ProLUG Automation
Unit 8 Worksheet

Instructions

Fill out this sheet as you progress through the lab and discussions. Hold your worksheets until the end to turn them in as a final submission packet.

Discussion Questions:

Unit 8 Discussion Post 1: Your infrastructure engineering teams have been experiencing problems re-creating environments. The main problems have been around reliably building the exact same environment and also making those builds happen in a timely manner. Last week you read https://sre.google/sre-book/release-engineering/ and https://sre.google/workbook/canarying-releases/ to answer the following questions.

1. How is a Kubernetes environment different, in release context from a virtual or physical server environment?
    a. What does the term ephemeral mean, and are all Kubernetes environments ephemeral? Why or why not?
    b. How does blue/green or canary deployments help maintain uptime in release management?
        i. What is the use case of each?

Unit 8 Discussion Post 2: Your team needs to develop a "push button" solution for deploying Kubernetes for a number of different development teams. You have a development cluster that they can use and capacity is not a consideration for this discussion.

1. What pieces of information will you need to supply on your side for this type of automation?
2. What pieces of information will the team need to supply on their side for each deployment?
    1. How can the different dev teams feed this into your automation?
        1. What do you prefer?
3. What are some potential default variables you would want to use for this deployment?

Definitions/Terminology

Notes During Lecture/Class:

Links:

- Ansible Kubernetes core module:
  https://docs.ansible.com/projects/ansible/latest/collections/kubernetes/core/k8s_module.html
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Terms:

- Kubernetes
  - Namespaces
  - Pods
  - Deployments
  - Labels
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Useful tools:

Lab and Assignment

Unit8 Lab Kubernetes Automation - https://killercoda.com/het-tanis/course/Automation-Labs/Unit8_Kubernetes_Automation

Digging Deeper

1. Read other use cases for the Kubernetes module in Ansible:
   https://docs.ansible.com/projects/ansible/latest/collections/kubernetes/core/k8s_module.html
   1. How might you use these other use cases in your environments?
   2. Do you have another tool you'd use instead of this? Does it have the same, or more functionality?
2. Deployment practices with Kubernetes blue/green and canary labs:
   1. https://killercoda.com/het-tanis/course/Kubernetes-Labs/blue-green-deployments
   2. https://killercoda.com/het-tanis/course/Kubernetes-Labs/canary-deployments

Reflection Questions

1. What questions do you still have about this week?

2. How are you going to use what you've learned in your current role?