

Practical Manual on Terraform

Terraform is an infrastructure as code (IaC) tool that allows you to build, change, and version infrastructure safely and efficiently. This includes low-level components such as compute instances, storage, and networking, as well as high level components such as DNS entries, SaaS features, etc.

Terraform can manage infrastructure on multiple cloud platforms. Terraform's state allows you to track resource changes throughout your deployments. You can commit your configurations to version control to safely collaborate on infrastructure. Terraform plugins called providers let Terraform interact with cloud platform and other services via their application programming interfaces (APIs).

A) Installation and Configuration of Terraform in Windows

Step 1: Download terraform

To install Terraform, First Download the Terraform Cli Utility for windows from terraforms official website

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

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



Install Terraform

1.9.4 (latest) ▾

macOS

Package manager

```
brew tap hashicorp/tap  
brew install hashicorp/tap/terraform
```



Binary download

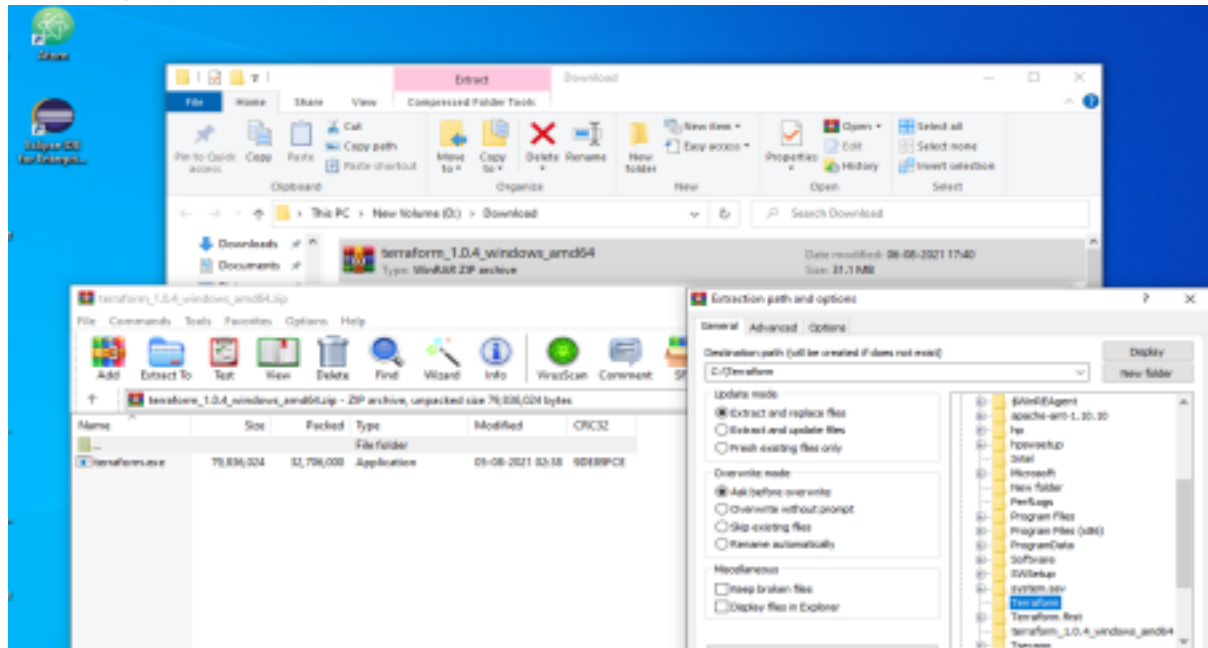
AMD64

Download

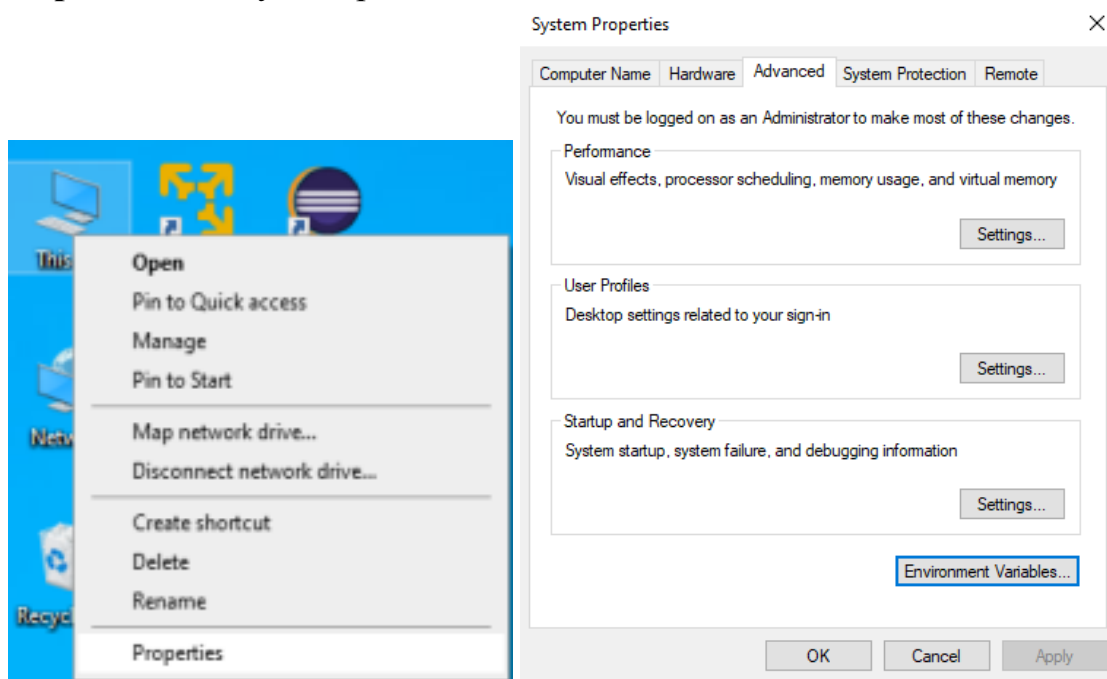
ARM64

Download

Step 2: Extract the downloaded setup file Terraform.exe in C:\Terraform directory



Step 3: Set the System path for Terraform in Environment Variables



Environment Variables



User variables for INFT

Variable	Value
OneDrive	C:\Users\INFT\OneDrive
Path	C:\Users\INFT\AppData\Local\Microsoft\WindowsApps;C:\Users\I...
TEMP	C:\Users\INFT\AppData\Local\Temp
TMP	C:\Users\INFT\AppData\Local\Temp

New...

Edit...

Delete

System variables

Variable	Value
ComSpec	C:\Windows\system32\cmd.exe
DriverData	C:\Windows\System32\Drivers\DriverData
NUMBER_OF_PROCESSORS	8
OS	Windows_NT
Path	C:\Program Files (x86)\Common Files\Oracle\Java\javapath;C:\Win...
PATHEXT	.COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.WSF;.WSH;.MSC
PROCESSOR_ARCHITECTURE	AMD64

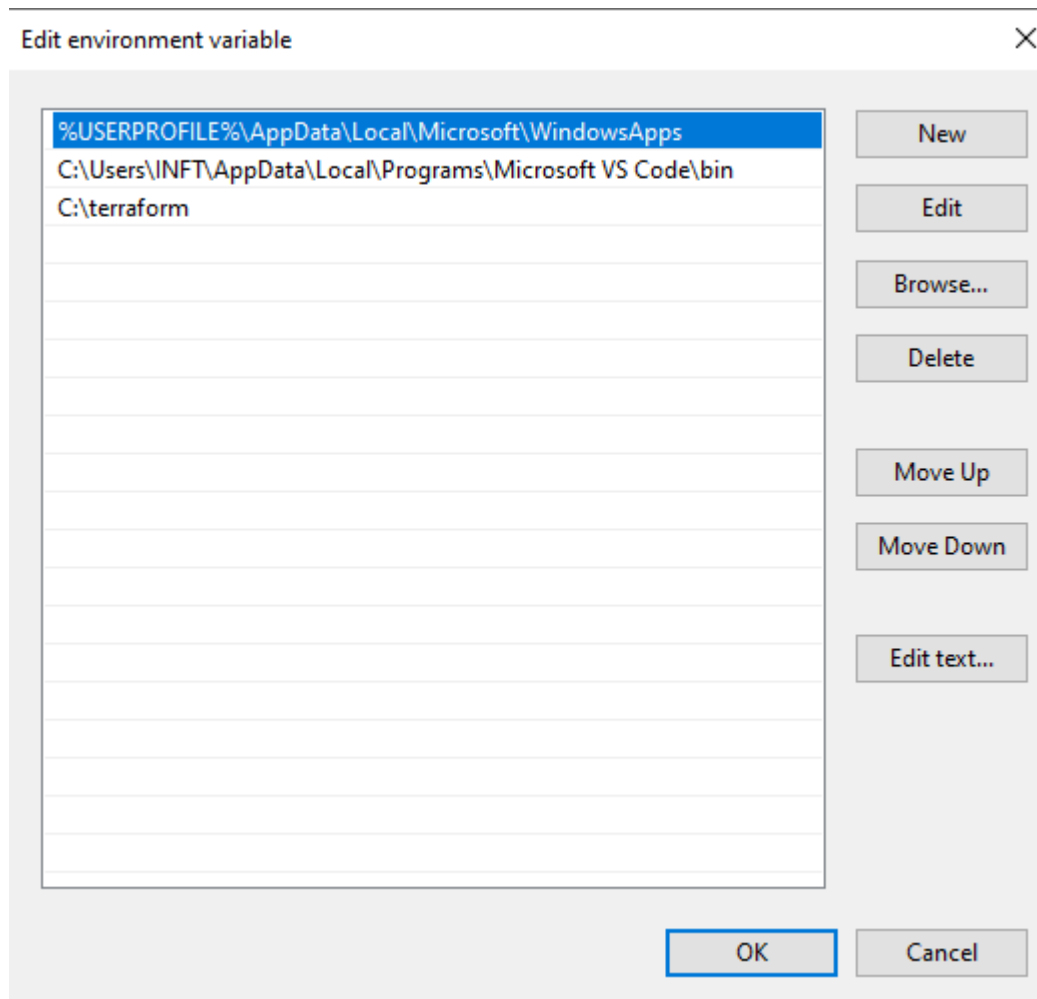
New...

Edit...

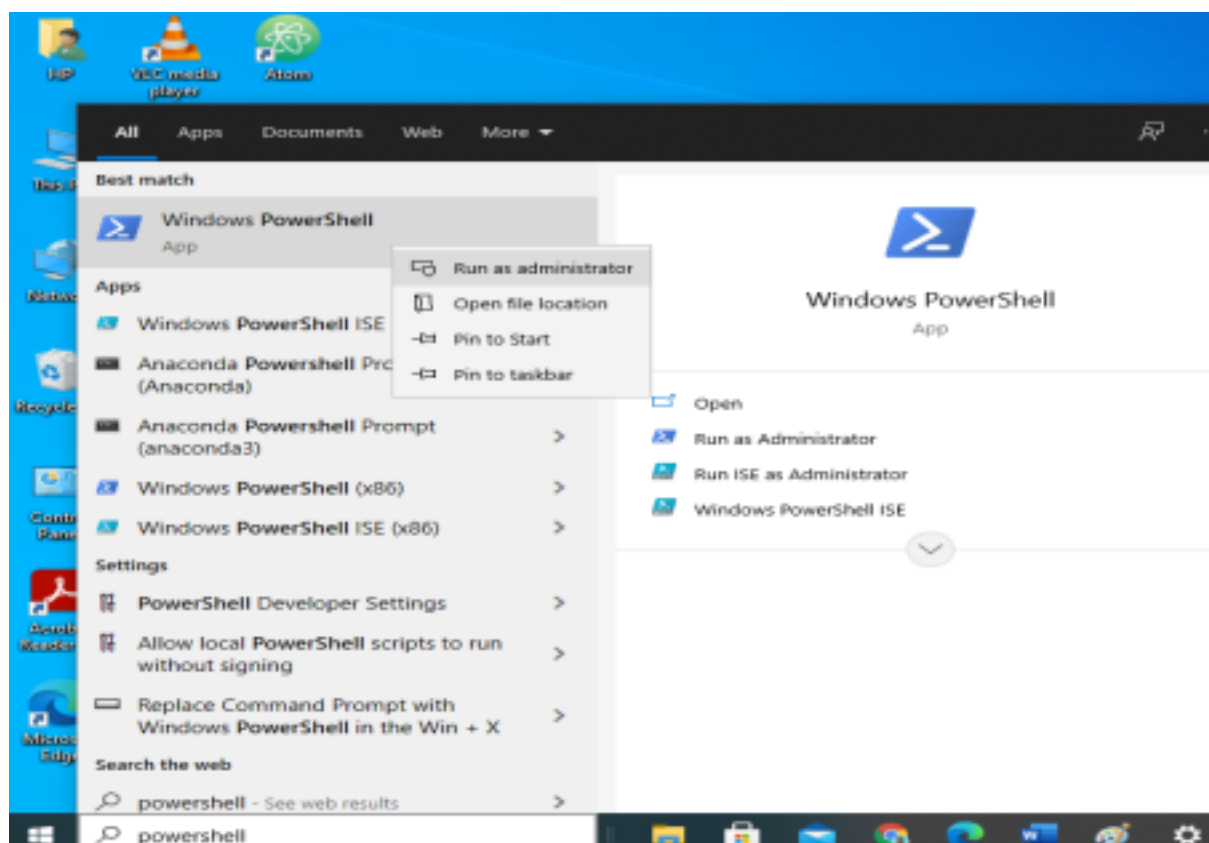
Delete

OK

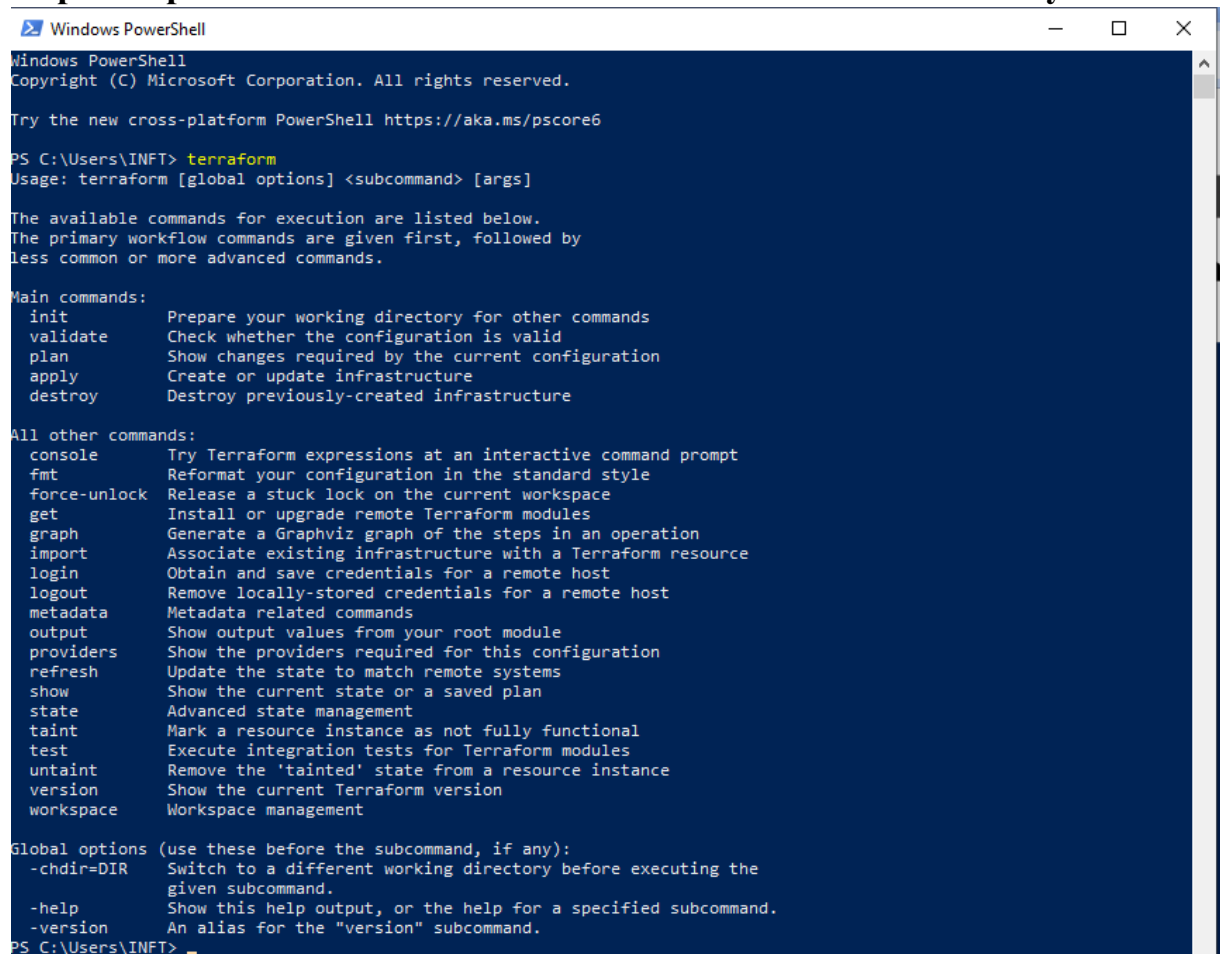
Cancel



Step 4: Open PowerShell with Admin Access



Step 5 : Open Terraform in PowerShell and check its functionality



```
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\INFT> terraform
Usage: terraform [global options] <subcommand> [args]

The available commands for execution are listed below.
The primary workflow commands are given first, followed by
less common or more advanced commands.

Main commands:
  init      Prepare your working directory for other commands
  validate  Check whether the configuration is valid
  plan      Show changes required by the current configuration
  apply     Create or update infrastructure
  destroy   Destroy previously-created infrastructure

All other commands:
  console   Try Terraform expressions at an interactive command prompt
  fmt       Reformat your configuration in the standard style
  force-unlock Release a stuck lock on the current workspace
  get       Install or upgrade remote Terraform modules
  graph     Generate a Graphviz graph of the steps in an operation
  import    Associate existing infrastructure with a Terraform resource
  login     Obtain and save credentials for a remote host
  logout    Remove locally-stored credentials for a remote host
  metadata  Metadata related commands
  output    Show output values from your root module
  providers Show the providers required for this configuration
  refresh   Update the state to match remote systems
  show      Show the current state or a saved plan
  state     Advanced state management
  taint     Mark a resource instance as not fully functional
  test      Execute integration tests for Terraform modules
  untaint   Remove the 'tainted' state from a resource instance
  version   Show the current Terraform version
  workspace Workspace management

Global options (use these before the subcommand, if any):
  -chdir=DIR  Switch to a different working directory before executing the
              given subcommand.
  -help       Show this help output, or the help for a specified subcommand.
  -version    An alias for the "version" subcommand.

PS C:\Users\INFT>
```

Note: If any error comes, then please recheck or set the path of Terraform in Environment variable again.