Module 26 – Amazon EventBridge

Overview

Amazon EventBridge allows you to send messages (or events) to a bus. The messages that arrive to the bus can be forwarded to other systems. You can also create rules that filter on specific fields in the message. This service allows you to integrate systems together without tightly coupling them. Let's consider a business scenario to see how this can be useful:

Assume a financial company (let's call it "ABC Financials") that offers many products: banking, insurance, and mortgage lending. Each product is managed by an independent division, possibly working in different locations, and possibly using different software applications.

A customer (John Smith) walks into a banking branch of ABC Financials and opens an account (this is the banking division). ABC Financials wants to market other products to John Smith. One inefficient way to do that is for the banking software to call the other divisions' software systems (maybe via an API) and inform them that a new customer opened an account. The other divisions look at the message and decide whether to follow up and market their products to John Smith. This mechanism doesn't scale well for many reasons. For example, assume that ABC Financials adds a new product to their offerings: investments. To update this system, the banking software needs to be update to also send a message to the new Investments division software. And all other divisions need to do the same.

A more efficient and scalable design (and that requires little to no update) is to post an event to an EventBridge bus. Other divisions interested to be notified can create EventBridge rules that filter on specific fields (of interest to them). For example, assume that the banking software pushed the following 2 events to EventBridge (when John Smith and another customer, Jennifer Swicegood) opened accounts at the banking divisions:

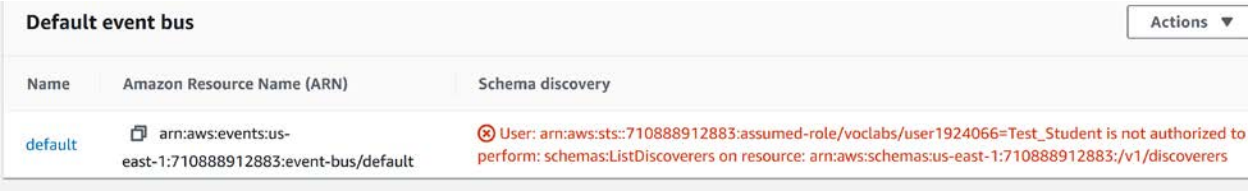
```
{
    "customer" : "John Smith",
    "phone" : "425 555-6666",
    "accomodation_type" : "rent",
    "household_income" : 35,000
}

{
    "customer" : "Jennifer Swicegood",
    "phone" : "425 777-8888",
    "accomodation_type" : "own",
    "household_income" : 130,000
}
```

In this case the insurance division would be interested in marketing to Jennifer (since she owns her accommodation) but not to "John" who is renting. Therefore, the insurance division can create a rule

with “accommodation”=”own” and only get notified of new customers who own their homes. Same for the investment division. Say the investment division wants to market to households making above 100,000. Then they can create an EventBridge rule “household_income”>100,000 and only get notified for Jennifer (but not John).

To do that you will do the following:

- Create a Lambda
- Use the AWS EventBridge SDK to push a message to an EventBridge bus. You already have an event bus (go to the EventBridge services and click the **Event buses** link on the left navigation bar).



- You likely need to use the PutEvents method. Add arbitrary events. Look here for fields that are required.

[PutEvents - Amazon EventBridge]

For this module we are only interested in pushing events. In another module we will try to consume them.

What to Submit

Nothing to submit for this module