**Obtaining and editing Operator catalogs to be used successfully in disconnected environments**

1. Get the requested catalog source image:

| Podman pull registry.redhat.io/redhat/redhat-operator-index:v4.6  Podman pull registry.redhat.io/redhat/certified-operator-index:v4.6  Podman pull registry.redhat.io/redhat/redhat-marketplace-index:v4.6  Podman pull registry.redhat.io/redhat/community-operator-index:{tag} |
| --- |

1. Run the selected image inorder to extract the operator package names to an external txt file (packages.txt):  
   Link to get grpcurl: <https://github.com/fullstorydev/grpcurl>

| podman run -p50051:50051 \  -it registry.redhat.io/redhat/redhat-operator-index:v4.6  grpcurl -plaintext localhost:50051 api.Registry/ListPackages > packages.txt |
| --- |

1. Get the opm bin by extracting it from the relevant image (make sure to use it on rhel8.1 and above):

| oc image extract registry.redhat.io/openshift4/ose-operator-registry:v4.6 -a ${REG\_CREDS} --path /usr/bin/opm:. --confirm  Chmod +x /usr/bin/opm |
| --- |

1. From the txt file you generated in section 2 Get the names of the operators you wish to work with and append them to the catalog image tagged for internal use and push it to your target registry. for example:

| opm index prune -f registry.redhat.io/redhat/redhat-operator-index:v4.6 -p advanced-cluster-management,jaeger-product,quay-operator [-i registry.redhat.io/openshift4/ose-operator-registry:v4.6] -t <target\_registry>:<port>/<namespace>/redhat-operator-index:v4.6  podman push <target\_registry>:<port>/<namespace>/redhat-operator-index:v4.6 |
| --- |

1. Use the “oc adm catalog mirror” command to get the relevant image list based on the pruned catalog you’ve created in previous sections use the **manifest-only** flag:

| oc adm catalog mirror <index\_image> <mirror\_registry>:<port>/<namespace> -a ${REG\_CREDS} [--insecure] --index-filter-by-os='<platform>/<arch>' --manifests-only |
| --- |

1. In the manifests dir created by the previous command locate the mappings.txt file containing the list of images extracted from the operator list in the pruned catalog and use skopeo copy to mirror them to your desatiantion registry pay attention to use **--all** flag

| for i in $(cat manifests-redhat-operator-index-1616078405/mapping.txt | grep -i registry.redhat.io | awk -F "/" '{print"/" $2 "/" $3}' | awk -F  "=" '{print $1}');do skopeo copy --all docker://registry.redhat.io$i docker://<target\_registry:port>$i; done |
| --- |

1. From the manifest dir generated by the “oc adm catalog” command in section 5 locate the icsp yaml and apply it to to the cluster

| oc apply -f <path/to/manifests/dir>/imageContentSourcePolicy.yaml |
| --- |

1. Ssh into one of the cluster nodes to collect the registries.conf file created by the icsp.yaml and change the “mirror-by-digest-only = true” flag to “false” on all relevant mirrors For example:

| unqualified-search-registries = ["registry.access.redhat.com", "docker.io"] [[registry]]  prefix = ""  location = "quay.io/ocpmetal"   **mirror-by-digest-only = false**  [[registry.mirror]]  location = "bastion-ocp4.demo.lab.com:8080/ocpmetal" [[registry]]  prefix = ""  location = "quay.io/openshift-release-dev/ocp-release"  mirror-by-digest-only = true  [[registry.mirror]]  location = "bastion-ocp4.demo.lab.com:8080/ocp4" [[registry]]  prefix = ""  location = "quay.io/openshift-release-dev/ocp-v4.0-art-dev"  mirror-by-digest-only = true  [[registry.mirror]]  location = "bastion-ocp4.demo.lab.com:8080/ocp4" [[registry]]  prefix = ""  location = "registry.redhat.io"  mirror-by-digest-only = false  [[registry.mirror]]  location = "bastion-ocp4.demo.lab.com:8080" [[registry]]  prefix = ""  location = "nvcr.io"  mirror-by-digest-only = false  [[registry.mirror]]  location = "bastion-ocp4.demo.lab.com:8080" |
| --- |

1. Code the registries.conf file after the modification in base 64

| cat /etc/containers/registries.conf | base64 -w0 |
| --- |

1. Create a machineconfig yaml file for your **master** and **worker** machines based on the base64 content from the previous section.. Similar to the following example:

| apiVersion: machineconfiguration.openshift.io/v1 kind: MachineConfig metadata:  labels:  machineconfiguration.openshift.io/role: worker  name: new-icsp-worker spec:  config:  ignition:  version: 3.1.0  storage:  files:  - contents:  source: data:text/plain;charset=utf-8;base64,dW5xdWFsaWZpZWQtc2VhcmNoLXJlZ2lzdHJpZXMgPSBbInJlZ2lzdHJ5LmFjY2Vzcy5yZWRoYXQuY29tIiwgImRvY2tlci5pbyJdCltbcmVnaXN0cnld XQogICBwcmVmaXggPSAiIgogICBsb2NhdGlvbiA9ICJxdWF5LmlvL29jcG1ldGFsIgogICBtaXJyb3ItYnktZGlnZXN0LW9ubHkgPSBmYWxzZQogICBbW3JlZ2lzdHJ5Lm1pcnJvcl1dCiAgIGxvY2F0aW9uID0gImJhc3Rpb24 tb2NwNC5kZW1vLmxhYi5jb206ODA4MC9vY3BtZXRhbCIKW1tyZWdpc3RyeV1dCiAgIHByZWZpeCA9ICIiCiAgIGxvY2F0aW9uID0gInF1YXkuaW8vb3BlbnNoaWZ0LXJlbGVhc2UtZGV2L29jcC1yZWxlYXNlIgogICBtaXJyb3 ItYnktZGlnZXN0LW9ubHkgPSB0cnVlCiAgIFtbcmVnaXN0cnkubWlycm9yXV0KICAgbG9jYXRpb24gPSAiYmFzdGlvbi1vY3A0LmRlbW8ubGFiLmNvbTo4MDgwL29jcDQiCltbcmVnaXN0cnldXQogICBwcmVmaXggPSAiIgogI CBsb2NhdGlvbiA9ICJxdWF5LmlvL29wZW5zaGlmdC1yZWxlYXNlLWRldi9vY3AtdjQuMC1hcnQtZGV2IgogICBtaXJyb3ItYnktZGlnZXN0LW9ubHkgPSB0cnVlCiAgIFtbcmVnaXN0cnkubWlycm9yXV0KICAgbG9jYXRpb24g PSAiYmFzdGlvbi1vY3A0LmRlbW8ubGFiLmNvbTo4MDgwL29jcDQiCltbcmVnaXN0cnldXQogICBwcmVmaXggPSAiIgogICBsb2NhdGlvbiA9ICJyZWdpc3RyeS5yZWRoYXQuaW8iCiAgIG1pcnJvci1ieS1kaWdlc3Qtb25seSA 9IGZhbHNlCiAgIFtbcmVnaXN0cnkubWlycm9yXV0KICAgbG9jYXRpb24gPSAiYmFzdGlvbi1vY3A0LmRlbW8ubGFiLmNvbTo4MDgwIgpbW3JlZ2lzdHJ5XV0KICAgcHJlZml4ID0gIiIKICAgbG9jYXRpb24gPSAibnZjci5pby IKICAgbWlycm9yLWJ5LWRpZ2VzdC1vbmx5ID0gZmFsc2UKICAgW1tyZWdpc3RyeS5taXJyb3JdXQogICBsb2NhdGlvbiA9ICJiYXN0aW9uLW9jcDQuZGVtby5sYWIuY29tOjgwODAiCg==  mode: 420  overwrite: true  path: /etc/containers/registries.conf |
| --- |

1. From the manifest dir generated by the “oc adm catalog” command in section 5 locate the catalogresource yaml file similar to the below example and apply it to your cluster

| **apiVersion: operators.coreos.com/v1alpha1 kind: CatalogSource metadata:  name: my-operator-catalog  namespace: openshift-marketplace spec:  displayName: My Operator Catalog  sourceType: grpc  image: <local\_registry\_host\_name>:<local\_registry\_host\_port>/<namespace>/custom-registry:latest  oc create -f my-operator-catalog.yaml** |
| --- |