Creating Workflows with Step Functions

Fundamental Abstractions

Step Functions is AWS's orchestration service. It is based on two abstractions:

- **State Machine:** workflows.
- **Tasks:** States in a workflow that represent a single unit of work in AWS.

The two most common patterns in Step Machines for ML engineers are

- **Function orchestration**: Managed, ordered execution of Lambda functions
- **Branching**: Determination of which path to take based on the prior task's state

Pros & Cons of Step Functions

Pros

- Intuitive UI
- Easy visualization
- Easy isolation of failure points.

Cons

- Expensive
- Dependent on proprietary Amazon State Language (Steep learning curve)
- Not compatible with comparable orchestration tools.

New Terms

- **Step Functions** - AWS's orchestration service.
- **State Machine -** Workflows in Step Functions.

- **Tasks-** States in a workflow in Step Functions that represent a single unit of work in AWS.
- **Function orchestration**- Workflow pattern that is the managed, ordered execution of Lambda functions
- **Branching**- Workflow patter that is the determination of which path to take based on the prior task's state

Additional Resources

- If you want to learn more about Step Functions, we recommend What is AWS Step Functions?
- If you want to learn more about invoking SageMaker with Step Functions, we recommend Manage SageMaker with Step Functions