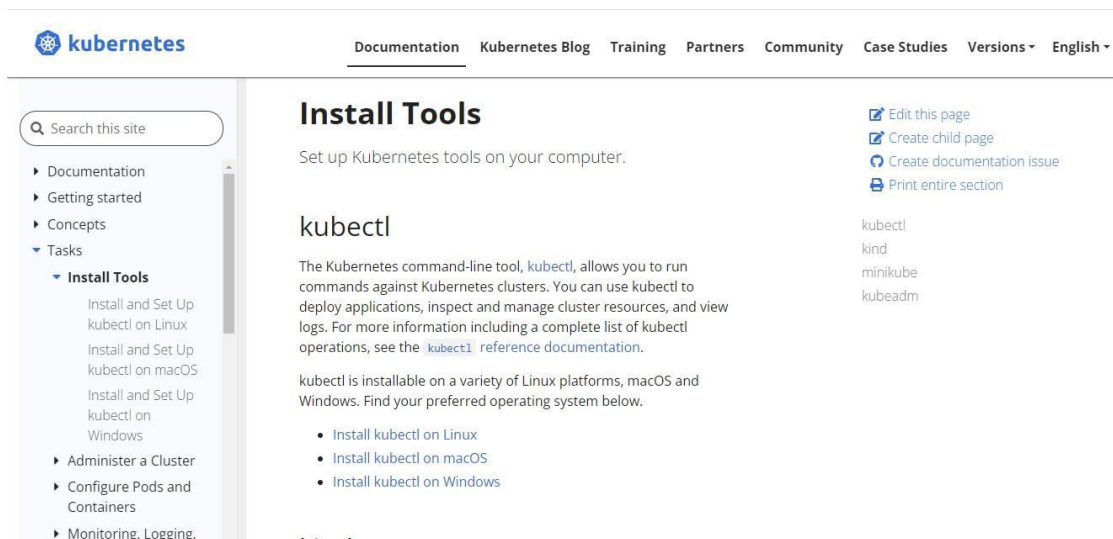Alphonz George
T11-03

# AdvDevops Assignment 4

**Aim :  To install Kubernetes**

**Theory and Outcome:**

Kubernetes is a portable, extensible, open-source platform for managing containerized workloads and services, that facilitates both declarative configuration and automation. It has a large, rapidly growing ecosystem. Kubernetes services, support, and tools are widely available. The name Kubernetes originates from Greek, meaning helmsman or pilot. K8s as an abbreviation results from counting the eight letters between the "K" and the "s". Google open- sourced the Kubernetes project in 2014. Kubernetes combines over 15 years of Google's experience running production workloads at scale with best-of-breed ideas and practices from the community.

Go to kubernetes website for installation.



Select your appropriate OS.

| Version | OS | Arch | Binary | Link |
|---|---|---|---|---|
| v1.31.0 | windows | 386 | kubectl-convert.exe | dl.k8s.io/v1.31.0/bin/v convert.exe (checksum |
| v1.31.0 | windows | 386 | kubectl.exe | dl.k8s.io/v1.31.0/bin/v (checksum \| signature \| |
| v1.31.0 | windows | amd64 | kube-log-runner.exe | dl.k8s.io/v1.31.0/bin/v runner.exe (checksum \| |
| v1.31.0 | windows | amd64 | kube-proxy.exe | dl.k8s.io/v1.31.0/bin/v proxy.exe (checksum \| s |
| v1.31.0 | windows | amd64 | kubeadm.exe | dl.k8s.io/v1.31.0/bin/win (checksum \| signature \| |

Install the Kubernetes .



| | | | | |
|---|---|---|---|---|
| Downloads | Advdevops Manual (1) | 13/08/2024 06:46 | Compressed (zipp... | 9,649 KB |
| Music | curl-8.9.1.tar.gz | 12/08/2024 06:41 | GZ File | 4,102 KB |
| Pictures | kubectl | 12/08/2024 06:40 | Application | 51,594 KB |

Edit the path in systems environment variables
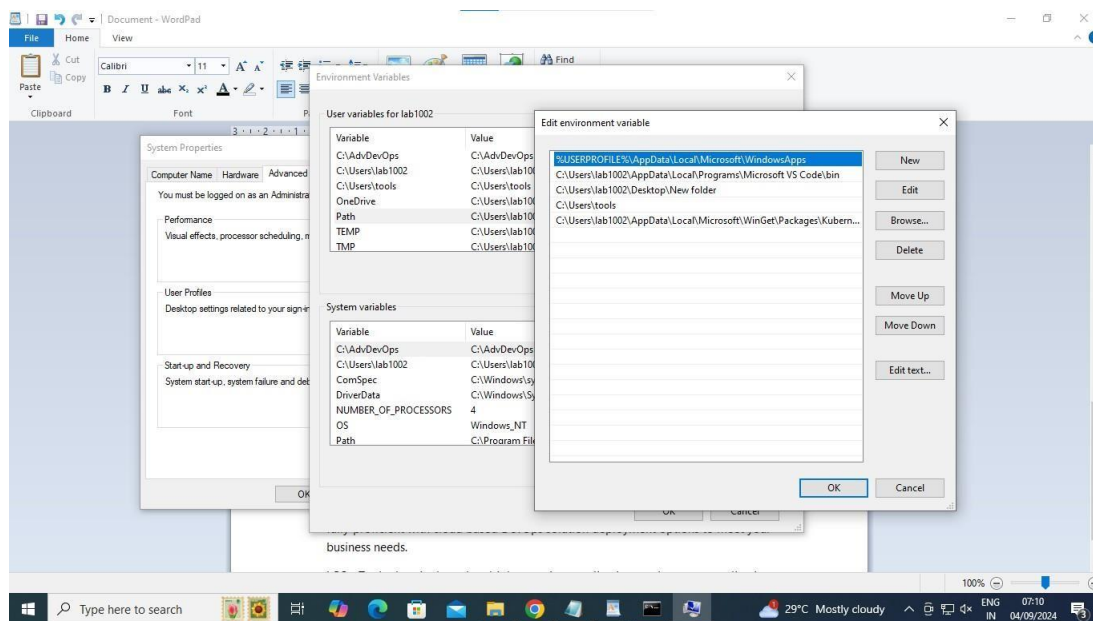


Open cmd and run and kubernetes command to check for successful installation

```
Command Prompt

C:\Users\lab1002\Downloads>kubernetes
'kubernetes' is not recognized as an internal or external command,
operable program or batch file.

C:\Users\lab1002\Downloads>kubectl version
Client Version: v1.30.0
Kustomize Version: v5.0.4-0.20230601165947-6ce0bf390ce3
Unable to connect to the server: dial tcp [::1]:8080: connectex: No connection could be made because the target machine actively refused it.

C:\Users\lab1002\Downloads>kubectl
kubectl controls the Kubernetes cluster manager.

 Find more information at: https://kubernetes.io/docs/reference/kubectl/

Basic Commands (Beginner):
  create          Create a resource from a file or from stdin
  expose          Take a replication controller, service, deployment or pod and expose it as a new Kubernetes service
  run             Run a particular image on the cluster
  set             Set specific features on objects

Basic Commands (Intermediate):
  explain         Get documentation for a resource
  get             Display one or many resources
  edit            Edit a resource on the server
  delete          Delete resources by file names, stdin, resources and names, or by resources and label selector

Deploy Commands:
  rollout         Manage the rollout of a resource
  scale           Set a new size for a deployment, replica set, or replication controller
  autoscale       Auto-scale a deployment, replica set, stateful set, or replication controller

Cluster Management Commands:
  certificate     Modify certificate resources
  cluster-info    Display cluster information
  top             Display resource (CPU/memory) usage
  cordon          Mark node as unschedulable
  uncordon        Mark node as schedulable
  drain           Drain node in preparation for maintenance
  taint           Update the taints on one or more nodes

Troubleshooting and Debugging Commands:
  describe        Show details of a specific resource or group of resources
  logs            Print the logs for a container in a pod
  attach          Attach to a running container
```

Kubernetes is successfully installed.