

Module 30 – Step Functions

Overview

In prior modules and projects, we used Lambda functions for computation, but the computation that was required by our projects was in a way “isolated”. By “isolated” we mean that only one computational step was needed to accomplish some task before moving data to a different service like a queue (Figure 1).



Figure 1: So far our workflows needed only one computational step to do some work.

In many scenarios, however, multiple distinct computational steps are needed as shown in Figure 2. It is also possible to have scenarios that require some branching of execution (Figure 3)

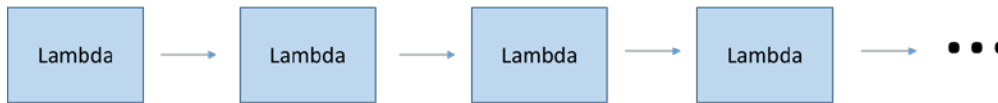


Figure 2: In many scenarios there is a need to have multiple computational steps chained together in a well-defined order.

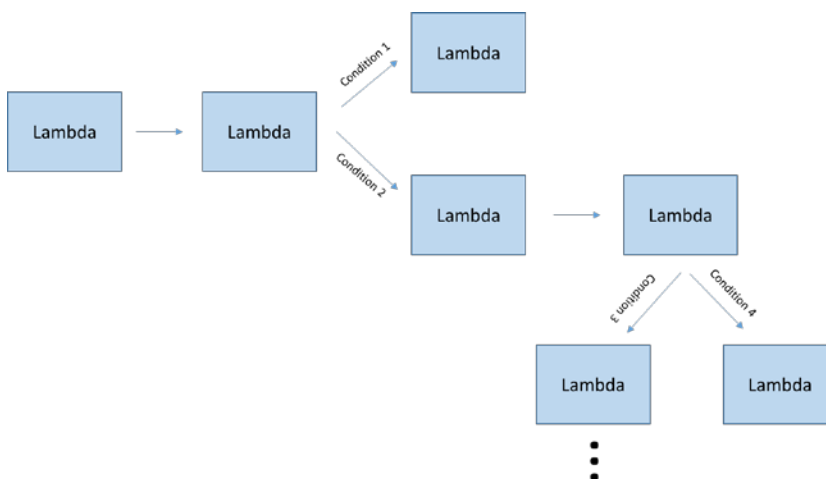


Figure 3: Other business scenarios and workflows may also require branching of execution based on some condition

AWS does allow one Lambda to call another, and we can just use plain Lambdas to somewhat accomplish workflows that resemble the ones in Figures 2 and 3. This, however, becomes cumbersome and difficult to orchestrate and deploy as the number of computational steps and branching increase (e.g., imagine a complex situation with 20 different computational steps and extensive branching).

The AWS Step Functions service is for just doing that. It simplifies the orchestration of sequencing Lambda functions together to handle complex workflows with distinct computational steps. It also comes with a drag-and-drop visual designer to simplify setting up a workflow.

Example to Try

I will not provide you with my own example since AWS has a good one we can use as-is.

1. Go the [AWS Step Functions service page](#) and read it.
2. Go to [this page](#) and follow the steps to simulate a call center workflow with multiple distinct computational steps (**skip Step 2 and use the existing LabRole that comes with your AWS account**). And for Step 3 you just use the ARN of the LabRole (to get this ARN: go to the **IAM Service** page, click **Roles** from the left navigation bar, find **LabRole** in the list and click it, and the ARN should be displayed in the properties page of LabRole).

What to Submit

Nothing to submit for this module