks = []
      + prefix_list_ids = []
      + protocol = "tcp"
      + security_groups = (known after apply)
      + self = false
      + to_port = 22
    },
  ],
}

```

```

    ]
    + name          = "myweb"
    + owner_id      = (known after apply)
    + revoke_rules_on_delete = false
    + tags          = {
      + "Name" = "mysql"
    }
    + vpc_id        = (known after apply)
  }

```

```

# aws_security_group.myweb will be created
+ resource "aws_security_group" "myweb" {
  + arn          = (known after apply)
  + description   = "Allow ssh http and icmp"
  + egress        = [
    + {
      + cidr_blocks = [
        + "0.0.0.0/0",
      ]
      + description = ""
      + from_port   = 0
      + ipv6_cidr_blocks = []
      + prefix_list_ids = []
      + protocol     = "-1"
      + security_groups = []
      + self         = false
      + to_port      = 0
    },
  ]
  + id          = (known after apply)
  + ingress      = [
    + {
      + cidr_blocks = [
        + "0.0.0.0/0",
      ]
      + description = "ICMP-IPv4"
      + from_port   = 0
      + ipv6_cidr_blocks = []
      + prefix_list_ids = []
      + protocol     = "-1"
      + security_groups = []
      + self         = false
      + to_port      = 0
    },
  ]

```

```

    },
    + {
      + cidr_blocks = [
        + "0.0.0.0/0",
      ]
      + description = "http"
      + from_port = 80
      + ipv6_cidr_blocks = []
      + prefix_list_ids = []
      + protocol = "tcp"
      + security_groups = []
      + self = false
      + to_port = 80
    },
    + {
      + cidr_blocks = [
        + "0.0.0.0/0",
      ]
      + description = "ssh"
      + from_port = 22
      + ipv6_cidr_blocks = []
      + prefix_list_ids = []
      + protocol = "tcp"
      + security_groups = []
      + self = false
      + to_port = 22
    },
  ]
  + name = "myweb"
  + owner_id = (known after apply)
  + revoke_rules_on_delete = false
  + tags = {
    + "Name" = "myweb"
  }
  + vpc_id = (known after apply)
}

# aws_subnet.hw_subnet-1a will be created
+ resource "aws_subnet" "hw_subnet-1a" {
  + arn = (known after apply)
  + assign_ipv6_address_on_creation = false
  + availability_zone = "ap-south-1a"
  + availability_zone_id = (known after apply)
}

```

```

+ cidr_block          = "192.168.0.0/24"
+ id                  = (known after apply)
+ ipv6_cidr_block     = (known after apply)
+ ipv6_cidr_block_association_id = (known after apply)
+ map_public_ip_on_launch = true
+ owner_id            = (known after apply)
+ vpc_id              = (known after apply)
}

```

```

# aws_subnet.hw_subnet-1b will be created
+ resource "aws_subnet" "hw_subnet-1b" {
+ arn                = (known after apply)
+ assign_ipv6_address_on_creation = false
+ availability_zone   = "ap-south-1b"
+ availability_zone_id = (known after apply)
+ cidr_block         = "192.168.1.0/24"
+ id                 = (known after apply)
+ ipv6_cidr_block     = (known after apply)
+ ipv6_cidr_block_association_id = (known after apply)
+ map_public_ip_on_launch = false
+ owner_id           = (known after apply)
+ vpc_id             = (known after apply)
}

```

```

# aws_vpc.hw will be created
+ resource "aws_vpc" "hw" {
+ arn                = (known after apply)
+ assign_generated_ipv6_cidr_block = false
+ cidr_block         = "192.168.0.0/16"
+ default_network_acl_id = (known after apply)
+ default_route_table_id = (known after apply)
+ default_security_group_id = (known after apply)
+ dhcp_options_id      = (known after apply)
+ enable_classiclink    = (known after apply)
+ enable_classiclink_dns_support = (known after apply)
+ enable_dns_hostnames  = (known after apply)
+ enable_dns_support    = true
+ id                   = (known after apply)
+ instance_tenancy      = "default"
+ ipv6_association_id   = (known after apply)
+ ipv6_cidr_block       = (known after apply)
+ main_route_table_id   = (known after apply)
+ owner_id              = (known after apply)
}

```

```
+ tags = {  
  + "Name" = "hw"  
}  
}
```

Plan: 13 to add, 0 to change, 0 to destroy.

Warning: Interpolation-only expressions are deprecated

on vpc.tf line 16, in resource "aws_subnet" "hw_subnet-1a":
16: vpc_id = "\${aws_vpc.hw.id}"

Terraform 0.11 and earlier required all non-constant expressions to be provided via interpolation syntax, but this pattern is now deprecated. To silence this warning, remove the "\${ sequence from the start and the }" sequence from the end of this expression, leaving just the inner expression.

Template interpolation syntax is still used to construct strings from expressions when the template includes multiple interpolation sequences or a mixture of literal strings and interpolations. This deprecation applies only to templates that consist entirely of a single interpolation sequence.

(and 12 more similar warnings elsewhere)

Do you want to perform these actions?

Terraform will perform the actions described above.

Only 'yes' will be accepted to approve.

Enter a value: yes

multi hyl x | homeow x | 10th July x | AWS: aw x | AWS: aw x | ssh - Co x | How to x | PHP 7.3 x | Instances x | 35.154.4 x | +

← → ↻

ec2-user@ip-192-168-0-163:~

Microsoft Windows [Version 10.0.18362.900]
(c) 2019 Microsoft Corporation. All rights reserved.

aws

C:\Users\user>cd Desktop

C:\Users\user\Desktop>cd cloud

C:\Users\user\Desktop\cloud>ssh -i mykey1111.pem -l ec2-user 13.233.84.104

ssh: connect to host 13.233.84.104 port 22: Connection timed out


C:\Users\user\Desktop\cloud>ssh -i mykey1111.pem -l ec2-user 13.233.84.104

The authenticity of host '13.233.84.104 (13.233.84.104)' can't be established.

ECDSA key fingerprint is SHA256:fiTcw7RWIhcA8a7ugaxgqVIHK0V28FLkhFLS2xIgQjg.

Are you sure you want to continue connecting (yes/no)? yes

Warning: Permanently added '13.233.84.104' (ECDSA) to the list of known hosts.

 Amazon Linux 2 AMI

https://aws.amazon.com/amazon-linux-2/

9 package(s) needed for security, out of 16 available

Run "sudo yum update" to apply all updates.

[ec2-user@ip-192-168-0-163 ~]\$ ping 192.168.1.224

PING 192.168.1.224 (192.168.1.224) 56(84) bytes of data.

--- 192.168.1.224 ping statistics ---

3 packets transmitted, 0 received, 100% packet loss, time 2046ms

[ec2-user@ip-192-168-0-163 ~]\$

New EC2 Exp

Tell us what you...

EC2 Dashboard

Events **New**

Tags

Limits

▼ Instances

Instances

Instance Types

Launch Template

Spot Requests

Savings Plans

Reserved Instances

Dedicated Hosts **New**

Capacity Reservations

▼ Images

1 compute.internal

Private IPs

192.168.1.224

Secondary private IPs

VPC ID

vpc-02973363e595f38c6 (hw)

Security groups

mysqlallow, mysql, view inbound rules, view outbound rules

Scheduled events

No scheduled events

AMI ID

my-php-image (ami-0b39bdec65a992579)

Feedback


English (US)

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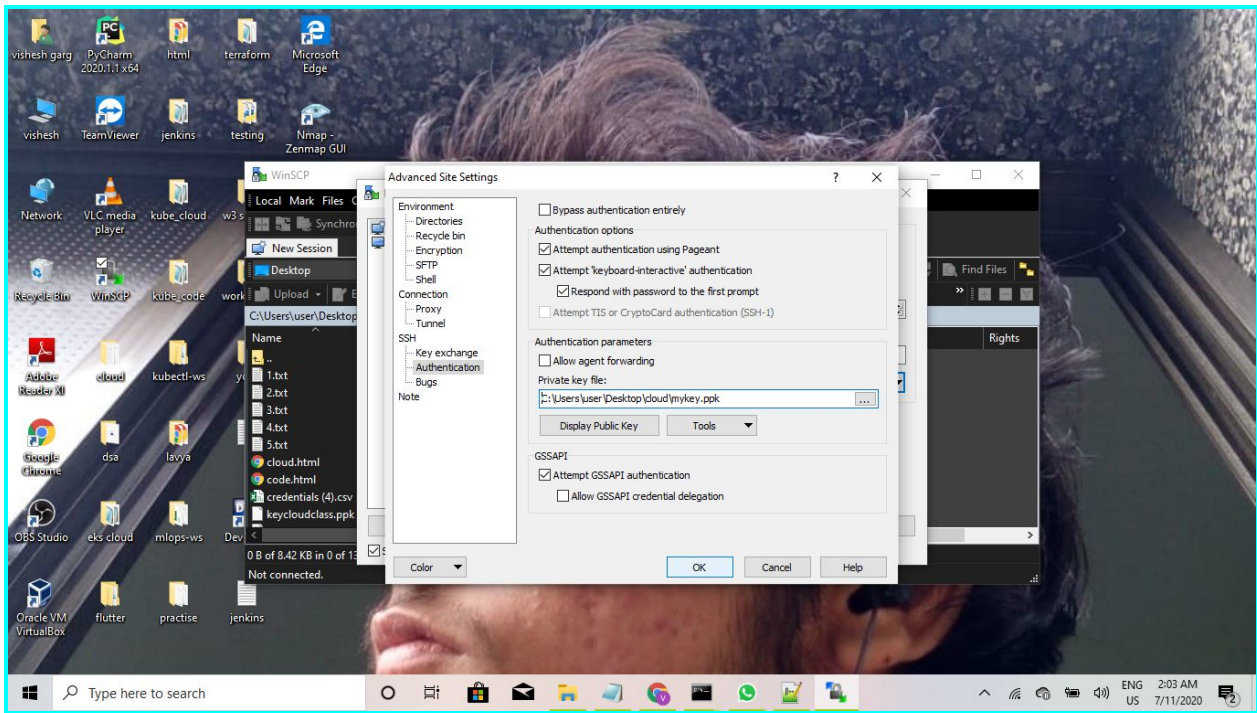
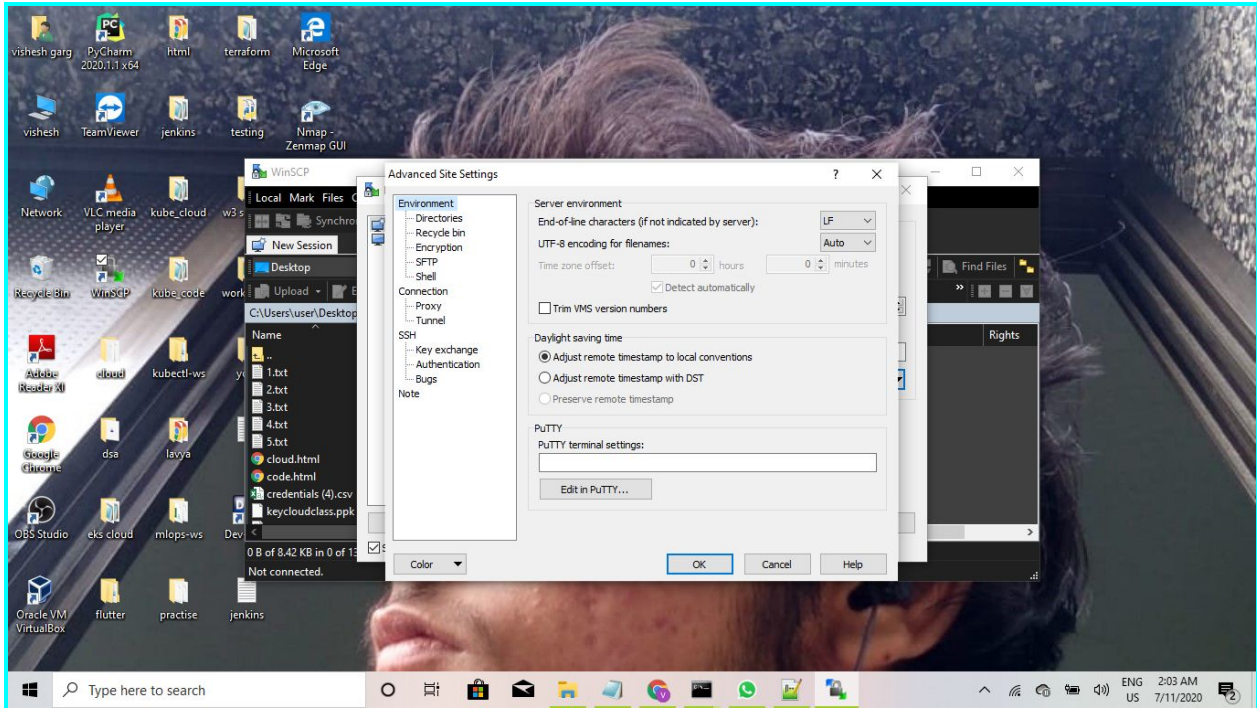
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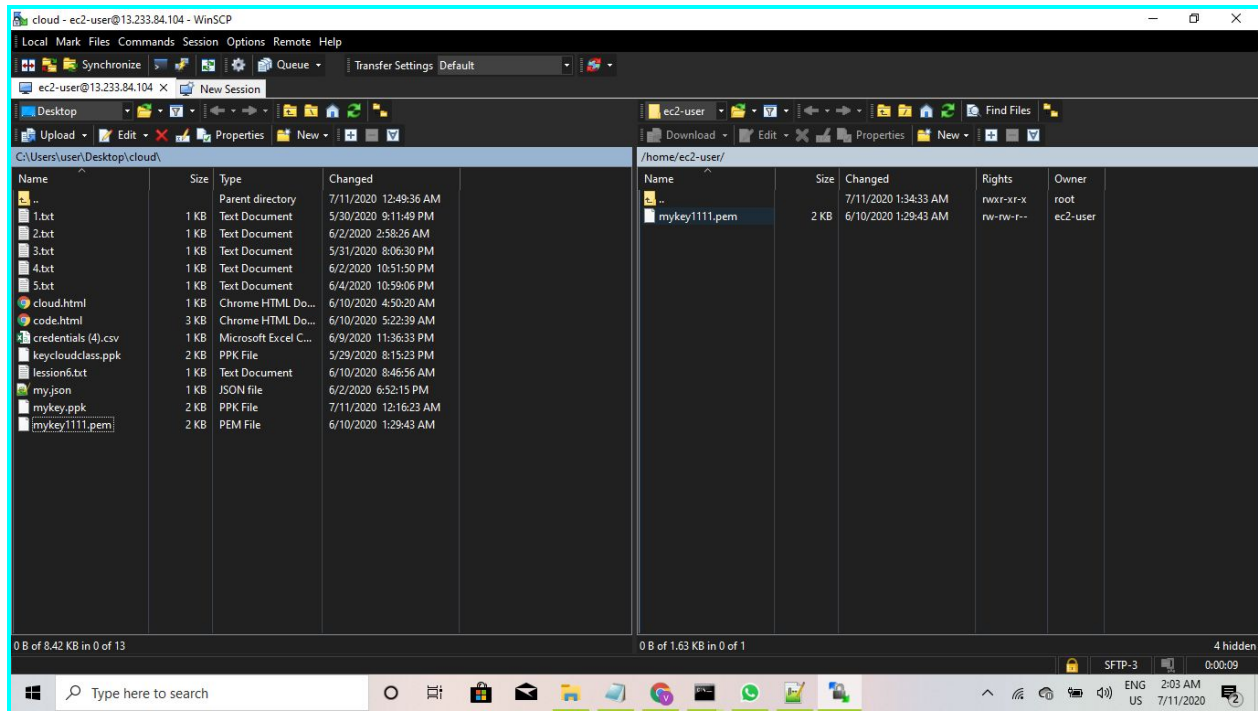
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ENG 2:01 AM 7/11/2020





```
C:\Users\user>cd Desktop
```

```
C:\Users\user\Desktop>cd cloud
```

```
C:\Users\user\Desktop\cloud>ssh -i mykey1111.pem -l ec2-user 13.233.84.104
```

The authenticity of host '13.233.84.104 (13.233.84.104)' can't be established.

ECDSA key fingerprint is SHA256:fITCw7RWIHcA8a7ugaxgqVIHK0V28FLkhFLS2xlgQjg.

Are you sure you want to continue connecting (yes/no)? yes

Warning: Permanently added '13.233.84.104' (ECDSA) to the list of known hosts.

```
_ | _ | )
```

```
_ | ( / Amazon Linux 2 AMI
```

```
_ | \ | _ |
```

<https://aws.amazon.com/amazon-linux-2/>

9 package(s) needed for security, out of 16 available

Run "sudo yum update" to apply all updates.

```
[ec2-user@ip-192-168-0-163 ~]$ ping 192.168.1.224
```

PING 192.168.1.224 (192.168.1.224) 56(84) bytes of data.

```
^C
```

```
--- 192.168.1.224 ping statistics ---
```

3 packets transmitted, 0 received, 100% packet loss, time 2046ms

```
[ec2-user@ip-192-168-0-163 ~]$ ls
```

```
mykey1111.pem
```

```
[ec2-user@ip-192-168-0-163 ~]$ ls -l
```

```
total 4
```

```
-rw-rw-r-- 1 ec2-user ec2-user 1670 Jun  9 19:59 mykey1111.pem
```

```
[ec2-user@ip-192-168-0-163 ~]$ chmod 400 mykey1111.pem
```

```
[ec2-user@ip-192-168-0-163 ~]$ ssh -i mykey1111.pem -l ec2-user 192.168.1.224
The authenticity of host '192.168.1.224 (192.168.1.224)' can't be established.
ECDSA key fingerprint is SHA256:skHxB6uNTPNMPqIk2wl2qa6P9+H17dsytjISM3S/GyU.
ECDSA key fingerprint is MD5:1f:06:ca:75:29:22:0e:cb:f6:9a:a9:38:16:08:a4:13.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '192.168.1.224' (ECDSA) to the list of known hosts.
Last login: Fri Jul 10 17:06:51 2020 from ec2-13-233-177-1.ap-south-1.compute.amazonaws.com
```

```
_ _ _ )
_ _ ( / Amazon Linux 2 AMI
_ _ \ _ _ _
```

```
https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-192-168-1-224 ~]$ ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 9001
    inet 192.168.1.224 netmask 255.255.255.0 broadcast 192.168.1.255
    inet6 fe80::8c4:cdff:fe2f:88cc prefixlen 64 scopeid 0x20<link>
    ether 0a:c4:cd:2f:88:cc txqueuelen 1000 (Ethernet)
    RX packets 615 bytes 69049 (67.4 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 854 bytes 87692 (85.6 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

```
lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1000 (Local Loopback)
    RX packets 0 bytes 0 (0.0 B)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 0 bytes 0 (0.0 B)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```