

# Helm Commands in Kubernetes: A Comprehensive Guide

## Basic Commands

### 1. **Helm Installation**

Command:

```
```bash
curl -fsSL -o get_helm.sh https://raw.githubusercontent.com/helm/helm/main/scripts/get-helm-3
chmod 700 get_helm.sh
./get_helm.sh
```
```

Explanation: Installs Helm on your system. Ensure you have Kubernetes installed and configured beforehand.

## Working with Helm Repositories

### 2. **Add a Repository**

Command: `helm repo add <repo-name> <repo-url>`

Explanation: Adds a Helm chart repository to your local environment.

### 3. **List Repositories**

Command: `helm repo list`

Explanation: Displays a list of all Helm repositories.

### 4. **Update Repositories**

Command: `helm repo update`

Explanation: Refreshes the list of available charts from all configured repositories.

## Searching Charts

### 5. **Search for Charts**

Command: ``helm search repo <keyword>``

Explanation: Searches for charts in your configured repositories using the provided keyword.

## Installing and Managing Charts

### 6. **\*\*Install a Chart\*\***

Command: ``helm install <release-name> <chart-name>``

Explanation: Deploys an application to your Kubernetes cluster.

### 7. **\*\*List Installed Releases\*\***

Command: ``helm list``

Explanation: Displays all Helm releases deployed in the cluster.

### 8. **\*\*Upgrade a Release\*\***

Command: ``helm upgrade <release-name> <chart-name>``

Explanation: Upgrades an existing release.

### 9. **\*\*Uninstall a Release\*\***

Command: ``helm uninstall <release-name>``

Explanation: Removes a Helm release and its associated resources.

## Debugging and Troubleshooting

### 10. **\*\*View a Release's Values\*\***

Command: ``helm get values <release-name>``

Explanation: Retrieves the values used during the deployment.

### 11. **\*\*Inspect a Chart\*\***

Command: ``helm show chart <chart-name>``

Explanation: Displays the metadata of a Helm chart.

### 12. **\*\*Dry Run an Install or Upgrade\*\***

Command: ``helm install <release-name> <chart-name> --dry-run``

Explanation: Simulates an installation without applying changes.

## Working with Values Files

### 14. **\*\*Override Default Values\*\***

Command: ``helm install <release-name> <chart-name> -f <values-file.yaml>``

Explanation: Customizes chart values using an external YAML file.

## Advanced Commands

### 16. **\*\*Rollback a Release\*\***

Command: ``helm rollback <release-name> <revision-number>``

Explanation: Rolls back a release to a specific revision.

### 17. **\*\*Test a Release\*\***

Command: ``helm test <release-name>``

Explanation: Runs tests for a specific release.

### 18. **\*\*Package a Chart\*\***

Command: ``helm package <chart-directory>``

Explanation: Packages a chart directory into a `.tgz`` file.

### 19. **\*\*Create a New Chart\*\***

Command: ``helm create <chart-name>``

Explanation: Generates a new Helm chart template.

## Miscellaneous Commands

### 20. **\*\*Delete Orphaned Resources\*\***

Command: ``helm uninstall <release-name> --purge``

Explanation: Deletes all resources associated with a release, including orphaned ones.

## Conclusion

This guide provides a comprehensive list of Helm commands to effectively manage Kubernetes resources. Use it as a reference for deploying and managing applications with Helm.