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Devops2017-2021
Batch B2

System Provisioning And Configuration

Managment

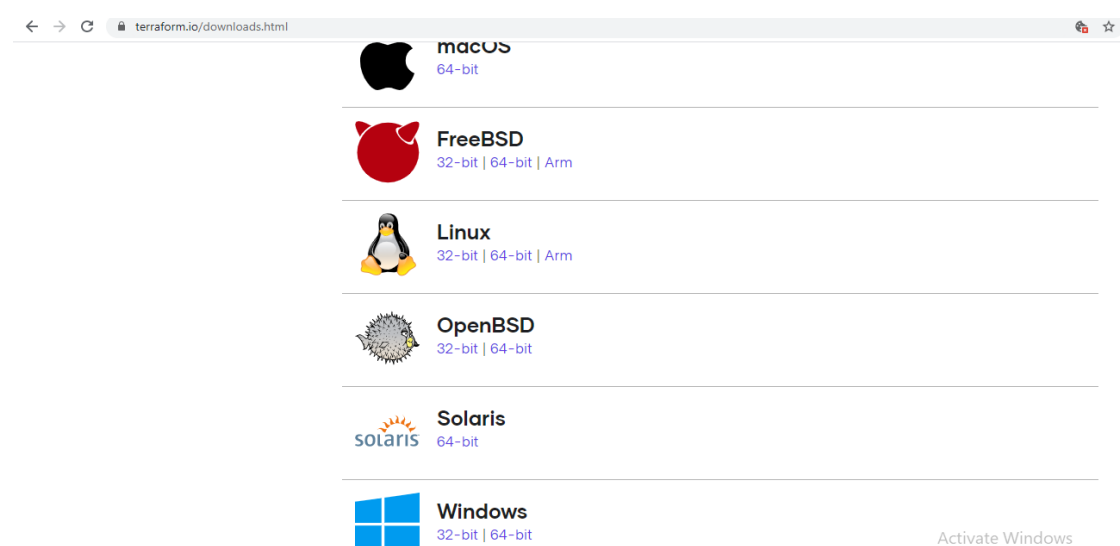
Assignment -1

Terraform is a really handy tech tool that lets you build, change, and version infrastructure safely and efficiently. ... Terraform is quietly revolutionising DevOps by changing the way infrastructure is managed, and making it faster and more efficient to execute DevOps projects. Terraform by HashiCorp, an AWS Partner Network (APN) Advanced Technology Partner and member of the AWS DevOps Competency, is an “infrastructure as code” tool similar to AWS CloudFormation that allows you to create, update, and version your Amazon Web Services (AWS) infrastructure

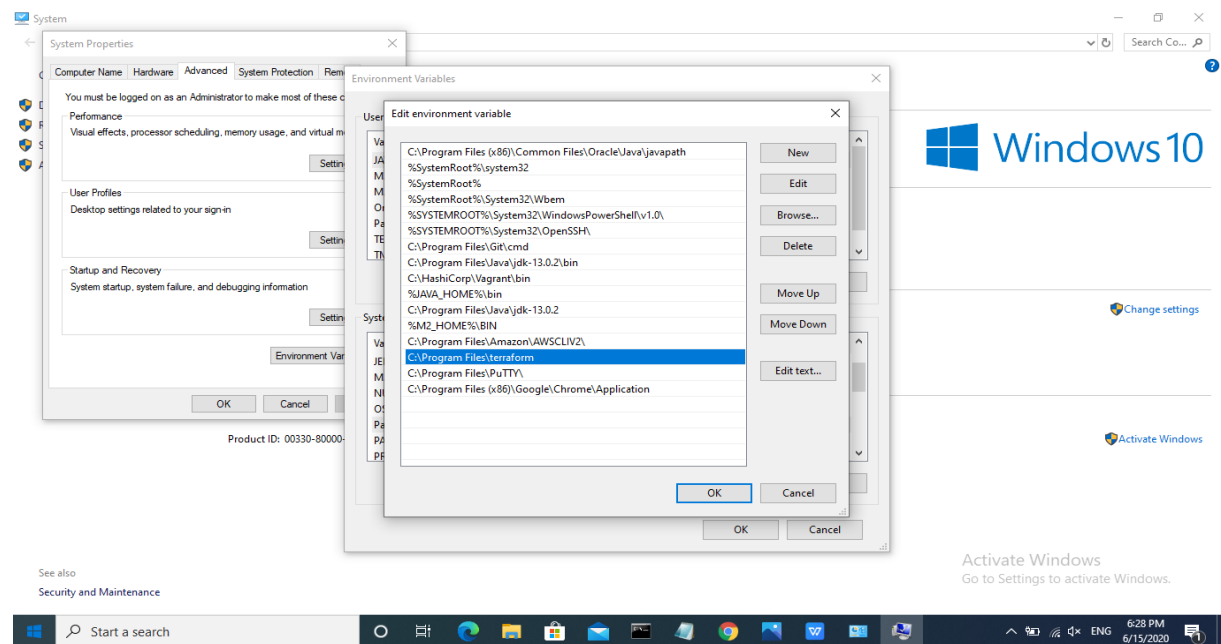
How to do the configuration

1- Download it on your system from the given URL

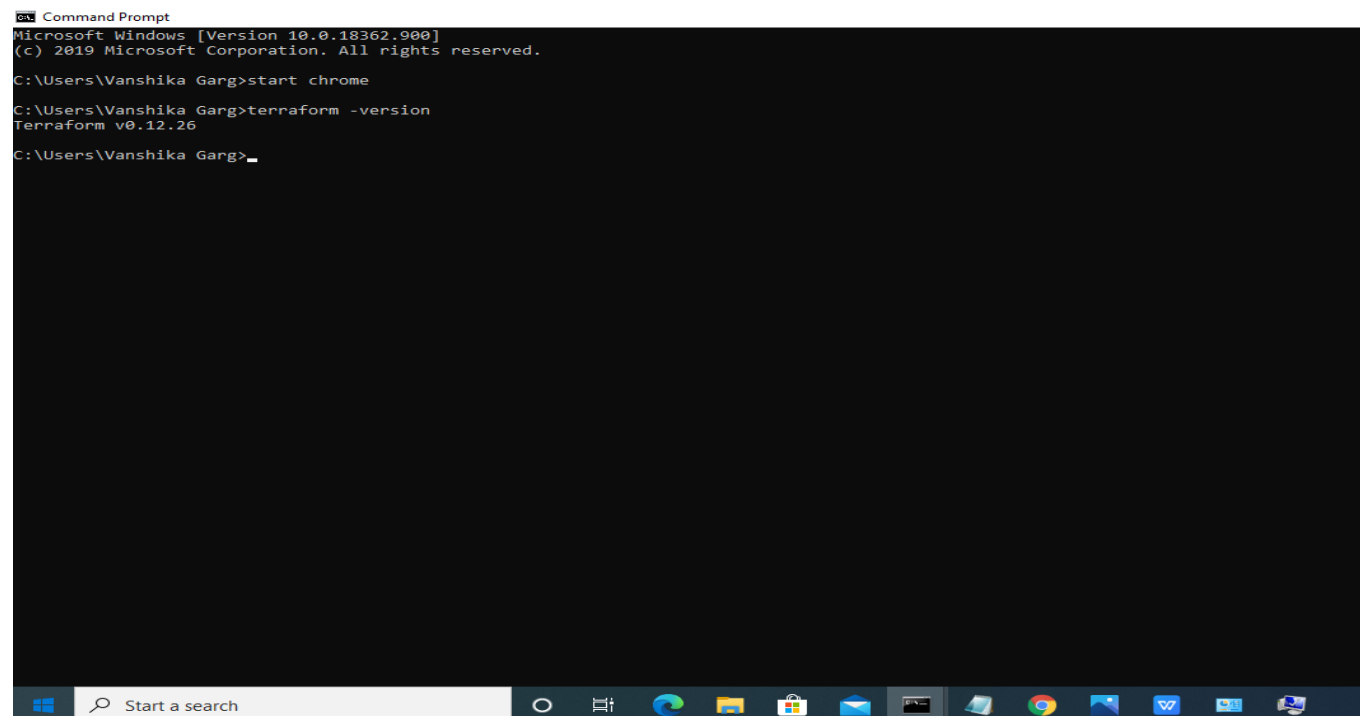
<https://www.terraform.io/downloads.html>



2- Set the path



3- Check whether it has been working properly or not by running the command terraform -version



4-Make a directory to configure AWS by giving your credentials. Make the file using the extension .tf. Run the terraform init command. Terraform init command is used to initialize a working directory containing Terraform configuration files. This is the first command that should be run after writing a new Terraform configuration. It will provide you the plugins.

```
er@osel3:~/aws$ terraform init
Initializing the backend...

Initializing provider plugins...

The following providers do not have any version constraints in configuration,
so the latest version was installed.

To prevent automatic upgrades to new major versions that may contain breaking
changes, it is recommended to add version = "..." constraints to the
corresponding provider blocks in configuration, with the constraint strings
suggested below.

* provider.aws: version = "~> 2.66"
* provider.null: version = "~> 2.1"

Warning: Interpolation-only expressions are deprecated

   on g1.tf line 81, in resource "aws_volume_attachment" "attach1":
   81:   volume_id   = "${aws_ebs_volume.e1.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 4 more similar warnings elsewhere)

Terraform has been successfully initialized!

You may now begin working with Terraform. Try running "terraform plan" to see
any changes that are required for your infrastructure. All Terraform commands
should now work.

If you ever set or change modules or backend configuration for Terraform,
rerun this command to reinitialize your working directory. If you forget, other
commands will detect it and remind you to do so if necessary.
```

```
provider "aws"{
region="ap-south-1"
profile="Garg"
}
resource "aws_security_group" "security1tera" {
  name      = "security1tera"
  description = "Security for instance"
  vpc_id    = "vpc-68f0ed00"

  ingress {
    from_port = 443
    to_port   = 443
    protocol  = "tcp"
    cidr_blocks = ["0.0.0.0/0"]
  }
  ingress {
    from_port = 80
    to_port   = 80
    protocol  = "tcp"
    cidr_blocks = ["0.0.0.0/0"]
  }
}
```

Activat
Go to S

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

Activate Windows
Go to Settings to activate Windows.

```
vanshika059 - Notepad
File Edit Format View Help

key_name = "os1"

security_groups=["${aws_security_group.security1.tera.name}"]
tags = {
    Name = "Vgwebos1"
}
}

resource "aws_vpc" "vpc" {
    cidr_block = "10.0.0.0/16"
}

resource "aws_vpn_gateway" "vpn_gateway" {
    vpc_id = aws_vpc.vpc.id
}

resource "aws_customer_gateway" "customer_gateway" {
```

```
vanshika059 - Notepad
File Edit Format View Help

    vpc_id = aws_vpc.vpc.id
}

resource "aws_customer_gateway" "customer_gateway" {
    bgp_asn  = 65000
    ip_address = "172.0.0.1"
    type     = "ipsec.1"
}

resource "aws_vpn_connection" "main" {
    vpn_gateway_id   = aws_vpn_gateway.vpn_gateway.id
    customer_gateway_id = aws_customer_gateway.customer_gateway.id
    type             = "ipsec.1"
    static_routes_only = true
}

resource "aws_s3_bucket" "nonu1" {
    bucket = "vanshika059"
    acl    = "public-read"
}

Activate Windows
Go to Settings to activate Windows.
```

```
Command Prompt
destroy complete! Resources: 6 destroyed.

C:\Users\Vanshika Gang\tena\spcm>terraform apply -auto-approve
aws_customer_gateway.customer_gateway: Creating...
aws_vpc.vpc: Creating...
aws_security_group.security1tera: Creating...
aws_s3_bucket.nonu1: Creating...
aws_security_group.security1tera: Creation complete after 2s [id=sg-0ff86b5e5969ea243]
aws_instance.web[0]: Creating...
aws_instance.web[1]: Creating...
aws_vpc.vpc: Creation complete after 4s [id=vpc-0e63a2dcf498f3a30]
aws_vpn_gateway.vpn_gateway: Creating...
aws_s3_bucket.nonu1: Creation complete after 4s [id=vanshika059]
aws_customer_gateway.customer_gateway: Still creating... [10s elapsed]
aws_customer_gateway.customer_gateway: Creation complete after 11s [id=cgw-03ff46943ac983dd7]
aws_instance.web[1]: Still creating... [10s elapsed]
aws_instance.web[0]: Still creating... [10s elapsed]
aws_vpn_gateway.vpn_gateway: Creation complete after 9s [id=vgw-05cfe1048f879361b]
aws_vpn_connection.main: Creating...
aws_instance.web[1]: Still creating... [20s elapsed]
aws_instance.web[0]: Still creating... [20s elapsed]
aws_vpn_connection.main: Still creating... [10s elapsed]
aws_instance.web[1]: Creation complete after 28s [id=i-0da53dca75f4688fb]
aws_instance.web[0]: Still creating... [30s elapsed]
aws_vpn_connection.main: Still creating... [20s elapsed]
aws_instance.web[0]: Creation complete after 35s [id=i-05f6783c858ce3151]
aws_vpn_connection.main: Still creating... [30s elapsed]
aws_vpn_connection.main: Still creating... [40s elapsed]
aws_vpn_connection.main: Still creating... [50s elapsed]
aws_vpn_connection.main: Still creating... [1m0s elapsed]
aws_vpn_connection.main: Still creating... [1m10s elapsed]
aws_vpn_connection.main: Still creating... [1m20s elapsed]
aws_vpn_connection.main: Still creating... [1m30s elapsed]
aws_vpn_connection.main: Still creating... [1m40s elapsed]
aws_vpn_connection.main: Still creating... [1m50s elapsed]
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aws_vpn_connection.main: Still creating... [2m50s elapsed]
aws_vpn_connection.main: Still creating... [3m0s elapsed]
aws_vpn_connection.main: Still creating... [3m10s elapsed]
aws_vpn_connection.main: Still creating... [3m20s elapsed]
aws_vpn_connection.main: Still creating... [3m30s elapsed]
aws_vpn_connection.main: Creation complete after 3m38s [id=vpn-09de4f710cf5aa670]

Apply complete! Resources: 8 added, 0 changed, 0 destroyed.
```

```
Command Prompt

aws_vpc.vpc: Creation complete after 4s [id=vpc-0e63a2dcf498f3a30]
aws_vpn_gateway.vpn_gateway: Creating...
aws_s3_bucket.nonu1: Creation complete after 4s [id=vanshika059]
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```

← → ↻ 🏠 🔒 ap-south-1.console.aws.amazon.com/ec2/v2/home?region=ap-south-1#Instances:instanceState=running

aws Services ▾

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New EC2 Experience Tell us what you think

EC2 Dashboard **New**

Events **New**

Tags

Limits

▼ Instances

Instances **New**

Instance Types

Launch Templates

Spot Requests

Savings Plans

Reserved Instances

Dedicated Hosts **New**

Capacity Reservations

▼ Images

AMIs

▼ Elastic Block Store

Instances (2/3) Info

Filter instances

Instance state: running X Clear filters

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
<input type="checkbox"/>	wordpress	i-0c7c356234e79db65	Running	t2.micro	2/2 checks ...	No alarms +	ap-south-1a
<input checked="" type="checkbox"/>	Vgwebos1	i-0da53dca75f4688fb	Running	t2.micro	2/2 checks ...	No alarms +	ap-south-1a
<input checked="" type="checkbox"/>	Vgwebos1	i-05f6783c858ce3151	Running	t2.micro	2/2 checks ...	No alarms +	ap-south-1a

Add to dashboard 1h 3h 12h 1d 3d 1w custom ▾

Activate Windows Go to Settings to activate Windows.

← → ↻ 🏠 🔒 ap-south-1.console.aws.amazon.com/vpc/home?region=ap-south-1#VpnConnections:sort=VpnConnectionId

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New VPC Experience Tell us what you think

Elastic IPs **New**

Managed Prefix Lists **New**

Endpoints

Endpoint Services

NAT Gateways **New**

Peering Connections

▼ SECURITY

Network ACLs

Security Groups **New**

▼ VIRTUAL PRIVATE NETWORK (VPN)

Customer Gateways

Virtual Private Gateways

Site-to-Site VPN Connections

Client VPN Endpoints

Create VPN Connection Download Configuration Actions ▾

Filter by tags and attributes or search by keyword

1 to 3 of 3

	Name	VPN ID	State	Virtual Private Gateway	Transit Gateway	Customer Gateway
<input type="checkbox"/>		vpn-0273a272a382ea000	deleted	vgw-0c8013a53a491fb27	-	cgw-0d296df5cfce11dbe
<input type="checkbox"/>		vpn-09de4f710cf5aa670	available	vgw-05cfe1048b79361b	-	cgw-03f46943ac983dd7
<input type="checkbox"/>		vpn-0a28637a3c68f9340	deleted	vgw-063fc3f2a121f73a5	-	cgw-015a61d694cddb281

Activate Windows Go to Settings to activate Windows.

← → ↻ 🏠 🔒 ap-south-1.console.aws.amazon.com/vpc/home?region=ap-south-1#VpnGateways:sort=VpnGatewayId

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Create Virtual Private Gateway Actions ▾

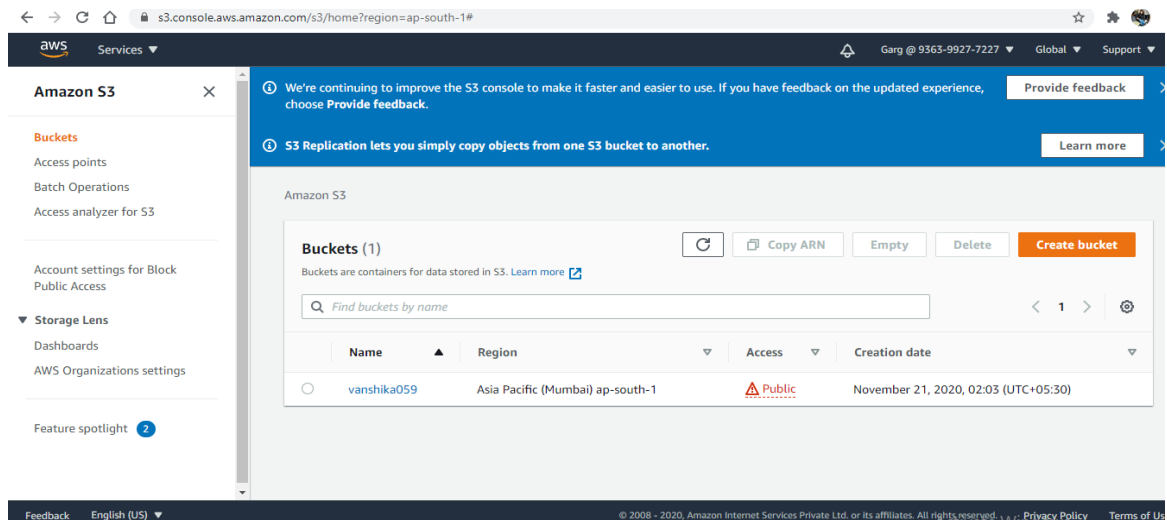
Filter by tags and attributes or search by keyword

1 to 3 of 3

	Name	ID	State	Type	VPC	ASN (Amazon side)
<input type="checkbox"/>		vgw-05cfe1048b79361b	attached	ipsec.1	vpc-0e63a2dc4f98f3a30	64512
<input type="checkbox"/>		vgw-063fc3f2a121f73a5	deleted	ipsec.1	-	64512
<input type="checkbox"/>		vgw-0c8013a53a491fb27	deleted	ipsec.1	-	64512

Select a virtual private gateway above

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```
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