

# Orchestration and Workflows

After completing this episode, you should be able to:

- Discuss orchestration and workflows as they exist in cloud environments today

**Description:** In this episode, you will learn about orchestration and workflows as they exist in modern cloud environments. This episode provides a demonstration of one of the built-in orchestration tools of AWS - the CloudFormation tool.

## Orchestration and Workflows

**Orchestration** - Orchestration in the cloud refers to the automated management and coordination of various cloud resources and services to deploy, configure, scale, and manage complex applications and infrastructure. This involves defining the desired state of the system through code or configuration files and using orchestration tools like Kubernetes, Docker Swarm, or AWS ECS to ensure that the actual state matches the desired state. Orchestration abstracts away the underlying complexities of cloud infrastructure, enabling efficient resource utilization, high availability, fault tolerance, and scalability while promoting consistency, repeatability, and automation in application deployment and management processes across distributed environments.

**Workflow** - In cloud orchestration, a workflow represents a sequence of interconnected tasks or steps that automate and streamline the execution of complex processes or operations within a cloud environment. These workflows define the flow of data, actions, and dependencies between different components or services, orchestrating the deployment, configuration, monitoring, and scaling of cloud resources and applications. Workflow automation tools such as Apache Airflow, AWS Step Functions, or Azure Logic Apps enable developers and operations teams to design, schedule, and manage workflows visually or through code, allowing for the creation of sophisticated automation pipelines. Workflows in cloud orchestration facilitate collaboration, improve efficiency, and ensure consistency in executing tasks across diverse cloud environments, enhancing agility and accelerating time-to-market for cloud-based solutions.

## Additional resources

- What is Cloud Orchestration: <https://www.vmware.com/topics/glossary/content/cloud-orchestration.html>  
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