NFJS Beyond Kubernetes Extended Workshop – Required preparation before session
Setup for User-Supplied Environment Option

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Provided by Tech Skills Transformations

Note: This option is provided as an alternative to running VirtualBox and using the pre-configured VM. Because of the variability of individual environments, there is no guarantee that all labs will work as expected with a user-supplied environment. If you prefer to use a pre-configured VM via VirtualBox, see the doc for setting up that environment in the beyond-k8s-setup-vm-option doc.

This option assumes you are doing all of the installs for the applications needed in the workshop (again in advance of the workshop). In each of the bullet items below pertaining to an application, there are hyperlinks to install information for the application. You will still need to pick the right install packages and follow instructions in those links for your platform (Windows, Mac, Linux)*.

(* If you are using Linux as your platform, you may be able to utilize the setup script from the VM at https://github.com/skillrepos/beyond-k8s/blob/main/extra/setup.sh to get some pieces installed, but it is not guaranteed and will not install all of the applications. In particular, you may need to separately install the argocd and tkn command line interfaces.)

1. Install a version of Git. (If you are installing on a Windows system, it is recommended to also install the Git Bash Shell for Windows.)

2. Install Docker (any edition is fine). (Note on Windows or Mac, you may need to install the Docker desktop.)

3. Install and run a Kubernetes cluster using any package/application you want such as minikube, kind, etc. (It is not recommended to rely on a cloud instance of Kubernetes due to possible internet bandwidth limitations.) You will need to be able to create namespaces, delete resources, etc. in this cluster so ensure you have this type of admin access to the cluster you will use.

4. You only need a single node for your Kubernetes instance.

5. The workshop was designed for at least **Kubernetes version 1.21**, though other versions may work.

6. Install the Kubernetes command line tool, kubectl.

7. Install Helm 3. Helm 2 will not work.

8. Install Kustomize

9. Install Istio in your cluster.
(See also `https://istio.io/latest/docs/setup/getting-started/`)

10. Install ArgoCD in your cluster.

11. Install Tekton core pieces in your cluster.

12. Install the Tekton dashboard in your cluster.

13. Install the Tekton CLI.

14. Clone down the workshop git repository below to your system.

```
$ git clone https://github.com/skillrepos/beyond-k8s.git
```

15. Execute the following script to prepull images that will be needed during the class.

```
$ ./beyond-k8s/extra/image-prepull.sh
```

16. Make sure that you can run both the “tkn” and “argocd” command line applications from a terminal session.

17. Ensure you have access to a text editor that you are comfortable with and know how to use and that you can access easily.

18. Optional - install meld for your platform if running MacOS or Linux and you don't already have it. Meld is a visual diffing and merging tool that we will be using in some labs. You can install a different tool if you prefer or, if you have to, rely on standard OS tools like diff and using an editor to merge.

19. When you are done, you should have namespaces in your cluster for "istio-system", "tekton-pipelines", and "argocd" with the various kubernetes resources for each application running in them.

You should now be setup for the class!

If you would like to have a printed copy of the labs, you can print them out and bring them with you. They are available from this github location.