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Homework Assignment Lab

Goals

- Assess hands-on proficiency with Red Hat OpenShift Container Platform Deployment advanced topics
- Complete this course leading to **Red Hat Delivery Specialist - Advanced Platform-as-a-Service (PaaS) Administration** accreditation.

Criteria

- Assignments take the average student about eight hours to complete
- Assignments are an individual effort—complete the assignment without collaboration
- Assignments simulate a challenge typically encountered in a Red Hat Consulting engagement

Grading

- Fix one bug: 20%
- Fix a second bug: 20%
- Fix a third bug: 20%
- Fix a fourth bug: 20%
- Fix a fifth bug: 20%
- Passing grade: 80%

Submission

- Inventory File
  - Submit your Ansible inventory file to the appropriate learning management system (LMS).
  - Indicate the following in a note with the submission in the LMS file and in the Ansible inventory file:

    - Version of RHOCP supported by the inventory file—for example, 3.9.41, 3.10.34, 3.11.16, etc.
    - Instructor
    - Class location
    - Class date
- Instructions for using the LMS:
    - Red Hat employees: Red Hat LMS (https://docs.google.com/document/d/1nxlvAOlSdNs3-y8AkmDjnc8vtCH9rJdI5zbN9deCK50/edit)
    - Partners: Red Hat Connect (https://partner.redhat.com) (partner.redhat.com)

Environment

Login to labs.opentlc.com[https://labs.opentlc.com (https://labs.opentlc.com)]. Go to **Services** → **Catalogs** → **OPENTLC OpenShift Labs** → **OpenShift HA Homework 8 Lab**. Click **Order** → **Submit**

You will recieve emails indicating the status of the environment and instructions for accessin g the environment.

The inventory file with bugs is at `/etc/ansible/hosts` in the bastion host.

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1. Business Use Case

You are a consultant on an emergency assignment to a telecommunications company called MitziCom.

MitziCom received a fully automated solution from the previous engagement. However, a key asset was damaged—the inventory file that deploys OpenShift. It is your job to fix all of the bugs in the inventory file so that the OpenShift solution deploys according to the requirements.

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2. Basic Requirements

- Ability to authenticate at the master console
- Registry has storage attached and working
- Router is configured on each infra node
- Ability to deploy a simple application (`nodejs-mongodb`)

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3. HA Requirements

- There are three master control plane nodes working
- There is a load balancer to access the masters called `loadbalancer.$GUID.$DOMAIN`

- There is DNS round-robin for both infra nodes called `*.apps.$GUID.$DOMAIN`
- There are at least two infra nodes, in the `node-config-infra` node group labeled `node-role.kubernetes.io/infra=true'`

4. Environment Configuration

- Network policy SDN plug-in is configured
- Aggregated logging is configured and working
- Metrics (Prometheus and Hawkular) collection and graphing is configured and working
- Router and registry pods run on infra nodes
- Metrics and logging components run on infra nodes
- Service catalog, template service broker, and OpenShift Ansible Broker are all working

5. Images Configuration

- Operator Lifecycle Manager is configured and working
- Authentication to the Red Hat Registry (`registry.redhat.io`) works when the customer adds credentials to the inventory file
- Additional registries are accessible from OpenShift

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