

## Adv.DevOps Exp 05

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### Adv.DevOps Experiment 5

Aim- To understand terraform lifecycle, core concepts / terminologies and install it on linux machine.

Theory -

Terraform is an open source "Infrastructure as Code" tool, created by HashiCorp.

Terraform enables developers to use high-level configuration language called HCL (HashiCorp Configuration Language) for running an application. It is one of the most popular infrastructure across multiple cloud automation tools available.

Why Terraform ?

- 1) Open source - Terraform is backed by large communities of contributors who build plugins to platform. Regardless of which cloud you use, its easy to find plugins, extensions and professional support.
- 2) Immutable infrastructure - Most infrastructure as code tools create mutable infrastructure, means infrastructure can change to accomodate changes.

How does Terraform work ?

Terraform allows users to define their entire infrastructure simply by using

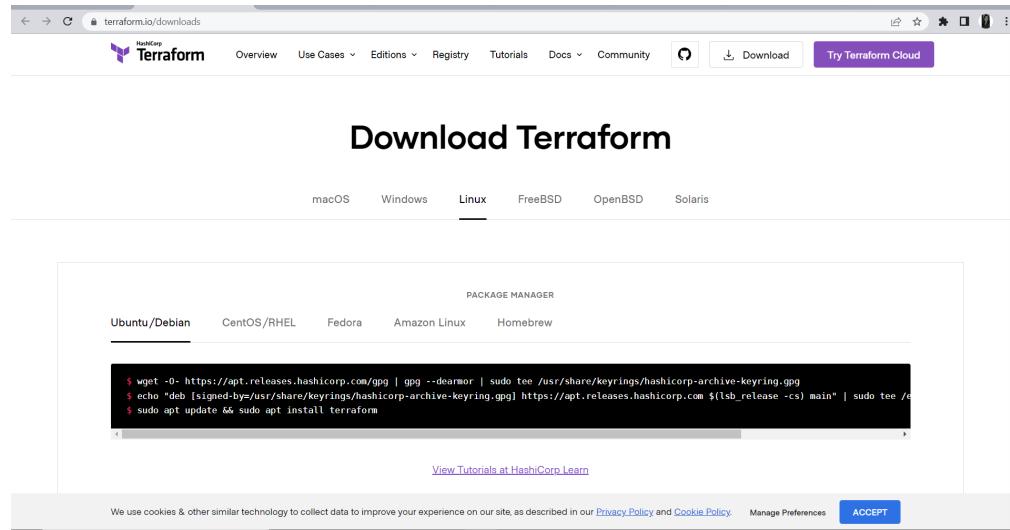
configuration files. When a command is given to deploy and run a server, database or load balancer, Terraform parses the code and translates it into an application programming interface (API) to resource providers.

Terraform has 2 important components -

- a) Terraform core
- b) Terraform plugins.

## Implementation-

**Step 1- To install Terraform visit website:<https://www.terraform.io/downloads.html>**



Select the Operating System Windows followed by either 32bit or 64 bit based on your OS type.

**Step 2- For ubuntu website suggested 3 commands-**

**wget -O- https://apt.releases.hashicorp.com/gpg | gpg --dearmor | sudo tee /usr/share/keyrings/hashicorp-archive-keyring.gpg**

A screenshot of a terminal window titled 'ishika@ishika-VirtualBox: ~'. The user runs the command 'wget -O- https://apt.releases.hashicorp.com/gpg | gpg --dearmor | sudo tee /usr/share/keyrings/hashicorp-archive-keyring.gpg'. The output shows the progress of the download and the successful execution of the command, indicating that the key has been added to the system's keyring. The terminal also displays some standard system logs and error messages.

```
echo "deb [signed-by=/usr/share/keyrings/hashicorp-archive-keyring.gpg]
https://apt.releases.hashicorp.com $(lsb_release -cs) main" | sudo tee
/etc/apt/sources.list.d/hashicorp.list
```

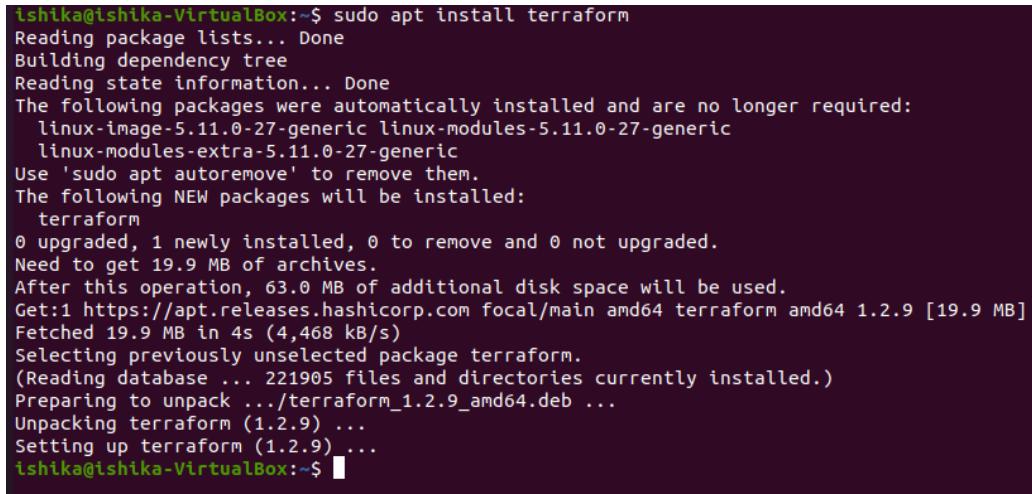


A terminal window titled "ishika@ishika-VirtualBox: ~". The command entered is:

```
ishika@ishika-VirtualBox:~$ echo "deb [signed-by=/usr/share/keyrings/hashicorp-archive-keyring.gpg] https://apt.releases.hashicorp.com $(lsb_release -cs) main" | sudo tee /etc/apt/sources.list.d/hashicorp.list
```

The output shows the command being run and the resulting file content.

## sudo apt install terraform

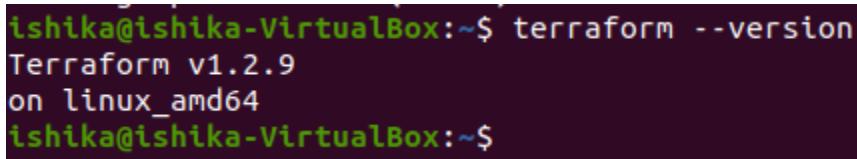


A terminal window titled "ishika@ishika-VirtualBox: ~". The command entered is:

```
ishika@ishika-VirtualBox:~$ sudo apt install terraform
```

The output shows the package installation process, including dependencies and the download of the Terraform package from the HashiCorp repository.

**terraform --version** → Displays installed version of Terraform



A terminal window titled "ishika@ishika-VirtualBox: ~". The command entered is:

```
ishika@ishika-VirtualBox:~$ terraform --version
```

The output shows the Terraform version information:

```
Terraform v1.2.9  
on linux_amd64
```

Conclusion - We successfully installed tensorflow terraform on linux machine using command - sudo apt install terraform of version - v1.2.9