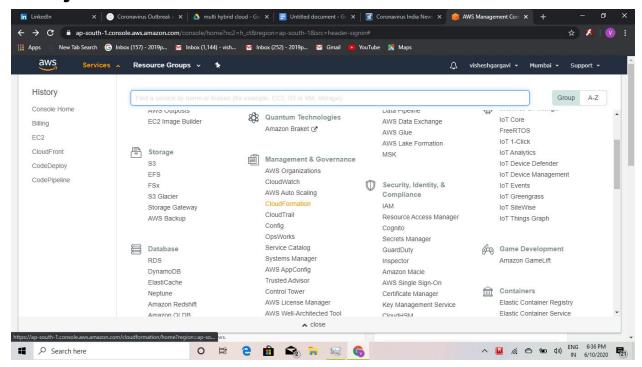
10th june:



Python works on imperative while json works on declarative """Idempotent"""

```
provider "aws" {
 region = "ap-south-1"
 profile = "myvishesh"
}
resource "aws instance" "myin" {
 ami
           = "ami-0447a12f28fddb066"
 instance_type = "t2.micro"
              = "mykey1111.pem"
 key_name
 availability_zone = "ap-south-1a"
 security_groups = [ "launch-wizard-1" ]
 tags = {
  Name = "myin"
 }
}
resource "aws_ebs_volume" "myebs1" {
 availability_zone = "${aws_instance.myin.availability_zone}"
              = 1
 size
```

```
tags = {
  Name = "myebs1"
 }
}
resource "aws volume attachment" "myattach" {
device_name = "/dev/sdf"
volume_id = "${aws_ebs_volume.myebs1.id}"
instance_id = "${aws_instance.myin.id}"
}
output "myoutputip" {
value=aws_instance.myin.public_ip
C:\Users\user\Desktop\terraform\mytest>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_ebs_volume.myebs1 will be created
 + resource "aws_ebs_volume" "myebs1" {
   + arn
                 = (known after apply)
   + availability_zone = "ap-south-1a"
   + encrypted
                    = (known after apply)
   + id
              = (known after apply)
   + iops
                 = (known after apply)
   + kms_key_id
                     = (known after apply)
   + size
                 = 1
   + snapshot id
                     = (known after apply)
   + tags
                 = {
      + "Name" = "myebs1"
    }
   + type
                 = (known after apply)
  }
```

aws_instance.myin will be created
+ resource "aws_instance" "myin" {

+ availability zone

+ cpu_core_count

= "ami-0447a12f28fddb066"

= (known after apply)

= (known after apply)

= "ap-south-1a"

+ associate_public_ip_address = (known after apply)

+ ami

+ arn

```
+ 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)
                       = (known after apply)
+ private ip
+ public_dns
                        = (known after apply)
+ public_ip
                       = (known after apply)
+ security_groups
                          = [
  + "launch-wizard-1",
]
+ source_dest_check
                            = true
+ subnet id
                       = (known after apply)
+ tags
  + "Name" = "myin"
+ 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)
                      = (known after apply)
  + encrypted
  + 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 volume attachment.myattach will be created
 + resource "aws volume attachment" "myattach" {
   + device_name = "/dev/sdf"
             = (known after apply)
   + id
   + instance_id = (known after apply)
   + volume_id = (known after apply)
  }
Plan: 3 to add, 0 to change, 0 to destroy.
```

Warning: Interpolation-only expressions are deprecated

on ec2.tf line 18, in resource "aws_ebs_volume" "myebs1":

18: availability_zone = "\${aws_instance.myin.availability_zone}"

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 2 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

```
aws_instance.myin: Still creating... [10s elapsed]
aws_instance.myin: Still creating... [20s elapsed]
aws_instance.myin: Creation complete after 24s [id=i-0c4c9255108c4abfc]
aws_ebs_volume.myebs1: Creating...
aws_ebs_volume.myebs1: Still creating... [10s elapsed]
aws_ebs_volume.myebs1: Creation complete after 12s [id=vol-04307feb0450f1d83]
aws_volume_attachment.myattach: Creating...
aws_volume_attachment.myattach: Still creating... [10s elapsed]
aws_volume_attachment.myattach: Still creating... [20s elapsed]
aws_volume_attachment.myattach: Creation complete after 22s [id=vai-2074347430]
```

Apply complete! Resources: 3 added, 0 changed, 0 destroyed.

Outputs:

```
myoutputip = 13.126.159.113
C:\Users\user\Desktop\terraform\mytest>cd ...
```

C:\Users\user\Desktop\terraform>mkdir variable

C:\Users\user\Desktop\terraform>cd variable C:\Users\user\Desktop\terraform\variable>dir

```
Volume in drive C is vishesh
Volume Serial Number is 1CF6-F84B
Directory of C:\Users\user\Desktop\terraform\variable
06/10/2020 07:44 PM <DIR>
06/10/2020 07:44 PM <DIR>
        0 File(s)
                       0 bytes
         2 Dir(s) 181,393,702,912 bytes free
C:\Users\user\Desktop\terraform\variable>terraform apply
Apply complete! Resources: 0 added, 0 changed, 0 destroyed.
Outputs:
myvalue = LinuxWorld
C:\Users\user\Desktop\terraform\variable>terraform destroy
Do you really want to destroy all resources?
 Terraform will destroy all your managed infrastructure, as shown above.
 There is no undo. Only 'yes' will be accepted to confirm.
 Enter a value: yes
Destroy complete! Resources: 0 destroyed.
C:\Users\user\Desktop\terraform\variable>terraform apply
Apply complete! Resources: 0 added, 0 changed, 0 destroyed.
Outputs:
myvalue = LinuxWorld
variable "x" {
type = string
default = "LinuxWorld"
}
output "myvalue" {
value = ${var.x}
```

```
}
provider "aws" {
region = "ap-south-1"
 profile = "myvishesh"
variable "mykey"{
type = string
// default = "mykey1111.pem"
}
resource "aws_instance" "myin" {
         = "ami-0447a12f28fddb066"
 instance_type = "t2.micro"
 key_name = var.mykey
availability_zone = "ap-south-1a"
 security_groups = [ "launch-wizard-1" ]
 tags = {
  Name = "myin"
}
resource "aws_ebs_volume" "myebs1" {
 availability_zone = "${aws_instance.myin.availability_zone}"
 size
           = 1
 tags = {
  Name = "myebs1"
}
resource "aws_volume_attachment" "myattach" {
device_name = "/dev/sdf"
volume_id = "${aws_ebs_volume.myebs1.id}"
instance_id = "${aws_instance.myin.id}"
}
output "myoutputip" {
value=aws_instance.myin.public_ip
}
C:\Users\user\Desktop\terraform\mytest>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 ebs volume.myebs1 will be created
+ resource "aws ebs volume" "myebs1" {
  + arn
                = (known after apply)
  + availability_zone = "ap-south-1a"
  + encrypted
                   = (known after apply)
  + id
               = (known after apply)
  + iops
                = (known after apply)
  + kms_key_id
                    = (known after apply)
  + size
                = 1
  + snapshot id
                    = (known after apply)
  + tags
                 = {
    + "Name" = "myebs1"
   }
  + type
                 = (known after apply)
 }
# aws instance.myin will be created
+ resource "aws_instance" "myin" {
  + ami
                       = "ami-0447a12f28fddb066"
  + arn
                       = (known after apply)
  + associate public ip address = (known after apply)
  + availability_zone
                           = "ap-south-1a"
  + cpu_core_count
                            = (known after apply)
                               = (known after apply)
  + cpu threads per core
  + get password data
                              = false
  + host id
                        = (known after apply)
  + id
                      = (known after apply)
                           = (known after apply)
  + instance_state
  + 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)
```

```
= (known after apply)
+ private dns
+ private_ip
                       = (known after apply)
+ public_dns
                        = (known after apply)
+ public_ip
                       = (known after apply)
+ security groups
                          = [
  + "launch-wizard-1",
+ source dest check
                            = true
+ subnet id
                       = (known after apply)
+ tags
  + "Name" = "myin"
 }
+ 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 volume attachment.myattach will be created
+ resource "aws_volume_attachment" "myattach" {
  + device name = "/dev/sdf"
  + id
           = (known after apply)
  + instance id = (known after apply)
  + volume_id = (known after apply)
 }
```

Plan: 3 to add, 0 to change, 0 to destroy.

Warning: Interpolation-only expressions are deprecated

```
on ec2.tf line 23, in resource "aws_ebs_volume" "myebs1": 23: availability_zone = "${aws_instance.myin.availability_zone}"
```

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 2 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

```
aws_instance.myin: Creating... [10s elapsed]
aws_instance.myin: Still creating... [20s elapsed]
aws_instance.myin: Creation complete after 24s [id=i-04c7ebd6c2d844050]
aws_ebs_volume.myebs1: Creating...
aws_ebs_volume.myebs1: Still creating... [10s elapsed]
aws_ebs_volume.myebs1: Creation complete after 11s [id=vol-0324ef7df45a5d676]
aws_volume_attachment.myattach: Creating...
aws_volume_attachment.myattach: Still creating... [10s elapsed]
aws_volume_attachment.myattach: Still creating... [20s elapsed]
aws_volume_attachment.myattach: Creation complete after 23s [id=vai-3758746420]
```

Apply complete! Resources: 3 added, 0 changed, 0 destroyed.

Outputs:

```
myoutputip = 13.233.224.162
```

important

C:\Users\user\Desktop\terraform\mytest>terraform apply var.mykey

Enter a value: mykey.pem

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:

```
+ kms key id
                    = (known after apply)
  + size
                = 1
  + snapshot_id
                    = (known after apply)
  + tags
                 = {
    + "Name" = "myebs1"
   }
                = (known after apply)
  + type
 }
# aws_instance.myin will be created
+ resource "aws_instance" "myin" {
  + ami
                       = "ami-0447a12f28fddb066"
  + 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
                        = (known after apply)
  + host id
  + 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
                           = "mykey.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
                            = [
    + "launch-wizard-1",
   ]
  + source_dest_check
                              = true
  + subnet_id
                          = (known after apply)
  + tags
    + "Name" = "myin"
   }
  + 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)
                   = (known after apply)
  + iops
  + 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)
 }
```

Plan: 3 to add, 0 to change, 0 to destroy.

Warning: Interpolation-only expressions are deprecated

```
on ec2.tf line 24, in resource "aws_ebs_volume" "myebs1": 24: availability_zone = "${aws_instance.myin.availability_zone}"
```

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 2 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

aws_instance.myin: Creating...

Error: Error launching source instance: InvalidKeyPair.NotFound: The key pair 'mykey.pem' does not exist

status code: 400, request id: 3c0fa500-9a07-44e2-9e4e-3825530135ca

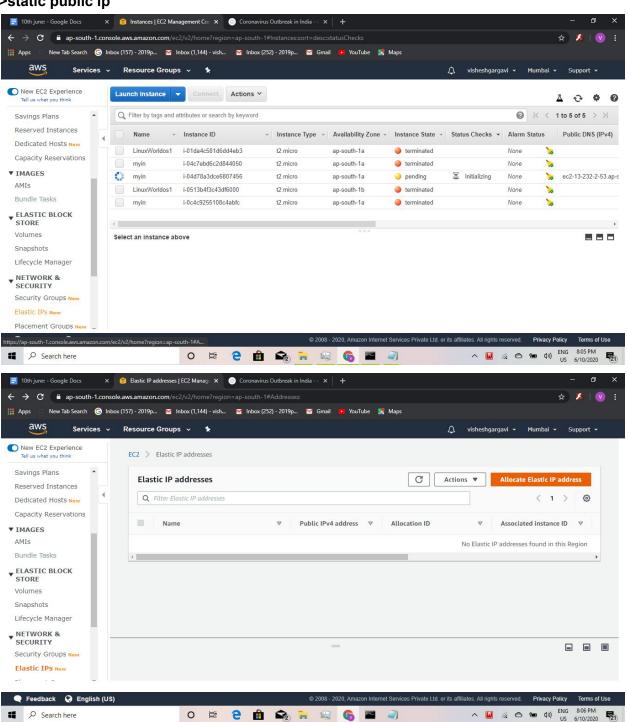
on ec2.tf line 12, in resource "aws_instance" "myin":

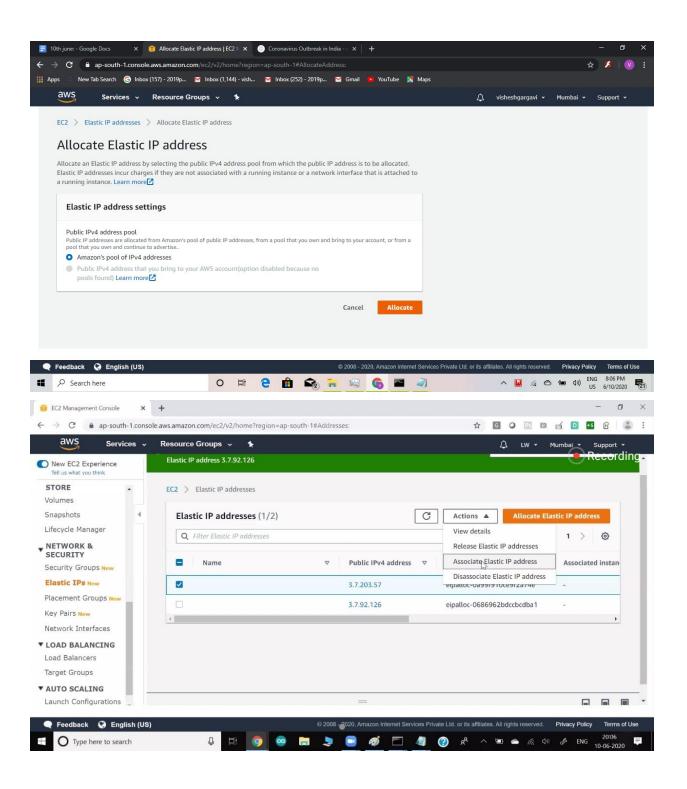
12: resource "aws instance" "myin" {

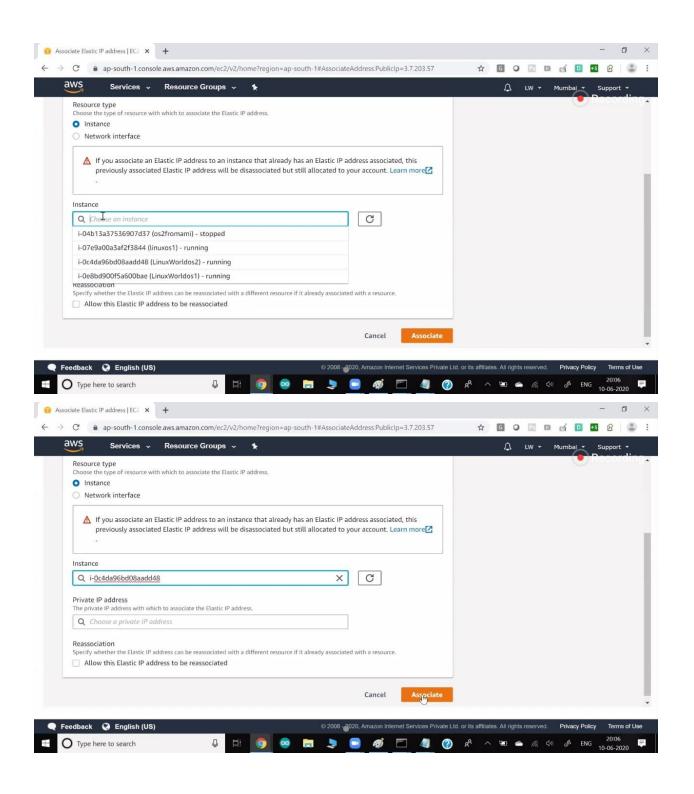
ELASTIC IP(EIP)

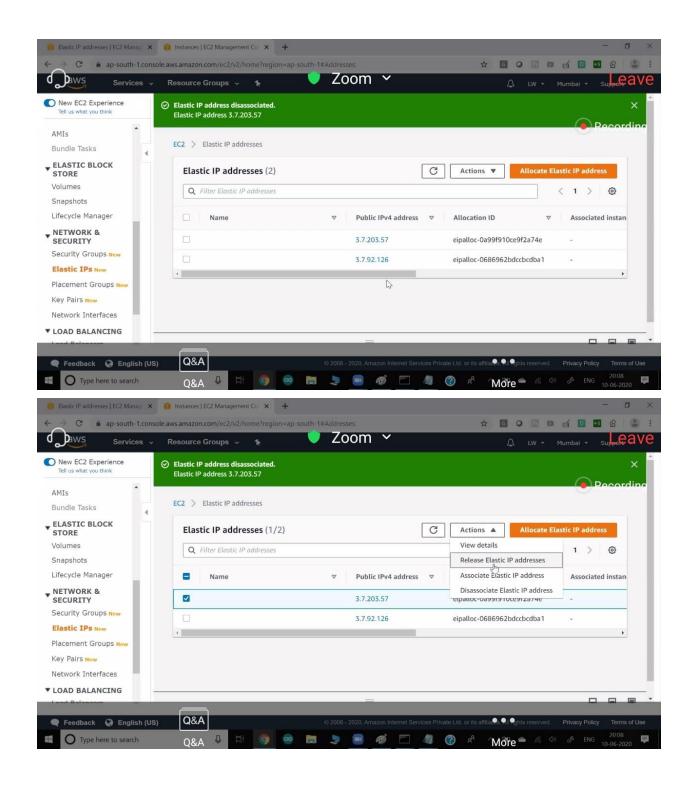
>they charge u per hourly

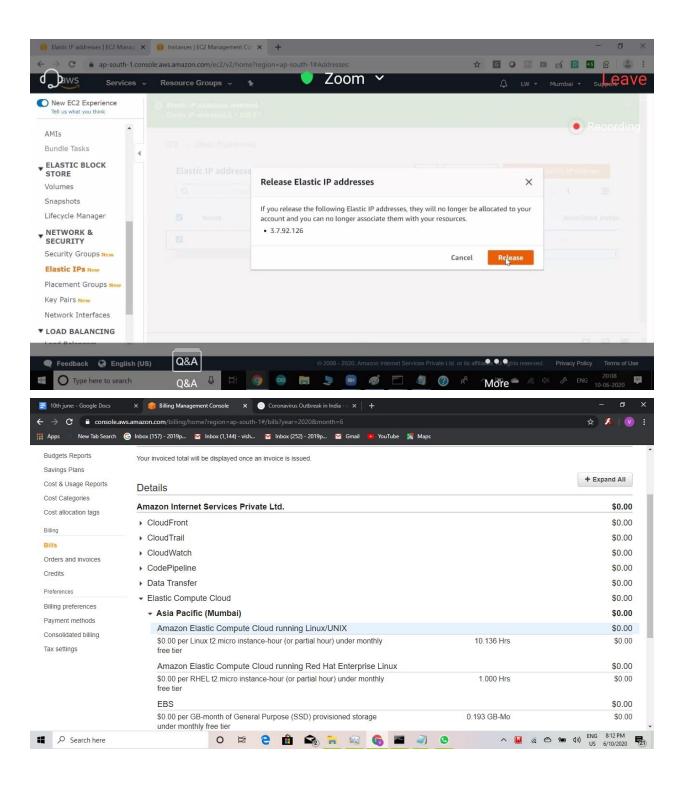
>static public ip

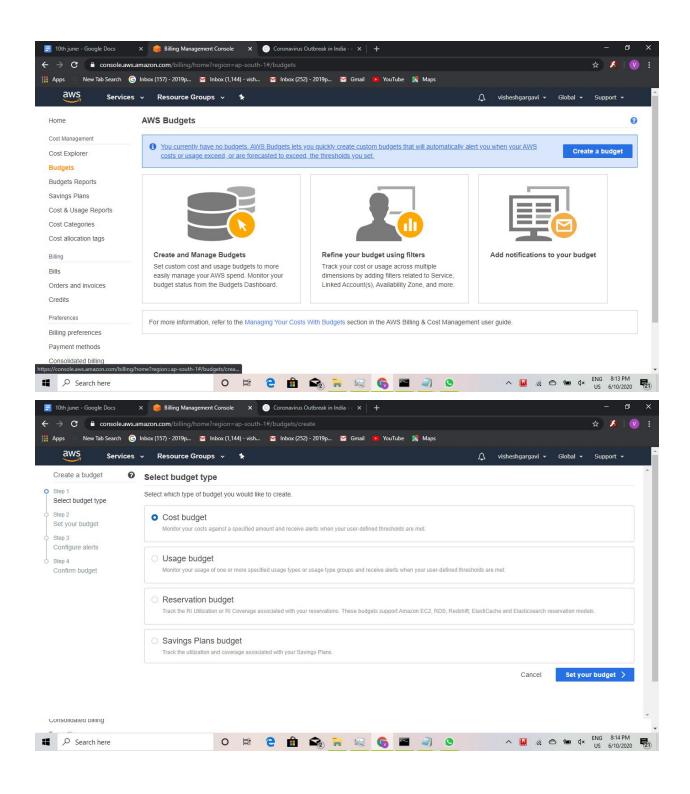


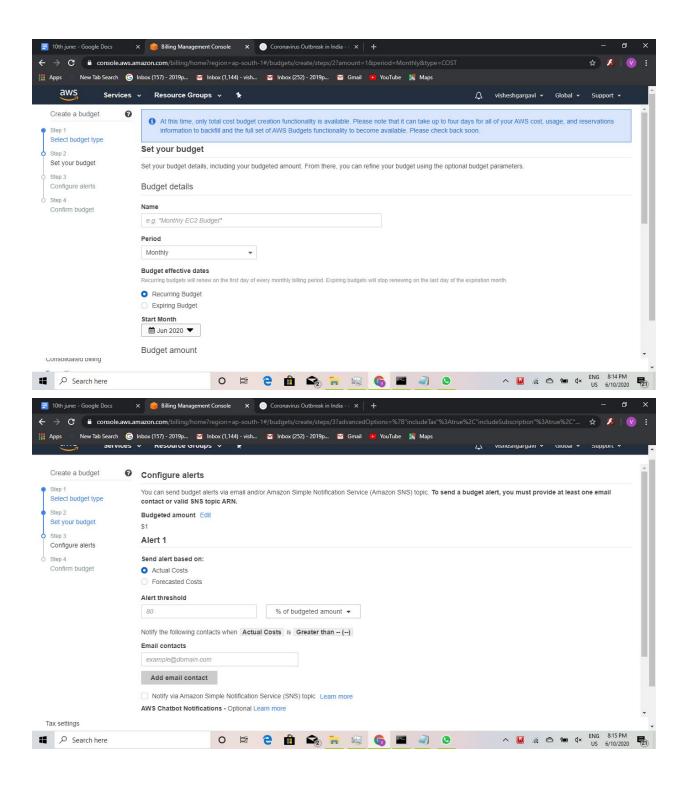


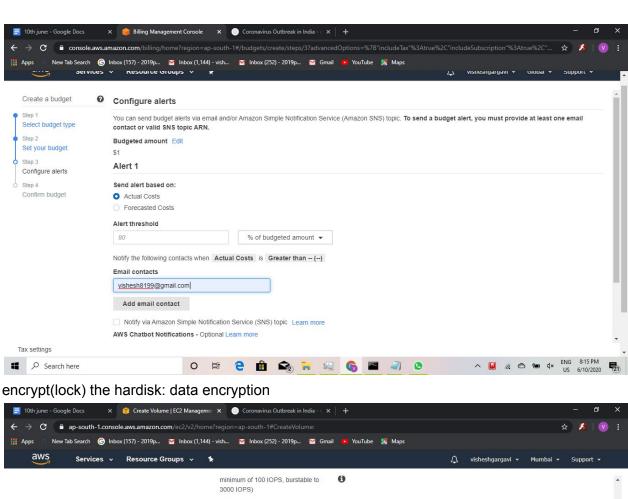


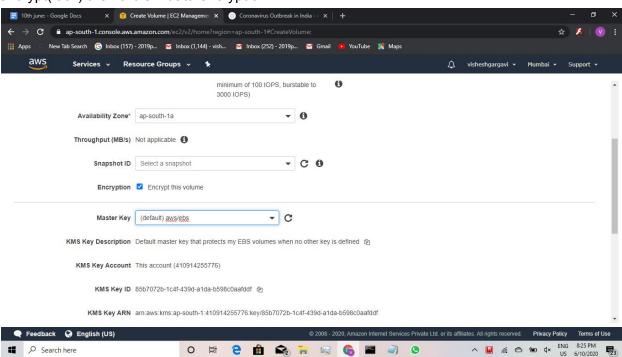


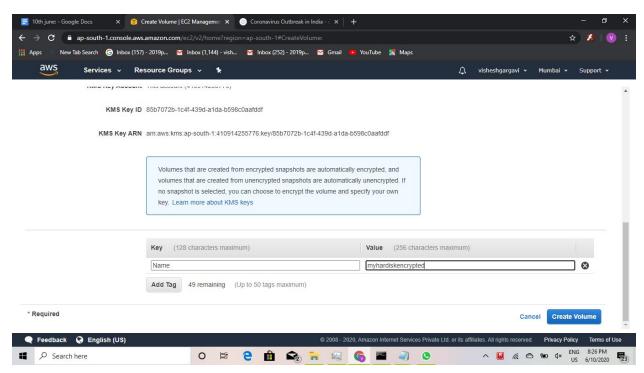












C:\Users\user\Desktop\cloud>ssh -I ec2-user 13.233.112.182 -i mykey1111.pem

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

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

4 package(s) needed for security, out of 8 available

Run "sudo yum update" to apply all updates.

[ec2-user@ip-172-31-40-100 ~]\$ sudo su

[root@ip-172-31-40-100 ec2-user]# fdisk -l

Disk /dev/xvda: 8 GiB, 8589934592 bytes, 16777216 sectors

Units: sectors of 1 * 512 = 512 bytes

Sector size (logical/physical): 512 bytes / 512 bytes I/O size (minimum/optimal): 512 bytes / 512 bytes

Disklabel type: gpt

Disk identifier: 0D7E094F-1C63-43F2-AC82-3316E992075B

Device Start End Sectors Size Type /dev/xvda1 4096 16777182 16773087 8G Linux filesystem /dev/xvda128 2048 4095 2048 1M BIOS boot Partition table entries are not in disk order.

Disk /dev/xvdf: 1 GiB, 1073741824 bytes, 2097152 sectors

Units: sectors of 1 * 512 = 512 bytes

Sector size (logical/physical): 512 bytes / 512 bytes I/O size (minimum/optimal): 512 bytes / 512 bytes [root@ip-172-31-40-100 ec2-user]# fdisk /dev/xvdf1

Welcome to fdisk (util-linux 2.30.2).

Changes will remain in memory only, until you decide to write them.

Be careful before using the write command.

fdisk: cannot open /dev/xvdf1: No such file or directory [root@ip-172-31-40-100 ec2-user]# fdisk /dev/xvdf

Welcome to fdisk (util-linux 2.30.2).

Changes will remain in memory only, until you decide to write them.

Be careful before using the write command.

Device does not contain a recognized partition table.

Created a new DOS disklabel with disk identifier 0x5a23eac2.

Command (m for help): n

Partition type

- p primary (0 primary, 0 extended, 4 free)
- e extended (container for logical partitions)

Select (default p):

Using default response p.

Partition number (1-4, default 1):

First sector (2048-2097151, default 2048):

Last sector, +sectors or +size{K,M,G,T,P} (2048-2097151, default 2097151):

Created a new partition 1 of type 'Linux' and of size 1023 MiB.

Command (m for help): w

The partition table has been altered.

Calling ioctl() to re-read partition table.

Syncing disks.

[root@ip-172-31-40-100 ec2-user]# ldisk

bash: Idisk: command not found
[root@ip-172-31-40-100 ec2-user]#
[root@ip-172-31-40-100 ec2-user]# Isblk
NAME MAJ:MIN RM SIZE RO TYPE MOUNTPOINT
xvda 202:0 0 8G 0 disk

_xvda1 202:1 0 8G 0 part /
xvdf 202:80 0 1G 0 disk

_xvdf1 202:81 0 1023M 0 part
[root@ip-172-31-40-100 ec2-user]#