# Cloud Pak for Integration on Azure

Pre-requisites:

* Must have an Azure Account
* Red Hat Openshift Subscription
* Cloud Pak for Integration v2020.3.1 License

Create an ARO (Azure Red Hat Open shift) Cluster:

1. **Configure Azure Account limits** - The resources that an ARO cluster consumes, such as vCPUs, count towards your Azure account limits. You must increase the default limits for Azure in order to run an ARO cluster with CP4I.

To get your current Azure account usage and limits for the region you want to run your cluster in, run the below command:

$ az vm list-usage --location <Location name> --output table

Sample Output:

Name CurrentValue Limit

--------------------------------- -------------- -------

...

Standard DSv3 Family vCPUs 0 350

Standard ESv3 Family vCPUs 0 350

Standard FSv2 Family vCPUs 0 350

Standard DASv4 Family vCPUs 0 350

1. **Azure Roles** - Roles control access to Azure resources. You must have an Azure account that has both the "Contributor" and "User Access Administrator" roles configured.
2. **Create a resource group and a virtual network -** create a resource group and a virtual network with master and worker subnets

## Set the following variables in the shell environment in which you will execute the az commands.

LOCATION= <location of your cluster>

RESOURCEGROUP= <name of the resource group where you want to create your cluster>

CLUSTER= <name of your cluster>

## Create a resource group.

az group create --name $RESOURCEGROUP --location $LOCATION

## Create a new virtual network in the same resource group you created earlier

## az network vnet create --resource-group $RESOURCEGROUP --name aro-vnet --address-prefixes 10.0.0.0/22

## Add an empty subnet for the master nodes.

## az network vnet subnet create --resource-group $RESOURCEGROUP --vnet-name aro-vnet --name master-subnet --address-prefixes 10.0.0.0/23 --service-endpoints Microsoft.ContainerRegistry

## Add an empty subnet for the worker nodes.

## az network vnet subnet create --resource-group $RESOURCEGROUP --vnet-name aro-vnet --name worker-subnet --address-prefixes 10.0.2.0/23 --service-endpoints Microsoft.ContainerRegistry

## Disable subnet private endpoint policies on the master subnet. This is required for the service to be able to connect to and manage the cluster.

## az network vnet subnet update --name master-subnet --resource-group $RESOURCEGROUP --vnet-name aro-vnet --disable-private-link-service-network-policies true

1. **Create cluster using below command**

az aro create --resource-group <resource grp name> --name <cluster name> --vnet aro-vnet --master-subnet master-subnet --worker-subnet worker-subnet

1. **Connect to the cluster**

az aro list-credentials --name $CLUSTER --resource-group $RESOURCEGROUP

Install Cloud Pak for Integration

When cluster is connected to the internet, The IBM Cloud Pak for Integration (CP4I) can be installed by adding the IBM Operator Catalog and the IBM Common Services Catalog to your cluster and using the Operator Lifecycle Manager (OLM) to install the operators.

You can add Catalog Source objects to your cluster using the Red Hat OpenShift web console, or by using the oc command-line tool.

1. **Add Catalog Source objects using the OpenShift web console:**
2. Click the plus icon. You see the Import YAML dialog box. Paste the following resource definition in the dialog box

apiVersion: operators.coreos.com/v1alpha1

kind: CatalogSource

metadata:

name: opencloud-operators

namespace: openshift-marketplace

spec:

displayName: IBMCS Operators

publisher: IBM

sourceType: grpc

image: docker.io/ibmcom/ibm-common-service-catalog:latest

updateStrategy:

registryPoll:

interval: 45mCopy code

1. Click Create.
2. **Add the IBM operators to the list of installable operators**
3. Click the plus icon. You see the Import YAML dialog box. Paste the following resource definition in the dialog box:

apiVersion: operators.coreos.com/v1alpha1

kind: CatalogSource

metadata:

name: ibm-operator-catalog

namespace: openshift-marketplace

spec:

displayName: ibm-operator-catalog

publisher: IBM Content

sourceType: grpc

image: docker.io/ibmcom/ibm-operator-catalog

updateStrategy:

registryPoll:

interval: 45mCopy code

1. Click Create.

Azure Red Hat Openshift network arcchitecture

