**Helm Chart Guide**

**1. Install Helm**

To install Helm, follow these steps:

1. Download the Helm tarball:

#curl -O https://get.helm.sh/helm-v3.16.2-linux-amd64.tar.gz

1. Extract the Helm binary:

#tar xvf helm-v3.16.2-linux-amd64.tar.gz

1. Move the helm binary to /usr/local/bin:

#sudo mv linux-amd64/helm /usr/local/bin

1. Remove the tarball:

#rm helm-v3.16.2-linux-amd64.tar.gz

**2. Create a Helm Chart**

1. Create a new Helm chart for NGINX:

#helm create nginx

1. Install tree for better directory listing (optional but useful):

#apt-get install tree

1. View the structure of the newly created nginx chart:

#tree nginx

**3. Modify the values.yaml**

1. No changes are required in Chart.yaml.
2. Modify values.yaml:
   * Change the image name.
   * Adjust the number of replicas.
   * Modify the service account as required.

**4. Verify the Template Changes**

1. Check the Helm template to verify if the configurations are correct:

#helm template nginx

1. Check for any errors in the chart:

#helm lint nginx

1. Run a dry-run with debug mode to verify the Helm chart configurations:

#helm --debug --dry-run install nginx

**5. Install the Application**

1. Install the Helm chart with a specific release name:

#helm install <release\_name> nginx

**6. Upgrade the Helm Chart (if changes are made)**

1. If you need to make modifications, go to nginx/Chart.yaml and update the version:

version: 0.1.1

1. Change the NGINX image version in nginx/values.yaml:
   * For example, change nginx:1.26 to nginx:latest.
2. Save and exit the file.
3. Upgrade the application with the following command:

#helm upgrade <app\_name> nginx

#helm repo add ingress-nginx https://kubernetes .github.io/ingress-nginx

#helm repo update