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README.md



# Red Hat Service Mesh - Homework

Red Hat Service Mesh Homework Assignment for Adv Red Hat Service Mesh Course

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## 1. POC Environment

*IMPORTANT!!! Lab Expires @ 12/07/20 14:54 UTC. Please email me if the environment is in "stopped" or in "standby" mode.*

- API Server

```
$ oc whoami --show-server  
https://api.cluster-4025.4025.sandbox419.opentlc.com:6443
```

- Web Console

```
$ oc whoami --show-console  
https://console-openshift-console.apps.cluster-  
4025.4025.sandbox419.opentlc.com
```

- Users

Admin User: admin

Admin Password: r3dh4t1!

Mesh-admin User: user1

Mesh-admin Password: r3dh4t1!

- Lab Versions

```
$ oc version
```

```
Client Version: 4.5.1
```

```
Server Version: 4.5.4
```

```
Kubernetes Version: v1.18.3+012b3ec
```

## 2. Pre-Requirements

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- Shell terminal
- OCP Cluster +v4.5
- Openshift Client Version 4.5 installed and logged on OCP Cluster

```
git clone https://github.com/ferluko/ocp-adv-service-mesh-hw
```

```
chmod +x scripts/*.sh
```

```
oc login -u admin -p r3dh4t1! https://api.cluster-4025.4025.sandbox419.opentlc
```

## 3. Business Application

---

Bookinfo Application Deployment

```
sh ./scripts/01_app-deploy.sh
```

## 4. OpenShift Service Mesh Operator and Control Plane

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- Red Hat OpenShift Service Mesh Operators

```
$ sh ./scripts/02_serv-mesh-deploy-operator.sh
```

- Service Mesh Control Plane Installation

```
$ sh ./scripts/03_deploy-SMCP.sh
```

## 5. ServiceMeshMemberRoll

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- Install a ServiceMeshMemberRoll resource with bookinfo as its only member.

```
$ sh ./scripts/04_serv-mesh-member-roll.sh
```

- Inject envoy to bookinfo deployments

```
$ sh ./scripts/05_inject-envoy-proxy.sh
```

## 6. mTLS Security

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- Setting up probes and create gateway and certs

```
$ sh ./scripts/06_certs-istio-ingressgw.sh
```

- Red Hat Service Mesh Resources for bookinfo project
  - Gateways
  - VirtualServices
  - DestinationRules
  - Policy

```
$ sh ./scripts/07_apply-mTLS.sh
```

- Grant permission to user1 as mesh-admin

```
$ sh ./scripts/08_grant-permission.sh
```

## Testing

---

```
export GATEWAY_URL=$(oc -n bookretail-istio-system get route productpage-gatew  
curl -kv -o /dev/null -s -w "%{http_code}\n" https://$GATEWAY_URL/productpage  
200
```

## Generate continuous traffic

---

```
while (true) ; do curl -kv -o /dev/null -s -w "%{http_code}\n" https://$GATEWA
```

## Clean up Red Hat Service Mesh and Business App

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```
$ sh ./scripts/99_delete-serv-mesh.sh
```

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