



# Red Hat Training and Certification

DO274

Travis Michette

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# Introduction



## Repositories for this Course

### Main Repository

- **DO274\_Notes:** [https://github.com/tmichett/DO274\\_Notes](https://github.com/tmichett/DO274_Notes)
  - Contains book components and demos and builds on Jenkins server. This is a private repository.
- **DO274\_Demo:** [https://github.com/tmichett/DO274\\_Demo](https://github.com/tmichett/DO274_Demo)
  - Contains PDF copy of book, demo source, and reference materials. This is a public repository and shared as part of the course delivery.

## URLs and Login Information for the Course

- **EDA Controller:** <https://eda-controller.lab.example.com>
- **Ansible Automation Controller:** <https://controller.lab.example.com>
- **Private Automation Hub:** <https://hub.lab.example.com>
  - a. **Username:** admin
  - b. **Password:** redhat
- **Mattermost:** <http://mattermost.lab.example.com:8065>
  - a. **Username:** student
  - b. **Password:** Stud3nt123



The Mattermost DNS entry is not in the DNS server. It is only available from the Workstation VM as it is an entry in **/etc/hosts**.

```
172.25.250.220 mattermost.lab.example.com
```

# 1. Getting Started with Event- Driven Ansible

## 1.1. Introduction to Event-Driven Ansible

### 1.1.1. Event-Driven Ansible

### 1.1.2. Event-Driven Ansible Components

### 1.1.3. Running Ansible Rulebooks

#### 1.1.3.1. Running Ansible Rulebooks from the Command Line

#### 1.1.3.2. Running Ansible Rulebooks with Event-Driven Ansible Controller

### 1.1.4. Content for the Event Source Plug-ins

#### 1.1.4.1. Red Hat Ansible Certified Content

#### 1.1.4.2. Ansible Validated Content

#### 1.1.4.3. Getting Content from Private Automation Hub

### 1.1.5. Event-Driven Ansible Use Cases

#### 1.1.5.1. Fact and Ticket Enrichment

#### 1.1.5.2. High Occurrence of Low-complexity Issues

#### 1.1.5.3. Security and Compliance Automation

## 1.2. Creating and Testing Ansible Rulebooks

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### 1.2.1. Reading and Writing Ansible Rulebooks

### 1.2.2. Selecting Actions for Rules

#### 1.2.2.1. Actions on an Automation Controller

### 1.2.3. Event Source Plug-ins and Sample Rulebooks

#### 1.2.3.1. Reacting to Webhook Events

#### 1.2.3.2. Reacting to Log Events

#### 1.2.3.3. Reacting to URL Check Events

### 1.2.4. Testing Ansible Rulebooks



## 1.3. DEMO - Acting on Webhook Events

Section Info Here

### Listing 1. Example Code box for CLI

```
[student@workstation ~]$ sudo yum module install container-tools
```

### Listing 2. Example Code box for YAML

```
---
- name: Deploy HTTPD Server Demo
  hosts: server
  collections:

  tasks:

## Start and Run the HTTPD Container
- name: Start the Apache Container
  podman_container:
```

### Example 1. LAB/Exercise: Hands-On Activity Example

1. Download a container image.
  - a. Registry: **registry.access.redhat.com**
  - b. Image: **ubi7**
2. Run the container

#### 1.3.1. <Section\_Sub\_Intro\_Here>

## 1.4. DEMO - Acting on System Journal Events

Section Info Here

### Listing 3. Example Code box for CLI

```
[student@workstation ~]$ sudo yum module install container-tools
```

### Listing 4. Example Code box for YAML

```
---
- name: Deploy HTTPD Server Demo
  hosts: server
  collections:

  tasks:

  ## Start and Run the HTTPD Container
  - name: Start the Apache Container
    podman_container:
```

### Example 2. LAB/Exercise: Hands-On Activity Example

1. Download a container image.
  - a. Registry: **registry.access.redhat.com**
  - b. Image: **ubi7**
2. Run the container

#### 1.4.1. <Section\_Sub\_Intro\_Here>

## 1.5. DEMO - Acting on Results from the URL Check Plug-in

Section Info Here

### Listing 5. Example Code box for CLI

```
[student@workstation ~]$ sudo yum module install container-tools
```

### Listing 6. Example Code box for YAML

```
---
- name: Deploy HTTPD Server Demo
  hosts: server
  collections:

  tasks:

## Start and Run the HTTPD Container
- name: Start the Apache Container
  podman_container:
```

### Example 3. LAB/Exercise: Hands-On Activity Example

1. Download a container image.
  - a. Registry: **registry.access.redhat.com**
  - b. Image: **ubi7**
2. Run the container

#### 1.5.1. <Section\_Sub\_Intro\_Here>

## 1.6. DEMO - Watching the Sudoers File

Section Info Here

### Example 4. Creating Events Based on Sudoers File Changes

1. Download a container image.
  - a. Registry: **registry.access.redhat.com**
  - b. Image: **ubi7**
2. Run the container

# 2. Getting Started with Event- Driven Ansible Controller

## 2.1. Installing Event-Driven Ansible Controller

Section Info Here

### 2.1.1. Planning the Installation

**2.1.1.1. Automation Controller, Private Automation Hub, and Event- Driven Ansible Controller with External Database Servers**

### 2.1.2. Event-Driven Ansible Controller Installation Options

**2.1.2.1. Installation Requirements**

**2.1.2.2. Database Storage**

### 2.1.3. Subscription and Support

### 2.1.4. Installing Red Hat Ansible Automation Platform

**2.1.4.1. Installing Event-Driven Ansible Controller**

### 2.1.5. Replacing the CA Certificate

**2.1.5.1. Gathering Certificates and Private Keys**

**2.1.5.2. Preparing the Systems**

### 2.1.6. Trusting Custom CA Certificates

### 2.1.7. Updating RPM Packages on Ansible Automation Platform Servers

## 2.2. Configuring Event-Driven Ansible Controller to Run Ansible Rulebooks

Section Info Here

### 2.2.1. Event-Driven Ansible Controller Resources

### 2.2.2. Creating Credentials

### 2.2.3. Creating Projects

### 2.2.4. Creating Controller Tokens

### 2.2.5. Creating Ansible Rulebook Activations

### 2.2.6. Launching an Automation Controller Job Template or Workflow Template Using a Rulebook Activation

### 2.2.7. Viewing Rule Audits

## 2.3. DEMO - Configuring Event-Driven Ansible Controller to Run Ansible Rulebooks

Section Info Here

### Listing 7. Example Code box for CLI

```
[student@workstation ~]$ sudo yum module install container-tools
```

### Listing 8. Example Code box for YAML

```
---
- name: Deploy HTTPD Server Demo
  hosts: server
  collections:

  tasks:

## Start and Run the HTTPD Container
- name: Start the Apache Container
  podman_container:
```

### Example 5. LAB/Exercise: Hands-On Activity Example

1. Download a container image.
  - a. Registry: **registry.access.redhat.com**
  - b. Image: **ubi7**
2. Run the container

### 2.3.1. <Section\_Sub\_Intro\_Here>

## 3. Example Use Cases for Event- Driven Ansible

### 3.1. GitOps with Event-Driven Ansible

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#### 3.1.1. Using Webhooks in Event-Driven Ansible

#### 3.1.2. Configuring Webhooks in the Git Repository Server

##### 3.1.2.1. Configuring GitLab to use Webhooks

##### 3.1.2.2. Configuring Projects in GitLab to use Webhooks

##### 3.1.2.3. Testing a Webhook in GitLab

#### 3.1.3. Using Tests from GitLab to Create Rules in Rulebooks



## 3.2. DEMO - GitOps with Event-Driven Ansible

Section Info Here

### Listing 9. Example Code box for CLI

```
[student@workstation ~]$ sudo yum module install container-tools
```

### Listing 10. Example Code box for YAML

```
---
- name: Deploy HTTPD Server Demo
  hosts: server
  collections:

  tasks:

  ## Start and Run the HTTPD Container
  - name: Start the Apache Container
    podman_container:
```

### Example 6. LAB/Exercise: Hands-On Activity Example

1. Download a container image.
  - a. Registry: **registry.access.redhat.com**
  - b. Image: **ubi7**
2. Run the container

### 3.2.1. <Section\_Sub\_Intro\_Here>

## 3.3. Event-Driven Ansible and NetOps

Section Info Here

### 3.3.1. Reacting to Network Events

### 3.3.2. Managing Network Devices

### 3.3.3. Running Playbooks that Include Networking Modules

#### 3.3.3.1. Run Playbooks on Your Local System

#### 3.3.3.2. Run Playbooks on an Automation Controller

### 3.3.4. Using Network Telemetry

#### 3.3.4.1. Configuring Network Telemetry

#### 3.3.4.2. Configuring gNMI on Network Switches

#### 3.3.4.3. Configuring Telegraf

#### 3.3.4.4. Managing and Querying Apache Kafka Topics

#### 3.3.4.5. Using EDA to Query Apache Kafka

### 3.3.5. Integrating EDA with Chat Services

#### 3.3.5.1. Configuring an Incoming Webhook

#### 3.3.5.2. Configuring an Outgoing Webhook

## 3.4. DEMO - Event-Driven Ansible and NetOps

Section Info Here

### Listing 11. Example Code box for CLI

```
[student@workstation ~]$ sudo yum module install container-tools
```

### Listing 12. Example Code box for YAML

```
---
- name: Deploy HTTPD Server Demo
  hosts: server
  collections:

  tasks:

  ## Start and Run the HTTPD Container
  - name: Start the Apache Container
    podman_container:
```

### Example 7. LAB/Exercise: Hands-On Activity Example

1. Download a container image.
  - a. Registry: **registry.access.redhat.com**
  - b. Image: **ubi7**
2. Run the container

#### 3.4.1. <Section\_Sub\_Intro\_Here>

## 3.5. DEMO - Event-Driven Ansible and Automated Notifications

Section Info Here

### Listing 13. Example Code box for CLI

```
[student@workstation ~]$ sudo yum module install container-tools
```

### Listing 14. Example Code box for YAML

```
---
- name: Deploy HTTPD Server Demo
  hosts: server
  collections:

  tasks:

  ## Start and Run the HTTPD Container
  - name: Start the Apache Container
    podman_container:
```

### Example 8. LAB/Exercise: Hands-On Activity Example

1. Download a container image.
  - a. Registry: **registry.access.redhat.com**
  - b. Image: **ubi7**
2. Run the container

#### 3.5.1. <Section\_Sub\_Intro\_Here>

## 3.6. DEMO - Triggering Event-Driven Ansible from a Chat Room

Section Info Here

### Listing 15. Example Code box for CLI

```
[student@workstation ~]$ sudo yum module install container-tools
```

### Listing 16. Example Code box for YAML

```
---
- name: Deploy HTTPD Server Demo
  hosts: server
  collections:

  tasks:

## Start and Run the HTTPD Container
- name: Start the Apache Container
  podman_container:
```

### Example 9. LAB/Exercise: Hands-On Activity Example

1. Download a container image.
  - a. Registry: **registry.access.redhat.com**
  - b. Image: **ubi7**
2. Run the container

#### 3.6.1. <Section\_Sub\_Intro\_Here>