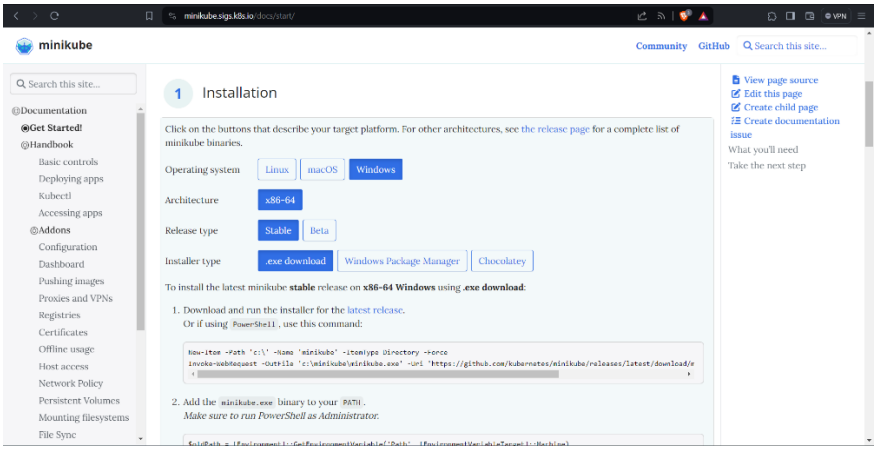
Tasks:

1. **Install minikube on your local machine and run the few commands of kubectl.**
2. **Try to give alias to kubectl as "k".**
3. **Try out "kubectl get pods" and "kubectl get nodes" and check what are the information that console is giving back.**
4. **Optional - Try to create EKS configuration.(Note that this will cause you cost. Also remember to delete all services which you created for EKS)**

Installing Minikube:

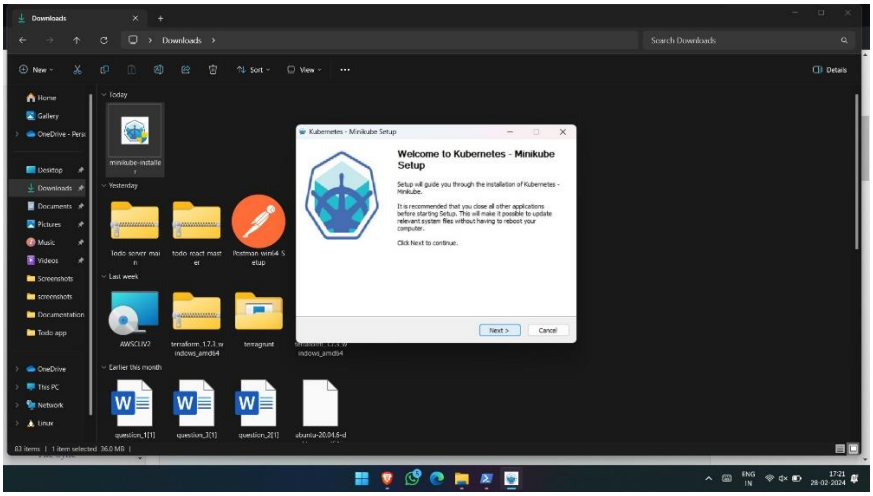
1. Install Minikube by following the official documentation for your operating system:

   Go to [Minikube-Installation]

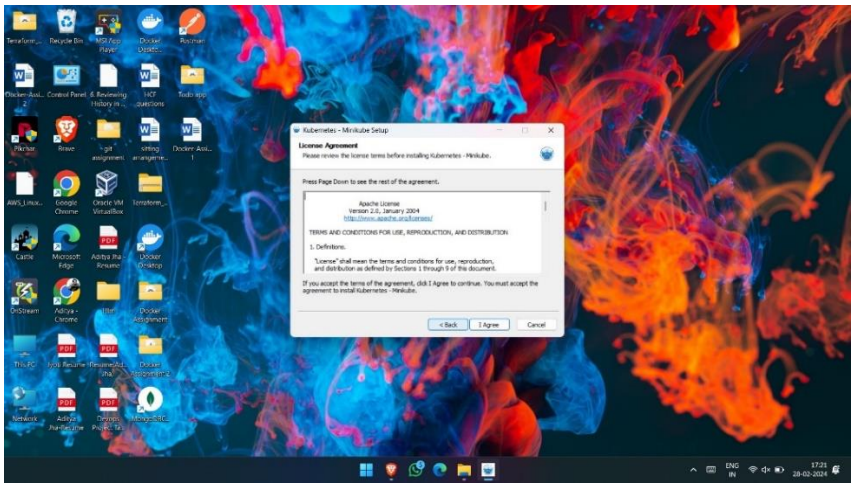


   Download and run the installer for the [latest release]. Then, Follow the onscreen instructions.

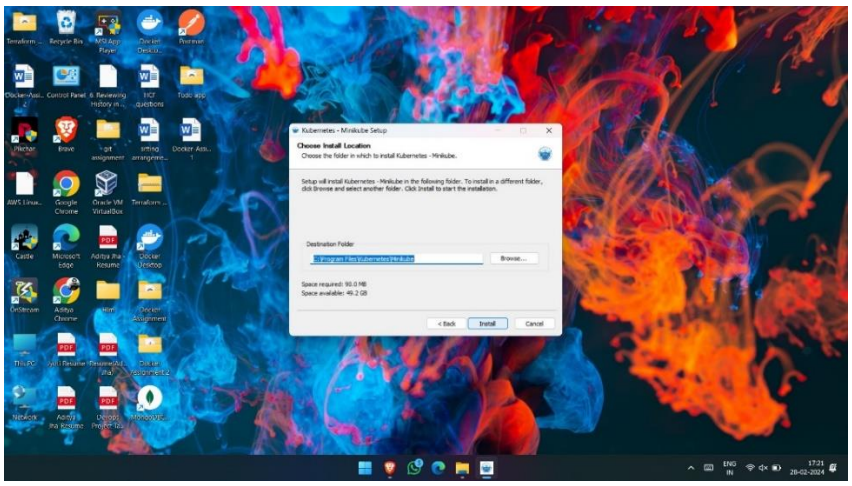
   i. Click “Next”.



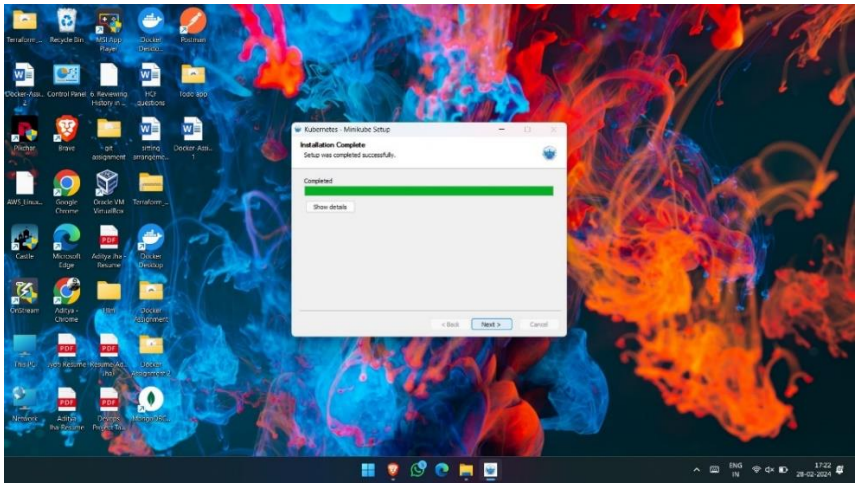
ii. Click “I Agree”.



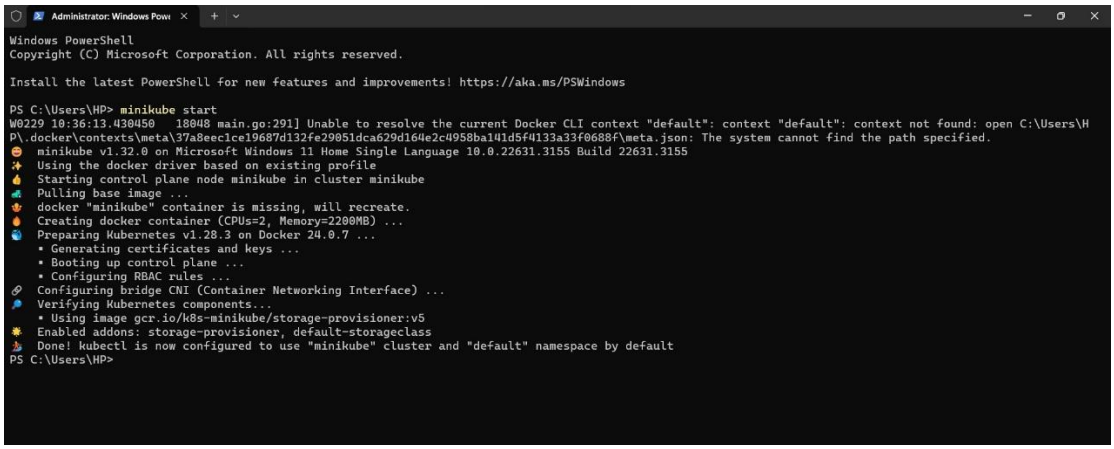
iii. Click “Install”



iv. Now, installation is complete. Click “Next”.



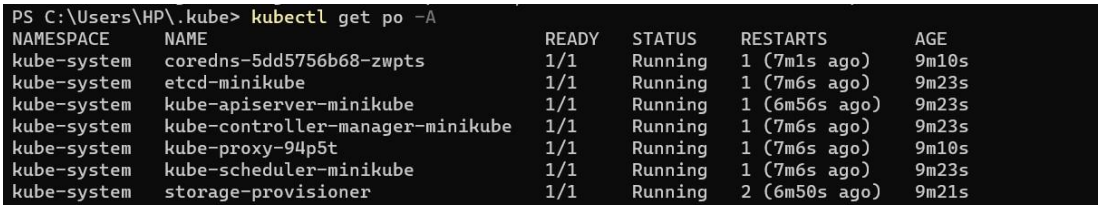
2. After installation, start Minikube by running the following command:
   minikube start



Using kubectl:

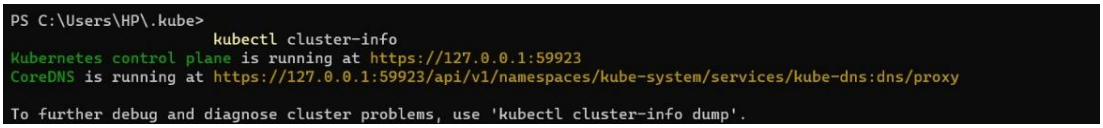
1. Few kubectl commands:

   (i) **kubectl get po -A** (This command is used to list all the pods in all namespaces in a Kubernetes cluster.)

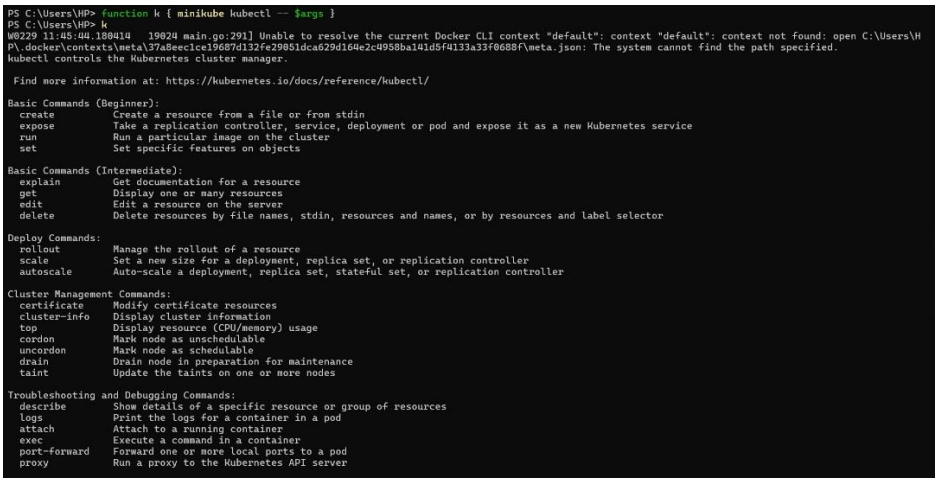


   (ii) **kubectl version –client** (This command provides information about the version of **kubectl** installed on my local machine.)

   (iii) **kubectl cluster-info** (This command is used to display information about the Kubernetes cluster that my **kubectl** command-line tool is currently configured to interact with.)



Now, let's give alias to kubectl as "k" in order to give alias as "k" we will run **function k { minikube kubectl -- $args }**

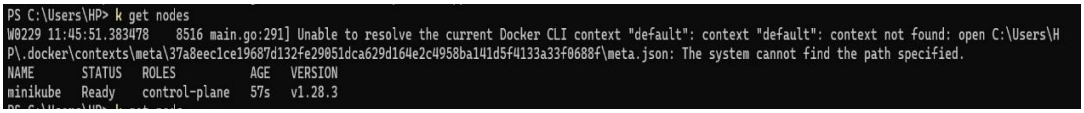


So, now we can use "k" instead of "kubectl"

(iv) **k get pods**: List pods in the default namespace. (This command shows the running pods in the default namespace. Pods are the smallest deployable units in Kubernetes.)

It is showing no resources found in default namespace because there is no resource created.

(v) **k get nodes**: List nodes in the cluster. (Nodes are the worker machines in the Kubernetes cluster. This command provides information about the nodes in the cluster.)



All of the above commands using k:

```
PS C:\Users\HP> k cluster-info
W0229 11:46:15.799506    2408 main.go:291] Unable to resolve the current Docker CLI context "default": context "default": context not found: open C:\Users\H
P\.docker\contexts\meta\37a8eec1ce19687d132fe29051dca629d164e2c4958ba141d5f4133a33f0688f\meta.json: The system cannot find the path specified.
Kubernetes control plane is running at https://127.0.0.1:61663
CoreDNS is running at https://127.0.0.1:61663/api/v1/namespaces/kube-system/services/kube-dns:dns/proxy

To further debug and diagnose cluster problems, use 'kubectl cluster-info dump'.
PS C:\Users\HP> k get po -A
W0229 11:46:38.348931    8308 main.go:291] Unable to resolve the current Docker CLI context "default": context "default": context not found: open C:\Users\H
P\.docker\contexts\meta\37a8eec1ce19687d132fe29051dca629d164e2c4958ba141d5f4133a33f0688f\meta.json: The system cannot find the path specified.
NAMESPACE     NAME                               READY   STATUS    RESTARTS      AGE
kube-system   coredns-5dd5756b68-2lrtp           1/1     Running   0             88s
kube-system   etcd-minikube                      1/1     Running   0             103s
kube-system   kube-apiserver-minikube            1/1     Running   0             100s
kube-system   kube-controller-manager-minikube   1/1     Running   0             100s
kube-system   kube-proxy-vk2pf                   1/1     Running   0             88s
kube-system   kube-scheduler-minikube            1/1     Running   0             100s
kube-system   storage-provisioner                1/1     Running   1 (87s ago)   98s
PS C:\Users\HP> k version --client
W0229 11:47:07.863016   20100 main.go:291] Unable to resolve the current Docker CLI context "default": context "default": context not found: open C:\Users\H
P\.docker\contexts\meta\37a8eec1ce19687d132fe29051dca629d164e2c4958ba141d5f4133a33f0688f\meta.json: The system cannot find the path specified.
Client Version: v1.28.3
Kustomize Version: v5.0.4-0.20230601165947-6ce0bf390ce3
```

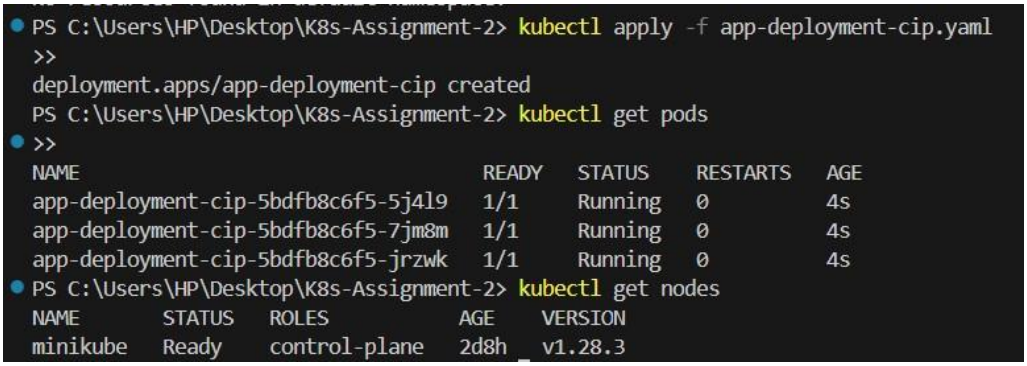
(vi) k api-resources (listing the api-resources)

```
PS C:\Users\HP> k api-resources
W0229 17:34:04.697867    8464 main.go:291] Unable to resolve the current Docker CLI context "default": context "default": context not found: open C:\Users\H
P\.docker\contexts\meta\37a8eec1ce19687d132fe29051dca629d164e2c4958ba141d5f4133a33f0688f\meta.json: The system cannot find the path specified.
NAME                              SHORTNAMES   APIVERSION                             NAMESPACED   KIND
bindings                                       v1                                     true         Binding
componentstatuses                 cs           v1                                     false        ComponentStatus
configmaps                        cm           v1                                     true         ConfigMap
endpoints                         ep           v1                                     true         Endpoints
events                            ev           v1                                     true         Event
limitranges                       limits       v1                                     true         LimitRange
namespaces                        ns           v1                                     false        Namespace
nodes                             no           v1                                     false        Node
persistentvolumeclaims            pvc          v1                                     true         PersistentVolumeClaim
persistentvolumes                 pv           v1                                     false        PersistentVolume
pods                              po           v1                                     true         Pod
podtemplates                                   v1                                     true         PodTemplate
replicationcontrollers            rc           v1                                     true         ReplicationController
resourcequotas                    quota        v1                                     true         ResourceQuota
secrets                                        v1                                     true         Secret
serviceaccounts                   sa           v1                                     true         ServiceAccount
services                          svc          v1                                     true         Service
mutatingwebhookconfigurations                  admissionregistration.k8s.io/v1        false        MutatingWebhookConfiguration
validatingwebhookconfigurations                admissionregistration.k8s.io/v1        false        ValidatingWebhookConfiguration
customresourcedefinitions         crd,crds     apiextensions.k8s.io/v1                false        CustomResourceDefinition
apiservices                                    apiregistration.k8s.io/v1              false        APIService
controllerrevisions                            apps/v1                                true         ControllerRevision
daemonsets                        ds           apps/v1                                true         DaemonSet
deployments                       deploy       apps/v1                                true         Deployment
replicasets                       rs           apps/v1                                true         ReplicaSet
statefulsets                      sts          apps/v1                                true         StatefulSet
selfsubjectreviews                             authentication.k8s.io/v1               false        SelfSubjectReview
tokenreviews                                   authentication.k8s.io/v1               false        TokenReview
localsubjectaccessreviews                      authorization.k8s.io/v1                true         LocalSubjectAccessReview
selfsubjectaccessreviews                       authorization.k8s.io/v1                false        SelfSubjectAccessReview
selfsubjectrulesreviews                        authorization.k8s.io/v1                false        SelfSubjectRulesReview
subjectaccessreviews                           authorization.k8s.io/v1                false        SubjectAccessReview
horizontalpodautoscalers          hpa          autoscaling/v2                         true         HorizontalPodAutoscaler
cronjobs                          cj           batch/v1                               true         CronJob
jobs                                           batch/v1                               true         Job
certificatesigningrequests        csr          certificates.k8s.io/v1                 false        CertificateSigningRequest
leases                                         coordination.k8s.io/v1                 true         Lease
```

(vii) k api-versions (listing the api-versions)

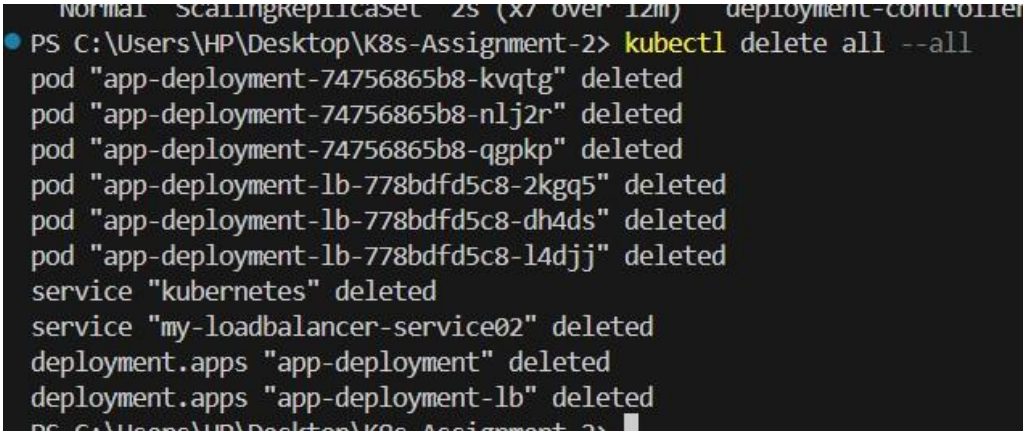
```
PS C:\Users\HP> k api-versions
W0229 17:38:03.437412   12524 main.go:291] Unable to resolve the current Docker CLI context "default": context "default": context not found: open C:\Users\H
P\.docker\contexts\meta\37a8eec1ce19687d132fe29051dca629d164e2c4958ba141d5f4133a33f0688f\meta.json: The system cannot find the path specified.
admissionregistration.k8s.io/v1
apiextensions.k8s.io/v1
apiregistration.k8s.io/v1
apps/v1
authentication.k8s.io/v1
authorization.k8s.io/v1
autoscaling/v1
autoscaling/v2
batch/v1
certificates.k8s.io/v1
coordination.k8s.io/v1
discovery.k8s.io/v1
events.k8s.io/v1
flowcontrol.apiserver.k8s.io/v1beta2
flowcontrol.apiserver.k8s.io/v1beta3
networking.k8s.io/v1
node.k8s.io/v1
policy/v1
rbac.authorization.k8s.io/v1
scheduling.k8s.io/v1
storage.k8s.io/v1
v1
```

(viii) kubectl get pods and kubectl get nodes:



"kubectl get pods" is listing the pods and **"kubectl get nodes"** is listing the nodes.

(ix) kubectl delete all –all



This command deletes all the resources.