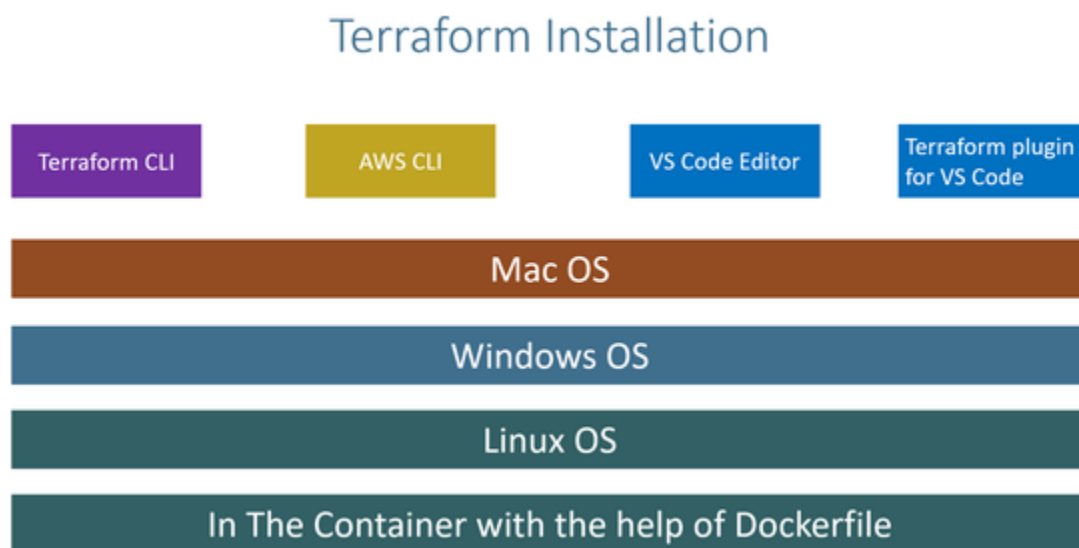# 03-Terraform installation

Tools:

- Install Terraform CLI
- Install AWS CLI
- Install VS Code Editor
- Install HashiCorp Terraform plugin for VS Code
- Terragrunt
- Install all packages using Dockerfile

Terraform Installation

| Terraform CLI | AWS CLI | VS Code Editor | Terraform plugin for VS Code |

| Mac OS |
| Windows OS |
| Linux OS |
| In The Container with the help of Dockerfile |

VS Code Installation

1- On Mac OS

https://brew.sh/

```
xcode-select --install
/bin/bash -c "$(curl -fsSL https://raw.githubusercontent.com/Homebrew
/install/HEAD/install.sh)"
```

```
brew install --cask visual-studio-code
```

2- Linux (Ubuntu)

```
sudo apt install code
```

3- On Windows

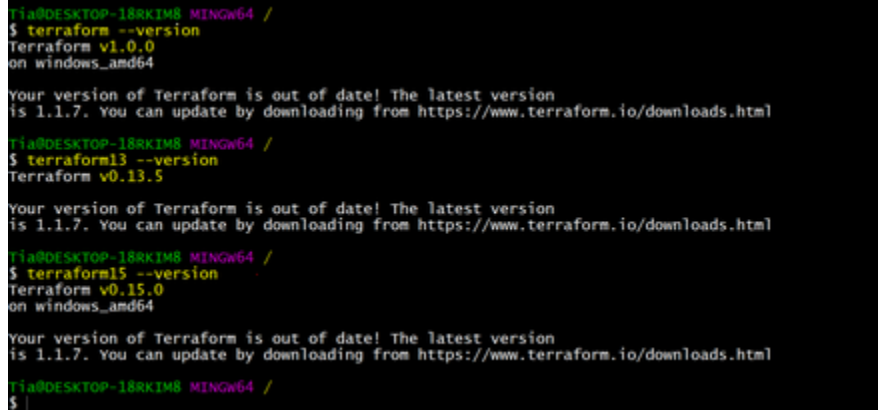Download Visual Studio Code
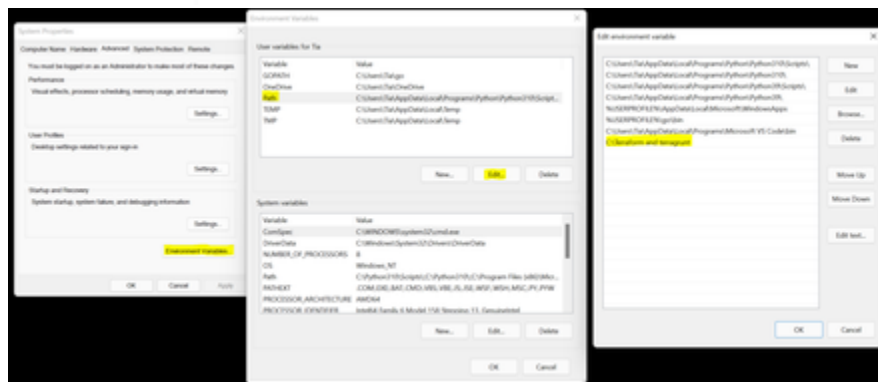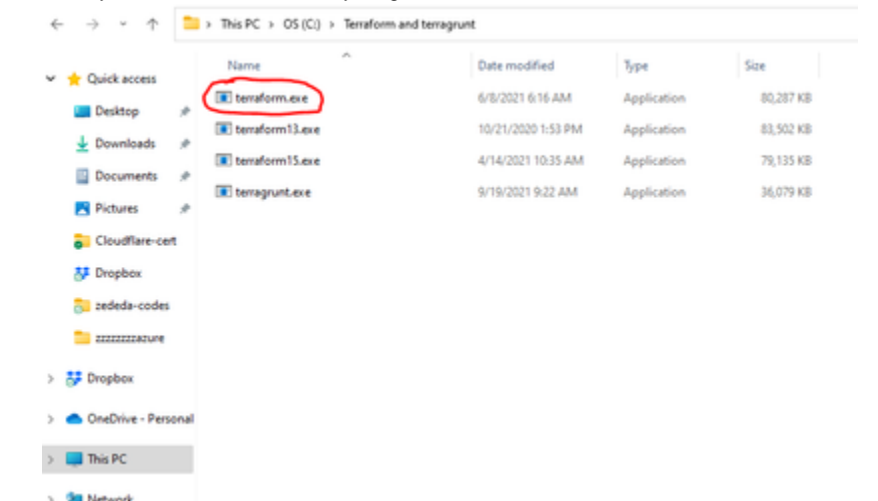
Terraform installation on Windows

- Do not download it straight from the HashiCorp website because it will only download and install the latest version of terraform
- Download and install a specific release instead

1. Download the binary

2. Unzip it

3. Create a folder called terraform on the C drive and paste the `terraform.exe`

4. Type `env` on the windows search bar and at it to path `C:\terraform`

We can install multiple versions of Terraform here. The default version that will run if run any terraform command here will be just `terraform`. If we want to run 13 or 15, we should use `terraform13` and `terraform15`.

PS: Numbers here are just to identify the version. It can be anything

Terraform installation on Mac OS

https://opensource.com/article/20/11/tfenv

https://stackoverflow.com/questions/56283424/upgrade-terraform-to-specific-version

```
1. install tfenv and link it
brew install tfenv
brew link tfenv

2. search the remote repo to see all the terraform version
tfenv list-remote

3. Install a particular version
tfenv install 0.13.5
tfenv install 0.13.7

4. Switch to a particular version
tfenv use 0.13.5
tfenv use 0.13.7

5. list all install version
tfenv list

6. Help
tfenv

```
Commands:
    install   Install a specific version of Terraform
    use   Switch a version to use
    uninstall   Uninstall a specific version of Terraform
    list   List all installed versions
    list-remote   List all installable versions
    version-name Print current version
    init   Update environment to use tfenv correctly.
    ```
```

Terraform and Terragrunt installation on Linux

https://www.terraform.io/downloads

- Do not download it straight from the HashiCorp website because it will only download and install the latest version of terraform
- Download and install a specific release instead

https://releases.hashicorp.com/terraform/

Terraform v1.0.0 installation on Linux

```
### Terraform v1.0.0 installation on Linux

wget https://releases.hashicorp.com/terraform/1.0.0/terraform_1.0.0
_linux_amd64.zip
unzip terraform_1.0.0_linux_amd64.zip
./terraform

### Move the binary to the path so that you can run Terrafrom from any
location
mv terraform /usr/local/bin
terraform -version
```

Terragrunt Installation On Windows

https://github.com/gruntwork-io/terragrunt/releases

1. Download the binary
2. Unzip it
3. Create a folder called terraform on the C drive and paste the `terragrunt.exe`
4. Type `env` on the windows search bar and at it to path `C:\terragrunt`

```
terragrunt --version
```

Terragrunt Installation On Linux

https://github.com/gruntwork-io/terragrunt/releases

```
wget https://github.com/gruntwork-io/terragrunt/releases/download/v0.
26.7/terragrunt_linux_amd64
mv terragrunt_linux_amd64 terragrunt
chmod u+x terragrunt
mv terragrunt /usr/local/bin/terragrunt
terragrunt --version
```

Terragrunt Installation On Mac OS

https://docs.aws.amazon.com/cli/latest/userguide/getting-started-install.html#cliv2-linux-install

```
brew install terragrunt
```

AWS CLI Installation on Mac OS

```
brew install awscli
```

AWS CLI Installation on Windows

https://docs.aws.amazon.com/cli/latest/userguide/getting-started-install.html#cliv2-linux-install

How to install and configure the AWS CLI on Windows: https://www.youtube.com/watch?v=jCHOsMPbcV0

AWS CLI Installation on Linux

https://docs.aws.amazon.com/cli/latest/userguide/getting-started-install.html#cliv2-linux-install

```
curl "https://awscli.amazonaws.com/awscli-exe-linux-x86_64.zip" -o
"awscliv2.zip"
unzip awscliv2.zip
sudo ./aws/install
sudo ./aws/install -i /usr/local/aws-cli -b /usr/local/bin
aws --version
```

Region: us-esat-1

- Output can be:
  - Table
  - Json (default)

All tools installed using a Dockerfile

```
FROM ubuntu:latest

RUN apt-get update -y
RUN apt-get install apt-utils -y \
    wget \
    curl \
    vim \
    unzip \
    git

### AWS CLI INSTALLATIN
RUN curl "https://awscli.amazonaws.com/awscli-exe-linux-x86_64.zip" -o
"awscliv2.zip" \
    && unzip awscliv2.zip \
    && aws/install \
    && rm -rf awscliv2.zip \
    && rm -rf aws

### TERRAFORM INSTALLATIN
ENV TERRAFORM_VERSION 1.0.0
WORKDIR /tmp
RUN wget -q https://releases.hashicorp.com/terraform
/${TERRAFORM_VERSION}/terraform_${TERRAFORM_VERSION}_linux_amd64.zip \
    && unzip terraform_${TERRAFORM_VERSION}_linux_amd64.zip \
    && mv terraform /usr/local/bin \
    && rm -f terraform terraform_${TERRAFORM_VERSION}_linux_amd64.zip

### TERRAGRUNT INSTALLATIN
ENV TERRAGRUNT_VERSION v0.26.7
RUN wget https://github.com/gruntwork-io/terragrunt/releases/download
/${TERRAGRUNT_VERSION}/terragrunt_linux_amd64 \
    && mv terragrunt_linux_amd64 terragrunt \
    && chmod u+x terragrunt \
    && mv terragrunt /usr/local/bin/terragrunt
```

```
docker build -t terraform .
docker run --rm -it --workdir "/home/$USER" -v "$PWD":"/home/$USER"
terraform bash
```