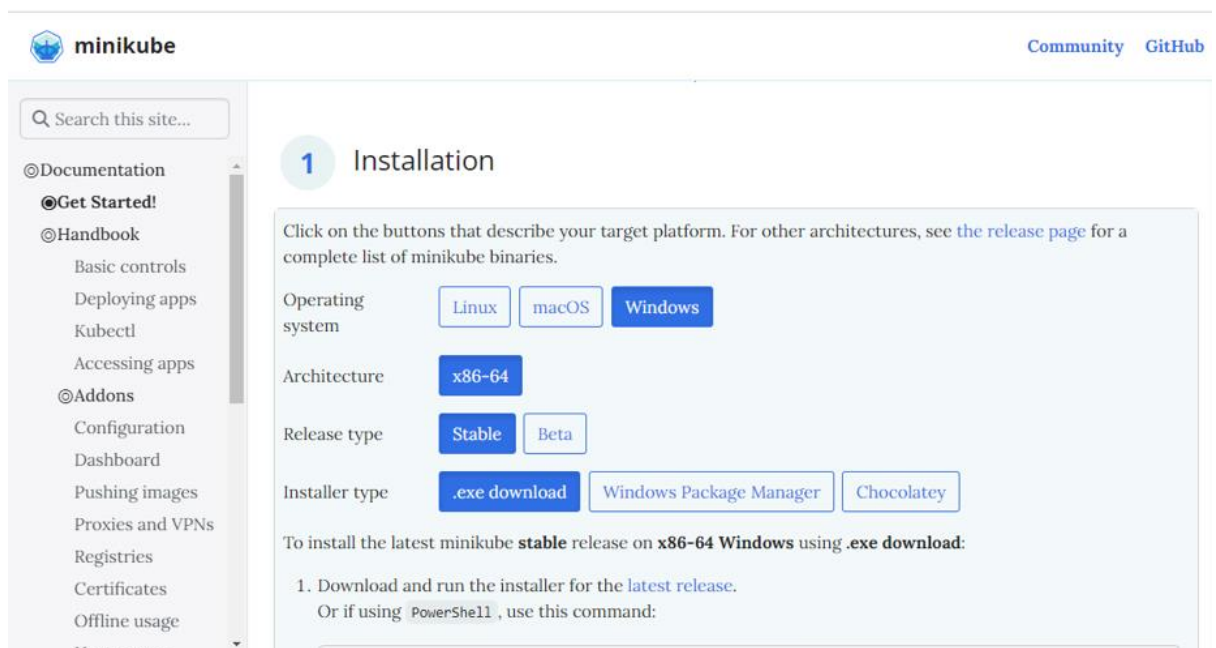# Assignment – 1

Tasks:

Task 1: Install minikube on your local machine and run the few commands of kubectl.

Steps to complete the tasks:

Step 1: Install Minikube:

a. Install Minikube according to your operating system. You can find installation instructions on the Minikube website:

https://minikube.sigs.k8s.io/docs/start/

Step 2: Download and run the installer for the latest release.
Or if using PowerShell, use this command:

New-Item -Path 'c:\' -Name 'minikube' -ItemType Directory -Force
Invoke-WebRequest   -OutFile   'c:\minikube\minikube.exe'   -Uri
'https://github.com/kubernetes/minikube/releases/latest/download/mini
kube-windows-amd64.exe' -UseBasicParsing

```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Writing web request
    Writing request stream... (Number of bytes written: 1104646)


    Directory: C:\


Mode                LastWriteTime        Length Name
----                -------------        ------ ----
d-----        28-02-2024    14:40               minikube


PS C:\Users\promact> Invoke-WebRequest -OutFile 'c:\minikube\minikube.exe' -Uri 'https://github.com/kubernetes/minikube/
releases/latest/download/minikube-windows-amd64.exe' -UseBasicParsing
```

Step 3: Add the minikube.exe binary to your PATH.
Make sure to run PowerShell as Administrator.

*$oldPath   =   [Environment]::GetEnvironmentVariable('Path',
[EnvironmentVariableTarget]::Machine)*
if ($oldPath.Split(';') -inotcontains 'C:\minikube'){
  [Environment]::SetEnvironmentVariable('Path', $('{0};C:\minikube' -
f $oldPath), [EnvironmentVariableTarget]::Machine)
}

```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\promact> $oldPath = [Environment]::GetEnvironmentVariable('Path', [EnvironmentVariableTarget]::Machine)
PS C:\Users\promact> if ($oldPath.Split(';') -inotcontains 'C:\minikube'){
>>   [Environment]::SetEnvironmentVariable('Path', $('{0};C:\minikube' -f $oldPath), [EnvironmentVariableTarget]::Machine)
>> }
PS C:\Users\promact>
```

Step 4: After installation, start Minikube by running:

minikube start

```
PS C:\Users\promact> minikube start
W0228 14:55:09.544898   17296 main.go:291] Unable to resolve the current Docker CLI context "default": context "default": context not found: open C:
\Users\promact\.docker\contexts\meta\37a8eec1ce19687d132fe29051dca629d164e2c4958ba141d5f4133a33f0688f\meta.json: The system cannot find the path spe
cified.
* minikube v1.32.0 on Microsoft Windows 11 Pro 10.0.22621.3155 Build 22621.3155
* Automatically selected the docker driver
* Using Docker Desktop driver with root privileges
* Starting control plane node minikube in cluster minikube
* Pulling base image ...
* Downloading Kubernetes v1.28.3 preload ...
    > gcr.io/k8s-minikube/kicbase...:  453.90 MiB / 453.90 MiB  100.00% 5.67 Mi
    > preloaded-images-k8s-v18-v1...:  403.35 MiB / 403.35 MiB  100.00% 4.73 Mi
* Creating docker container (CPUs=2, Memory=2200MB) ...
* Preparing Kubernetes v1.28.3 on Docker 24.0.7 ...
  - Generating certificates and keys ...
  - Booting up control plane ...
  - Configuring RBAC rules ...
* Configuring bridge CNI (Container Networking Interface) ...
  - Using image gcr.io/k8s-minikube/storage-provisioner:v5
* Verifying Kubernetes components...
* Enabled addons: storage-provisioner, default-storageclass
* Done! kubectl is now configured to use "minikube" cluster and "default" namespace by default
PS C:\Users\promact>
```

Task 2: Try to give alias to kubectl as "k".

Step 1: Open your terminal and run the following command to set up an alias for kubectl as "k":

New-Alias -Name k -Value kubectl

```
PS C:\Users\promact> New-Alias -Name k -Value kubectl
```

Task 3: Try out "kubectl get pods" and "kubectl get nodes" and check what are the information that console is giving back.

Step 1: Run kubectl commands:

To get information about the pods in your Kubernetes cluster, run:

- *k get pods.*

```
PS C:\Users\promact> k get pods
```

```
PS C:\Users\promact> k get pods
No resources found in default namespace.
```

To get information about the nodes in your Kubernetes cluster, run:
- *k get nodes*

```
PS C:\Users\promact> k get nodes
NAME       STATUS   ROLES          AGE   VERSION
minikube   Ready    control-plane   10m   v1.28.3
```

```
PS C:\Users\promact> k get nodes
NAME       STATUS   ROLES          AGE   VERSION
minikube   Ready    control-plane   10m   v1.28.3
```