# **Cheatsheet: Introduction to Containers with Docker, Kubernetes and OpenShift**

**Docker CLI**

| **Command** | **Description** |
| --- | --- |
| curl localhost | Pings the application. |
| docker build | Builds a Docker image from a specified Dockerfile. |
| docker build . -t | Builds the image and tags the image id. |
| docker CLI | Starts the Docker Command Line Interface (CLI). |
| docker container rm | Removes a container. |
| docker images | Displays a list of all available Docker images. |
| docker ps | Lists the containers. |
| docker ps -a | Lists the containers that ran and exited successfully. |
| docker pull | Pulls the latest image or repository from a registry. |
| docker push | Pushes an image or a repository to a registry. |
| docker run | Runs a command in a new container. |
| docker run -p | Runs the container by publishing the ports. |
| docker stop | Stops one or more running containers. |
| docker stop $(docker ps -q) | Stops all currently running containers. |
| docker tag | Creates a tag for a target image that refers to a source image. |
| docker –version | Displays the version of the Docker CLI. |
| exit | Closes the terminal session. |
| export MY\_NAMESPACE | Exports a namespace as an environment variable. |
| git clone | Clones the git repository that contains the artifacts needed. |
| ibmcloud cr images | Lists images in the IBM Cloud Container Registry. |
| ibmcloud cr login | Logs your local Docker daemon into IBM Cloud Container Registry. |
| ibmcloud cr namespaces | Displays the namespaces available to the current user in the IBM Cloud Container Registry. |
| ibmcloud cr region-set | Ensures that you are targeting the region appropriate to your cloud account. |
| ibmcloud target | Provides information about the account you're targeting. |
| ibmcloud version | Displays the current version of the IBM Cloud CLI. |
| ls | Lists the files and directories in the current directory. |

**Understanding Kubernetes Architecture**

| **Command** | **Description** |
| --- | --- |
| for …do | Runs a sequence of commands multiple times as specified. |
| kubectl apply | Applies a specified configuration to a resource. |
| kubectl config get-clusters | Displays all clusters defined in the kubeconfig. |
| kubectl config get-contexts | Displays the current context. |
| kubectl create | Creates a new Kubernetes resource based on a given specification. |
| kubectl delete | Deletes resources. |
| kubectl describe | Provides details of a resource or group of resources. |
| kubectl expose | Exposes a resource to the internet as a Kubernetes service. |
| kubectl get | Displays resources. |
| kubectl get pods | Lists all the Pods. |
| kubectl get pods -o wide | Lists all the Pods with details. |
| kubectl get deployments | Displays all deployments created. |
| kubectl get services | Lists the services created. |
| kubectl proxy | Creates a proxy server between a localhost and the Kubernetes API server. |
| kubectl run | Creates and runs a particular image in a pod. |
| kubectl version | Prints the client and server version information. |

**Managing Applications with Kubernetes**

| **Command** | **Description** |
| --- | --- |
| kubectl autoscale deployment | Autoscales a Kubernetes Deployment. |
| kubectl create configmap | Creates a ConfigMap resource. |
| kubectl get deployments -o wide | Lists deployments with details. |
| kubectl get hpa | Lists Horizontal Pod Autoscalers (hpa). |
| kubectl scale deployment | Scales a deployment. |
| kubectl set image deployment | Updates the current deployment. |
| kubectl rollout | Manages the rollout of a resource. |
| kubectl rollout restart | Restarts the resource so that the containers restart. |
| kubectl rollout undo | Rollbacks the resource. |

**OpenShift CLI**

| **Command** | **Description** |
| --- | --- |
| oc get | Displays a resource. |
| oc project | Switches to a different project. |
| oc version | Displays version information. |