

Overview

- Consists of:
 - Main arm template: azdeploy.json
 - sub templates:
 - master.json for bootstrap and masters
 - node.json for workers
 - Setup Script: setup_azarm.sh
 - Deploy Script: deploy_azarm.sh

What it does:

- Deploys a UPI Azure OCP 4.x (4.2 at the moment)
 - 3 Masters
 - N Workers parameter 3 for test
 - Availability Group for Masters
 - Availability Group for Nodes
 - Public Load Balancer for API
 - Public Load Balancer for Apps
 - Internal Load Balancer for Internal API
 - Uploads the vhd RHCOS image into resource group
 - Uploads bootstrap ignition into resource group
 - Creates a ignition pointer to bootstrap ignition

ARM Parameters

```
"$schema": "https://schema.management.azure.com/schemas/2015-01-01/deploymentParameters.json#",
"contentVersion" : "1.0.0.0",
"parameters" : {
  "image" : {
    "value" : "https://sagswx1.blob.core.windows.net/vhd/rhcos-410.8.20190504.0-azure.vhd"
  "BootstrapIgnition" : {
    "value": ""
  "MasterIgnition" : {
   "value" : ""
  "WorkerIgnition" : {
   "value" : ""
  "WildcardZone" : {
   "value" : "wildcardzone"
  "numberOfNodes" : {
   "value" : 3
  "sshKeyData" : {
   "value" : ""
```

Azuredeploy.json

▼ 🌕 Content	Object 🗘	Object
	String 🗘	https://schema.management.azure.com/schemas/2015-01-01/deploymentTemplate.json#
	String 🗘	1.0.0.0
▼ 통 parameters	Object ≎	Object
▶ 🖲 image	Object 🗘	Object
Bootstraplgnition	Object 🗘	Object
▶ 🧐 Masterlgnition	Object 🗘	Object
▶ 🥦 Workerlgnition	Object ≎	Object
▶ 🥦 WildcardZone	Object 🗘	Object
▶ 🧐 numberOfNodes	Object 🗘	Object
▶ 🥦 sshKeyData	Object 🗘	Object
▶ 🥦 masterVMSize	Object ≎	Object
▶ 🥦 nodeVMSize	Object 🗘	Object

Variables

v 😸 variables	Object 🗘	Object
	String \$	glennswest
	String \$	master
	String \$	4.1
baseTemplateUrl baseTemplateUrl	String \$	[concat('https://raw.githubusercontent.com/',variables('gituser'),'/ocpupi4azure/',variables('brainest)
baseVMachineTemplateUriNode	String \$	[concat(variables('baseTemplateUrl'), 'node.json')]
baseVMachineTemplateUriMaster	String \$	[concat(variables('baseTemplateUrl'), 'master.json')]
	String \$	[resourceGroup().location]
virtualNetworkName	String \$	openshiftVnet
AddressPrefix Ad	String \$	10.0.0.0/16
nodesubnetName	String 🗘	nodeSubnet
nodesubnetPrefix	String 🗘	10.0.1.0/24
	String \$	masterSubnet
	String 🗘	10.0.0.0/24
nodeStorageName	String 🗘	[concat('sa', resourceGroup().name)]
vhdStorageType	String 🗘	Premium_LRS
	String \$	[resourceId('Microsoft.Network/virtualNetworks', variables('virtualNetworkName'))]
nodeSubnetRef	String \$	[concat(variables('vnetId'), '/subnets/', variables('nodesubnetName'))]
	String \$	[concat(variables('vnetId'), '/subnets/', variables('mastersubnetName'))]
▶ 🧐 rhel	Object ≎	Object
baseVMachineTemplateUriBastion	String \$	[concat(variables('baseTemplateUrl'), 'bastion.json')]
▶ 🦲 vmSizesMap	Object ≎	Object
★ tenantId	String \$	[subscription().tenantId]
	String 🗘	Standard_DS1_v2
	String 🗘	[concat('MasterLb',resourceGroup().name)]

Resources

▼ 🥦 resources	Array Array
▶ 🥦 ltem[0]	Object 🗘 Object
▶ 🥦 ltem[1]	Object 🗘 Object
▶ 🧐 ltem[2]	Object 🗘 Object
▶ 🧐 ltem[3]	Object 🗘 Object
▶ 🧐 ltem[4]	Object 🗘 Object
▶ 🧐 ltem[5]	Object 🗘 Object
▶ 🥦 ltem[6]	Object 🗘 Object
▶ 🧐 ltem[7]	Object 🗘 Object
▶ 🧐 ltem[8]	Object 🗘 Object
▶ 🧐 ltem[9]	Object 🗘 Object
▶ 🧐 ltem[10]	Object 🗘 Object
▶ 🧐 ltem[11]	Object 🗘 Object
▶ 🥦 ltem[12]	Object 🗘 Object
▶ 🥦 Item[13]	Object 🗘 Object

Bootstrap VM

🖊 📦 ltem[2]	Object	0	Object
	String	0	bootstrap
	String	0	Microsoft.Resources/deployments
	String	0	2015-01-01
▶ 🥦 dependsOn	Array	0	Array
▼ 害 properties	Object	0	Object
	String	0	Incremental
▶ 🥦 templateLink	Object	0	Object
▼ 통 parameters	Object	0	Object
▶ 🌕 vmName	Object	0	Object
▶ 🥦 dnsName	Object	0	Object
▶ 🛜 sa	Object	0	Object
▶ 🛜 subnetRef	Object	0	Object
▶ 🥞 vmSize	Object	0	Object
▶ 🌏 ignition	Object	0	Object
▶ 🌏 baseTemplateUrl	Object	0	Object
imageReference	Object	0	Object
masterLoadBalancerName	Object	0	Object
▶ 🦲 availabilitySet	Object	0	Object
▶ 🖲 sshKeyData	Object	0	Object

Master1

r 🦲 ltem[4]	Object 🗘 Object
	String 🗘 master1
	String Microsoft.Resources/deployments
	String \$ 2015-01-01
▶ 🥦 dependsOn	Array Array
▼ 🌕 properties	Object 🗘 Object
	String 🗘 Incremental
▶ 🥦 templateLink	Object 🗘 Object
▼ 🌕 parameters	Object 🗘 Object
▶ 🌏 vmName	Object 🗘 Object
▶ 🌏 dnsName	Object 🗘 Object
▶ 🥦 sa	Object 🗘 Object
▶ 🎅 subnetRef	Object 🗘 Object
▶ 🥦 vmSize	Object 🗘 Object
▶ 🛜 ignition	Object 🗘 Object
▶ 🖲 baseTemplateUrl	Object 🗘 Object
▶ 🛜 imageReference	Object 🗘 Object
▶ 🛜 masterLoadBalancerName	Object 🗘 Object
availabilitySet	Object 🗘 Object
▶ 🔊 sshKeyData	Object 🗘 Object

Workers

▼ 🦲 ltem[3]	Object Object
	String \(\chi \) [concat('node', copyindex())]
	String Microsoft.Resources/deployments
ApiVersion	String \$ 2015-01-01
▶ 🧐 copy	Object 🗘 Object
▶ 🥦 dependsOn	Array Array
▼ 🕽 properties	Object 🗘 Object
	String 🗘 Incremental
templateLink	Object 🗘 Object
parameters	Object Object

Steps By Step

- How to run:
 - Clone repo
 - setup_azarm.sh
 - Setup your external dns
 - deploy_azarm.sh

Setup-azarm.sh

- What it does:
 - Run the installer for ignition files
 - Create resource group
 - Copy RHCOS image into resource group
 - Copy bootstrap ignition file into resource group (To big for direct usage)
 - Build a indirect ignition file to point to bootstrap
 - Copy and encode ignitions into runit.deploy.json

```
[Glenns-MacBook-Pro-2:4.1 gwest$ ./setup_azarm.sh
INFO Consuming "Install Config" from target directory
Delete old resource group
Create new resource group
  "id": "/subscriptions/27523af7-7c6e-4e06-9d6e-070881f968e8/resourceGroups/gswx1",
  "location": "eastus",
  "managedBy": null,
  "name": "gswx1",
  "properties": {
    "provisioningState": "Succeeded"
 },
  "tags": null,
  "type": "Microsoft.Resources/resourceGroups"
Copy RHCOS to resource group
The default kind for created storage account will change to 'StorageV2' from 'Storage' in future
  "accessTier": null,
  "azureFilesIdentityBasedAuthentication": null,
  "creationTime": "2019-10-11T13:28:59.117484+00:00",
  "customDomain": null,
  "enableHttpsTrafficOnly": true,
  "encryption": {
    "keySource": "Microsoft.Storage",
    "keyVaultProperties": null,
    "services": {
      "blob": {
        "enabled": true,
        "lastEnabledTime": "2019-10-11T13:28:59.211236+00:00"
      }.
      "file": {
        "enabled": true.
```

```
"enabled": true,
      "lastEnabledTime": "2019-10-11T13:28:59.211236+00:00"
    "queue": null,
    "table": null
},
"failoverInProgress": null,
"geoReplicationStats": null,
"id": "/subscriptions/27523af7-7c6e-4e06-9d6e-070881f968e8/resourceGroups/gswx1/providers/Microsoft.Storage/storageAccounts/sagswx1",
"identity": null,
"isHnsEnabled": null.
"kind": "Storage",
"lastGeoFailoverTime": null,
"location": "eastus",
"name": "sagswx1",
"networkRuleSet": {
  "bypass": "AzureServices",
  "defaultAction": "Allow",
  "ipRules": [].
  "virtualNetworkRules": []
},
"primaryEndpoints": {
 "blob": "https://sagswx1.blob.core.windows.net/",
  "dfs": null,
  "file": "https://sagswx1.file.core.windows.net/",
  "queue": "https://sagswx1.queue.core.windows.net/",
  "table": "https://sagswx1.table.core.windows.net/",
  "web": null
},
"primaryLocation": "eastus",
"provisioningState": "Succeeded",
"resourceGroup": "gswx1",
```

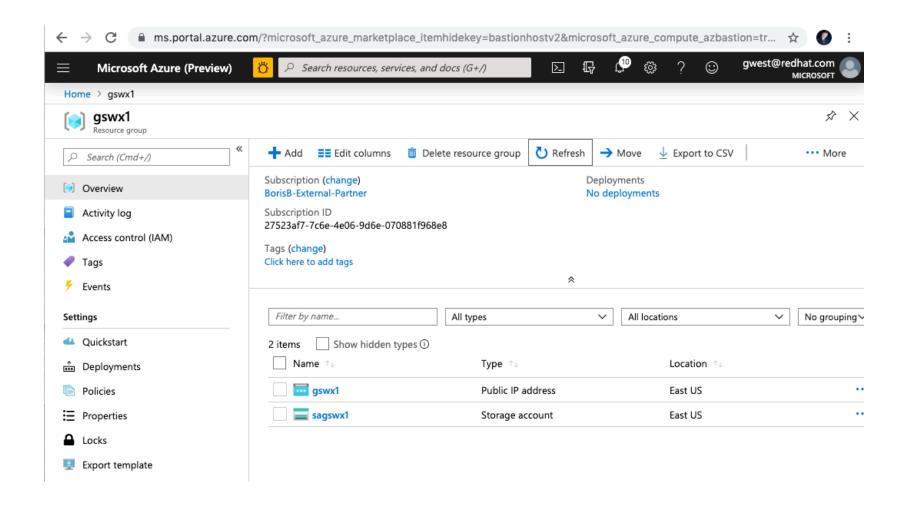
```
"secondaryEndpoints": null,
  "secondaryLocation": null,
 "sku": {
    "capabilities": null,
    "kind": null,
    "locations": null,
    "name": "Standard_LRS",
    "resourceType": null,
    "restrictions": null,
    "tier": "Standard"
  "statusOfPrimary": "available",
  "statusOfSecondary": null,
 "tags": {},
  "type": "Microsoft.Storage/storageAccounts"
  "created": true
 "completionTime": null,
  "id": "948dc086-b73c-4923-9334-354c9af2bf17",
  "progress": null,
 "source": null,
 "status": "pending",
 "statusDescription": null
Waiting on copy of vhd
unknown
Copy of vhd complete
Configure template with ignition files
 "created": true
```

```
"etag": "\"0x8D74E4FC006FB75\"",
  "lastModified": "2019-10-11T13:34:32+00:00"
Url: https://sagswx1.blob.core.windows.net/files/bootstrap.ign
  "publicIp": {
    "ddosSettings": null,
    "dnsSettings": null,
    "etag": "W/\"bb653cb2-1465-4440-8fe3-7843e1432aff\"",
    "id": "/subscriptions/27523af7-7c6e-4e06-9d6e-070881f968e8/resourceGroups/gswx1/providers/Microsoft.Network/publicIPAddresses/gswx1",
    "idleTimeoutInMinutes": 4,
    "ipAddress": "52.168.85.165",
    "ipConfiguration": null,
    "ipTags": [],
    "location": "eastus",
    "name": "gswx1",
    "provisioningState": "Succeeded",
    "publicIpAddressVersion": "IPv4",
    "publicIpAllocationMethod": "Static",
    "publicIpPrefix": null,
    "resourceGroup": "gswx1",
    "resourceGuid": "7cf474ce-9033-4920-b3a4-269654c36eb0",
    "sku": {
      "name": "Basic",
      "tier": "Regional"
    },
    "tags": null,
    "type": "Microsoft.Network/publicIPAddresses",
    "zones": null
Glenns-MacBook-Pro-2:4.1 gwest$ ./setup_azarm.sh
```

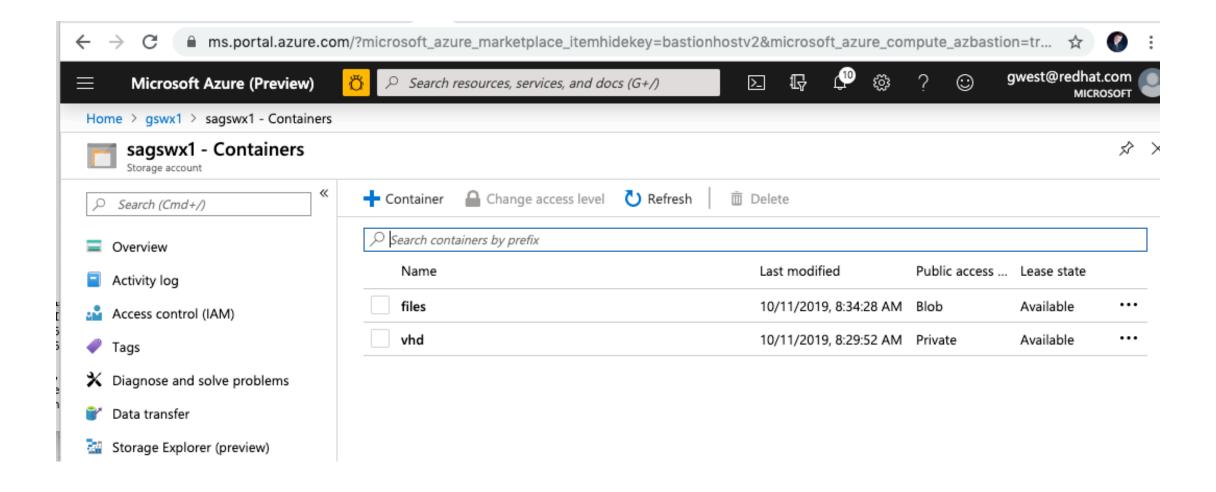
DNS Setup

```
; Warning - every name in this file is ABSOLUTE!
$ORIGIN .
                3600
                                S0A
                                         ns1.ncc9.com hostmaster.gw.ncc9.com 1 10800 3600 604800 3600
gw.ncc9.com
                        TΝ
                                NS
gw.ncc9.com
                3600
                        ΙN
                                         ns1.ncc9.com
_etcd-server-ssl._tcp.gw.ncc9.com
                                         86400
                                                 ΙN
                                                         SRV
                                                                 1 1 2380 bootstrap-0.gw.ncc9.com
_etcd-server-ssl._tcp.gw.ncc9.com
                                         86400
                                                 ΙN
                                                         SRV
                                                                 1 1 2380 control-plane-0.gw.ncc9.com
                                                                 1 1 2380 control-plane-1.gw.ncc9.com
_etcd-server-ssl._tcp.gw.ncc9.com
                                         86400
                                                 ΤN
                                                         SRV
_etcd-server-ssl._tcp.gw.ncc9.com
                                         86400
                                                 ΙN
                                                         SRV
                                                                 1 1 2380 control-plane-2.gw.ncc9.com
api.gw.ncc9.com 3600
                                         40.117.96.124
                        ΙN
api-int.gw.ncc9.com
                        3600
                                ΙN
                                         Α
                                                 10.0.0.31
bootstrap-0.gw.ncc9.com 86400
                                ΙN
                                         Α
                                                 10.0.0.4
control-plane-0.gw.ncc9.com
                                                         10.0.0.6
                                86400
                                         ΙN
control-plane-1.gw.ncc9.com
                                86400
                                         ΙN
                                                         10.0.0.5
control-plane-2.gw.ncc9.com
                                86400
                                                         10.0.0.7
etcd-0.gw.ncc9.com
                        3600
                                                 10.0.0.6
                                ΙN
etcd-1.gw.ncc9.com
                        3600
                                ΙN
                                                 10.0.0.5
etcd-2.gw.ncc9.com
                        3600
                                ΙN
                                                 10.0.0.7
                                         147.75.111.55
ns1.gw.ncc9.com 3600
                        ΙN
```

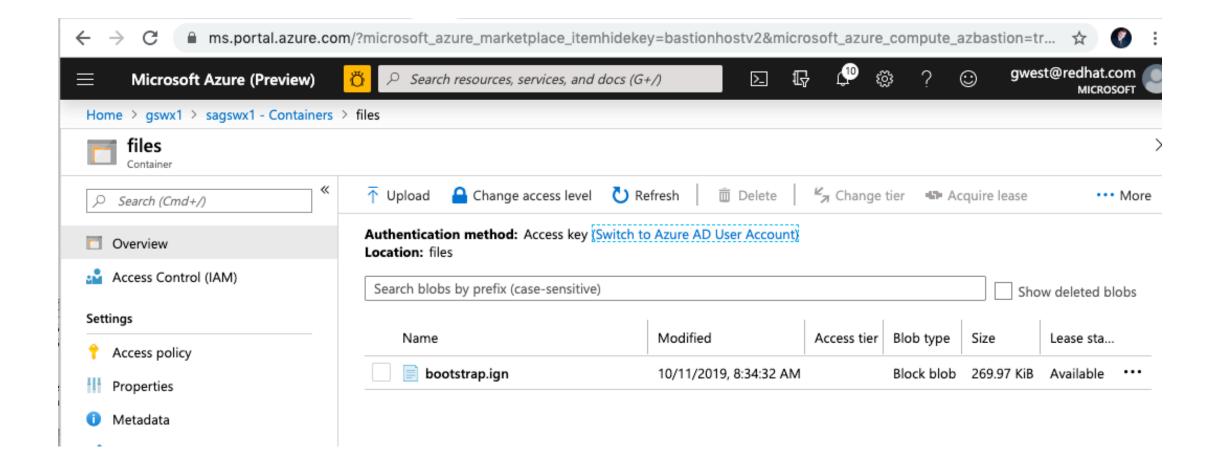
Resource Group — At This Point



Storage Account



Bootstrap Ignition



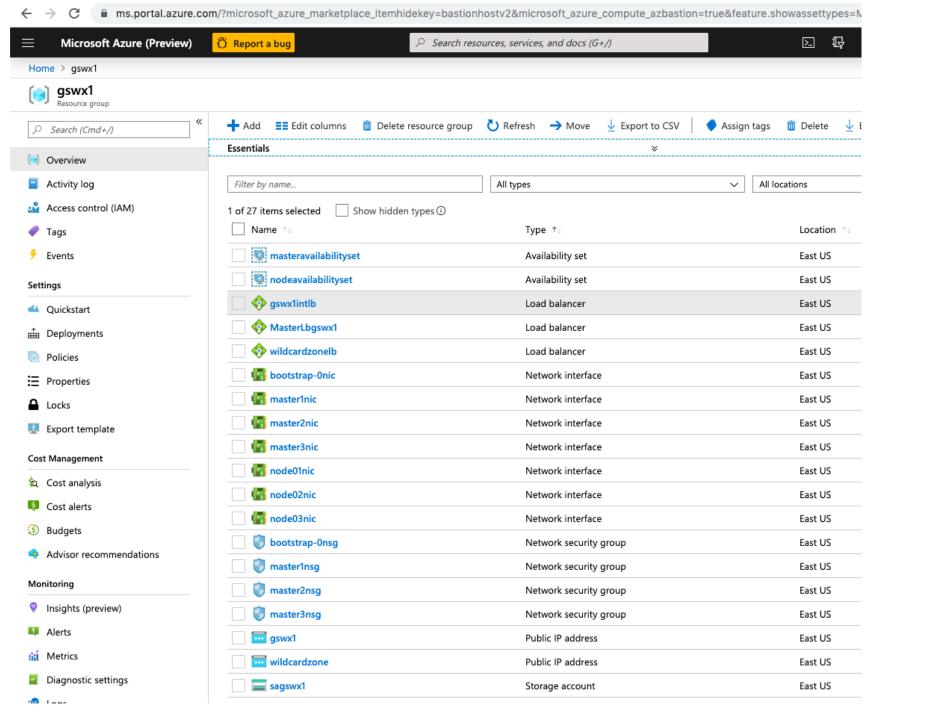
deploy-azarm.sh

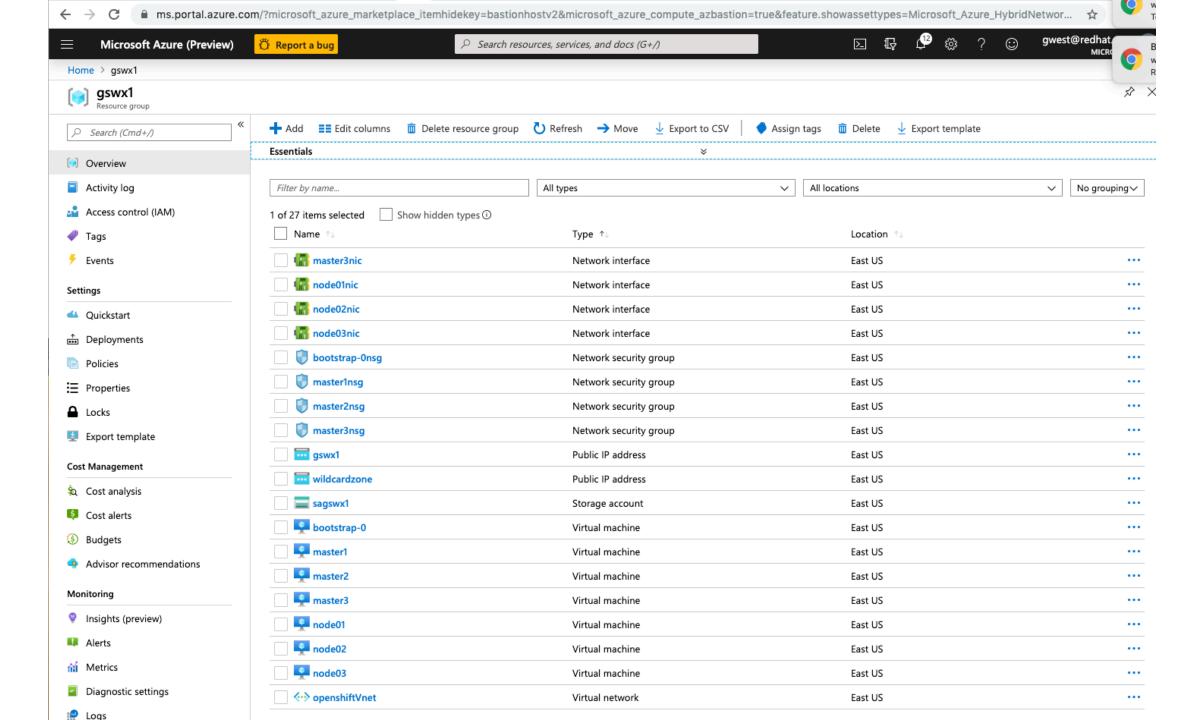
- What it does:
 - Starts the deployment using the arm template
 - Creates and setups all resources (vms,load balancers, etc)
 - Wait for bootstrap complete
 - Delete the bootstrap ignition file
 - Wait for installation complete

Start Deploy

```
[Glenns-MacBook-Pro-2:4.1 gwest$ ./deploy_azarm.sh
Start Deployment

- Running ..
```

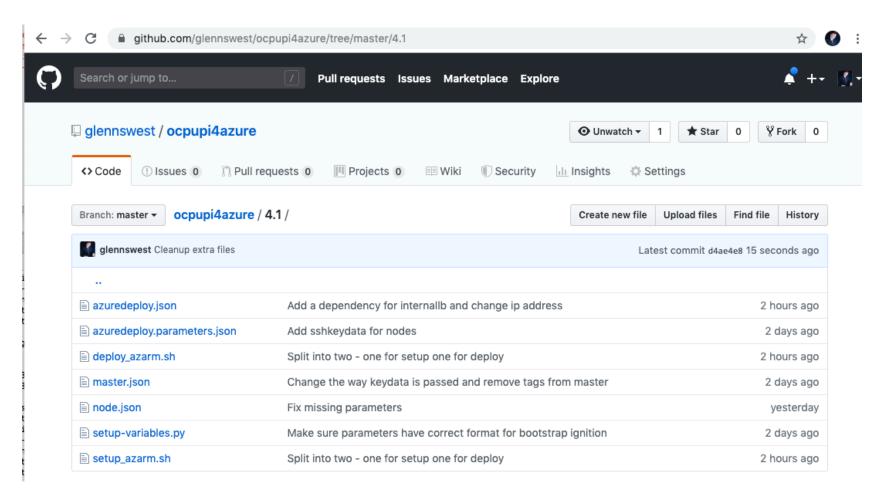




```
-- Logs begin at Fri 2019-10-11 14:26:01 UTC, end at Fri 2019-10-11 14:55:28 UTC. --
Oct 11 14:27:17 bootstrap-0 systemd[1]: Started Bootstrap a Kubernetes cluster.
Oct 11 14:27:20 bootstrap-0 bootkube.sh[1573]: Pulling release image...
Oct 11 14:27:30 bootstrap-0 bootkube.sh[1573]: 9e928444323ac8efafc26ecc9b42be1afcfd46706ee351826098db7f33b6e7b4
Oct 11 14:28:08 bootstrap-0 bootkube.sh[1573]: Rendering Cluster Version Operator Manifests...
Oct 11 14:28:10 bootstrap-0 bootkube.sh[1573]: Rendering cluster config manifests...
Oct 11 14:28:13 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/config-bootstrap/manifests/0000 10 config-operator 01 project.crd.yaml
Oct 11 14:28:13 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/config-bootstrap/manifests/0000_03_quota-openshift_01_clusterresourcequota.crd.yaml
Oct 11 14:28:13 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/config-bootstrap/manifests/0000_10_config-operator_01_apiserver.crd.yaml
Oct 11 14:28:13 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/config-bootstrap/manifests/0000_10_config-operator_01_build.crd.yaml
Oct 11 14:28:13 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/config-bootstrap/manifests/0000_10_config-operator_01_dns.crd.yaml
Oct 11 14:28:13 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/config-bootstrap/manifests/0000_10_config-operator_01_ingress.crd.yaml
Oct 11 14:28:13 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/config-bootstrap/manifests/0000_10_config-operator_01_network.crd.yaml
Oct 11 14:28:13 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/config-bootstrap/manifests/0000_03_authorization-openshift_01_rolebindingrestriction.crd.yaml
Oct 11 14:28:13 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/config-bootstrap/manifests/0000_10_config-operator_01_authentication.crd.yaml
Oct 11 14:28:13 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/config-bootstrap/manifests/0000 10 config-operator 01 console.crd.yaml
Oct 11 14:28:13 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/config-bootstrap/manifests/0000_10_config-operator_02_config.clusterrole.yaml
Oct 11 14:28:13 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/config-bootstrap/manifests/0000_10_config-operator_01_featuregate.crd.yaml
Oct 11 14:28:13 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/config-bootstrap/manifests/0000 10 config-operator 01 image.crd.yaml
Oct 11 14:28:13 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/config-bootstrap/manifests/0000_10_config-operator_01_openshift-config-managed-ns.yaml
Oct 11 14:28:13 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/config-bootstrap/manifests/0000 03 security-openshift 01 scc.crd.yaml
Oct 11 14:28:13 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/config-bootstrap/manifests/0000 10 config-operator 01 infrastructure.crd.yaml
Oct 11 14:28:13 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/config-bootstrap/manifests/0000 10 config-operator 01 oauth.crd.yaml
Oct 11 14:28:13 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/config-bootstrap/manifests/0000 10 config-operator 01 openshift-config-ns.yaml
Oct 11 14:28:13 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/config-bootstrap/manifests/0000 10 config-operator 01 scheduler.crd.yaml
Oct 11 14:28:13 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/config-bootstrap/manifests/0000_10_quota-openshift_01_clusterresourcequota.crd.yaml
Oct 11 14:28:14 bootstrap-0 bootkube.sh[1573]: Rendering Kubernetes API server core manifests...
```

```
Oct 11 14:28:17 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/kube-apiserver-bootstrap/bootstrap-manifests/kube-apiserver-pod.yaml
Oct 11 14:28:17 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/kube-apiserver-bootstrap/manifests/secret-kube-apiserver-to-kubelet-signer.yaml
Oct 11 14:28:17 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/kube-apiserver-bootstrap/manifests/secret-loadbalancer-serving-signer.yaml
Oct 11 14:28:17 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/kube-apiserver-bootstrap/manifests/00 openshift-kube-apiserver-ns.yaml
Oct 11 14:28:17 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/kube-apiserver-bootstrap/manifests/cluster-role-kube-apiserver.yaml
Oct 11 14:28:17 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/kube-apiserver-bootstrap/manifests/configmap-admin-kubeconfig-client-ca.yaml
Oct 11 14:28:17 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/kube-apiserver-bootstrap/manifests/configmap-csr-controller-ca.vaml
Oct 11 14:28:17 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/kube-apiserver-bootstrap/manifests/configmap-sa-token-signing-certs.yaml
Oct 11 14:28:17 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/kube-apiserver-bootstrap/manifests/secret-control-plane-client-signer.yaml
Oct 11 14:28:17 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/kube-apiserver-bootstrap/manifests/secret-service-network-serving-signer.yaml
Oct 11 14:28:17 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/kube-apiserver-bootstrap/manifests/00_openshift-kube-apiserver-operator-ns.yaml
Oct 11 14:28:17 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/kube-apiserver-bootstrap/manifests/cluster-role-binding-kube-apiserver.yaml
Oct 11 14:28:17 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/kube-apiserver-bootstrap/manifests/secret-aggregator-client-signer.yaml
Oct 11 14:28:17 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/kube-apiserver-bootstrap/manifests/secret-localhost-serving-signer.yaml
Oct 11 14:28:21 bootstrap-0 bootkube.sh[1573]: Rendering Kubernetes Controller Manager core manifests...
Oct 11 14:28:24 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/kube-controller-manager-bootstrap/bootstrap-manifests/kube-controller-manager-pod.vaml
Oct 11 14:28:24 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/kube-controller-manager-bootstrap/manifests/secret-initial-kube-controller-manager-service-account-p
Oct 11 14:28:24 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/kube-controller-manager-bootstrap/manifests/00_openshift-kube-controller-manager-ns.yaml
Oct 11 14:28:24 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/kube-controller-manager-bootstrap/manifests/00_openshift-kube-controller-manager-operator-ns.yaml
Oct 11 14:28:24 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/kube-controller-manager-bootstrap/manifests/secret-csr-signer-signer.yaml
Oct 11 14:28:27 bootstrap-0 bootkube.sh[1573]: Rendering Kubernetes Scheduler core manifests...
Oct 11 14:28:30 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/kube-scheduler-bootstrap/bootstrap-manifests/kube-scheduler-pod.yaml
Oct 11 14:28:30 bootstrap-0 bootkube.sh[1573]: Writing asset: /assets/kube-scheduler-bootstrap/manifests/00 openshift-kube-scheduler-ns.yaml
Oct 11 14:28:34 bootstrap-0 bootkube.sh[1573]: Rendering MCO manifests...
Oct 11 14:28:37 bootstrap-0 bootkube.sh[1573]: I1011 14:28:36.979114
                                                                          1 bootstrap.go:86] Version: 4.1.18-201909201915-dirty (a2175e587b007272f26305fe7d8b603c49e8f1fc)
Oct 11 14:28:37 bootstrap-0 bootkube.sh[1573]: I1011 14:28:36.982488
                                                                          1 bootstrap.go:142] manifests/machineconfigcontroller/controllerconfig.yaml
                                                                          1 bootstrap.go:142] manifests/master.machineconfigpool.yaml
Oct 11 14:28:37 bootstrap-0 bootkube.sh[1573]: I1011 14:28:36.985314
Oct 11 14:28:37 bootstrap-0 bootkube.sh[1573]: I1011 14:28:36.985578
                                                                          1 bootstrap.go:142] manifests/worker.machineconfigpool.yaml
Oct 11 14:28:37 bootstrap-0 bootkube.sh[1573]: I1011 14:28:36.985814
                                                                          1 bootstrap.go:142] manifests/bootstrap-pod-v2.yaml
Oct 11 14:28:37 bootstrap-0 bootkube.sh[1573]: I1011 14:28:36.986119
                                                                          1 bootstrap.go:142] manifests/machineconfigserver/csr-bootstrap-role-binding.yaml
Oct 11 14:28:37 bootstrap-0 bootkube.sh[1573]: I1011 14:28:36.986404
                                                                          1 bootstrap.go:142] manifests/machineconfigserver/kube-apiserver-serving-ca-configmap.yaml
Oct 11 14:28:38 bootstrap-0 bootkube.sh[1573]: Starting etcd certificate signer...
Oct 11 14:28:41 bootstrap-0 bootkube.sh[1573]: d853c62d2f625dce282c0897a04841819b38a765ee230ab3b82478df87746fd7
```

Where's it at:



https://github.com/glennswest/ocpupi4azure/tree/master/4.1