# IBM Cloud Private Installation





**IBM Cloud** 

## Things to consider prior to installation

#### **Environment**

dev, test, staging, prod

### **Workload Type**

middleware, data, native frameworks

#### **Platform**

VMware, OpenStack, Public / Hosted



### **Persistent Storage**

NFS, GlusterFS, vSphereVolumes, Ceph, IBM

#### **OS / Architecture**

x86 Linux (RHEL, Ubuntu), ppc64le Power Linux (RHEL), zLinux (RHEL)

### **Network Topology**

Cluster network (Network CIDR)
Service network (Service Cluster IP Range)

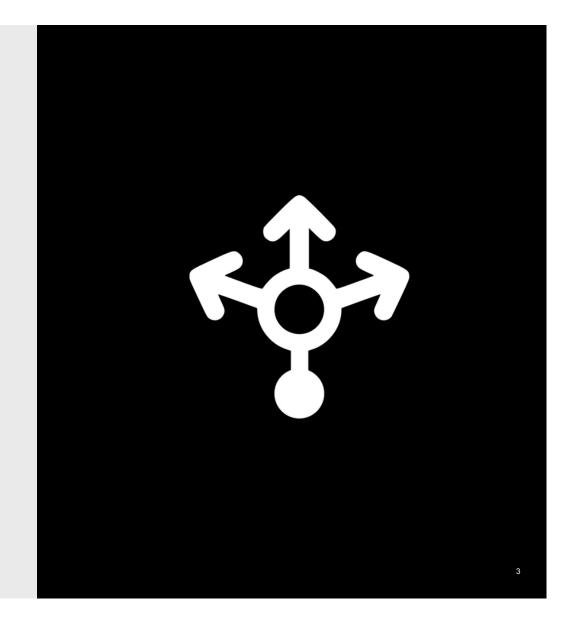
## Load balancers and proxies

Master node load balancer

Proxy node load balancer

Ingress server

Installing ICP with an Internet proxy in front of it has special considerations



## "Air gap" installation considerations

Boot node serves as a bridge/jump server

- Boot node has access to Internet
- Boot node has access to all ICP cluster machines

ICP private docker registry

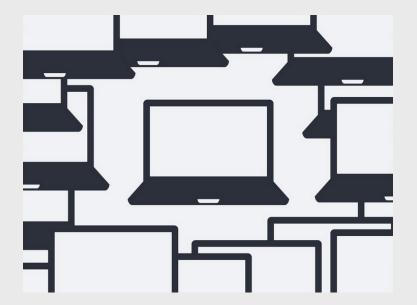
ICP private Helm repository

Will build pipeline have access to public dockerhub.com?

Will ICP have access to the IBM Helm chart repository?

Performing an offline installation on Medium:

https://medium.com/ibm-cloud/ibm-cloud-private-offline-installation-eb730ae13bfc



# Review system requirements (See the Knowledge Center)

### **Hardware requirements**

The Knowledge Center provides minimum requirements. CASE has some recommendations https://github.com/ibm-cloud-architecture/refarch-privatecloud/blob/master/Sizing.md

### **Supported operating systems**

# **Docker considerations**Highly recommended to use the IBM provided Docker distribution

## Prepare your nodes

### **Check connectivity**

Verify key ports are open and free from use

### **Configure DNS or /etc/hosts**

Configure according to Knowledge Center and include all hosts in the cluster

**Additional considerations** python, NTP, SSH, socat

### **IBM Cloud Private Community Edition**

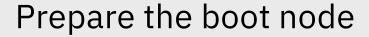
Single or multi-node cluster for testing purposes only No charge and not upgradeable to paid-for versions Not available features: High Availability, CF, CAM, and VA

### **IBM Cloud Private Cloud Native**

Single or multi-node cluster production environment Selection of bundled components Ability to add extra components

### **IBM Cloud Private Enterprise Edition**

Single or multi-node cluster production environment Includes all ICP available Cloud Native bundled components plus extras Customizable with extra components



Extract images and load into Docker

Extract from the installer images

Configure SSH to all cluster nodes

Move install images into /cluster/images

### Customize the cluster

General settings

Kubernetes options

Log settings

Network options

Docker config

Proxy & Master HA settings

User settings

Cloud provider setting

Network encryption

**Environment Isolation** 

Configure for HA

## Deploy the Cluster

Snapshot your nodes

## Docker run the deployment

Use –vvv for verbose output Use tee to store results

# Verify the results and see troubleshooting upon failure:

https://www.ibm.com/support/knowledgecenter/SSBS6K\_3.1.0/troubleshoot/troubleshoot.html

Check UI, status of pods (ready), status of nodes, installation log

## Post Installation

Install kubectl, Helm CLI and ICP CLI

Install a sample application:

- Blue Compute (comprehensive microservices application)
- Kube Toy (fun Hello-World)
- Bookinfo

Install add-on charts such as Istio

