Assignment

1. Create a system that executes three AWS Lambda functions in sequence, where each function processes the output from the previous function based on an initial input
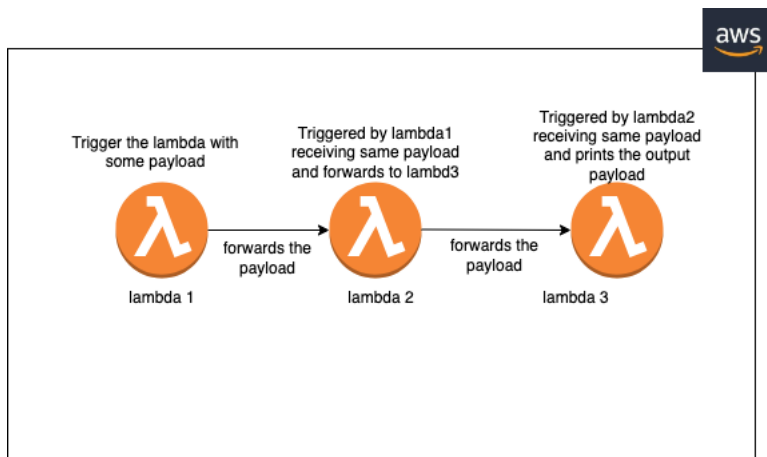
Solution

Tech Stack

1. AWS (lambda)
2. Terraform (Infra Provision)
3. Github (Source Code)
4. python

Repo -> https://github.com/venkat-raju0492/freyr/tree/main/2/lambdas

Architecture Diagram

Python code ->

https://github.com/venkat-raju0492/freyr/tree/main/2/app1

https://github.com/venkat-raju0492/freyr/tree/main/2/app2

https://github.com/venkat-raju0492/freyr/tree/main/2/app3

Terrform code -> https://github.com/venkat-
raju0492/freyr/tree/main/2/lambdas
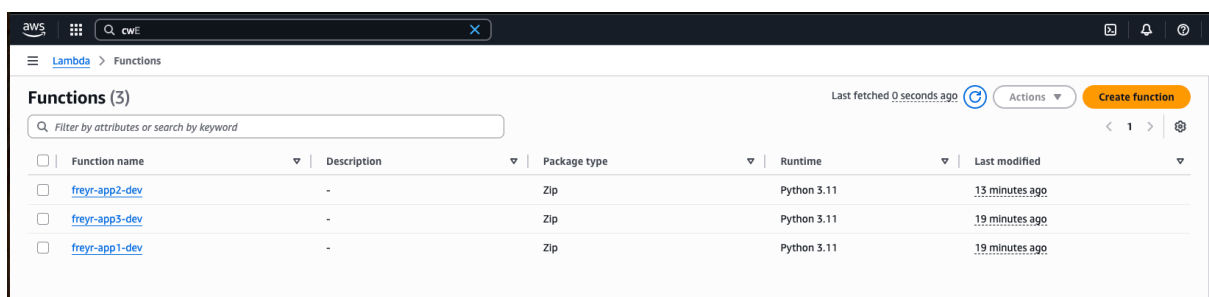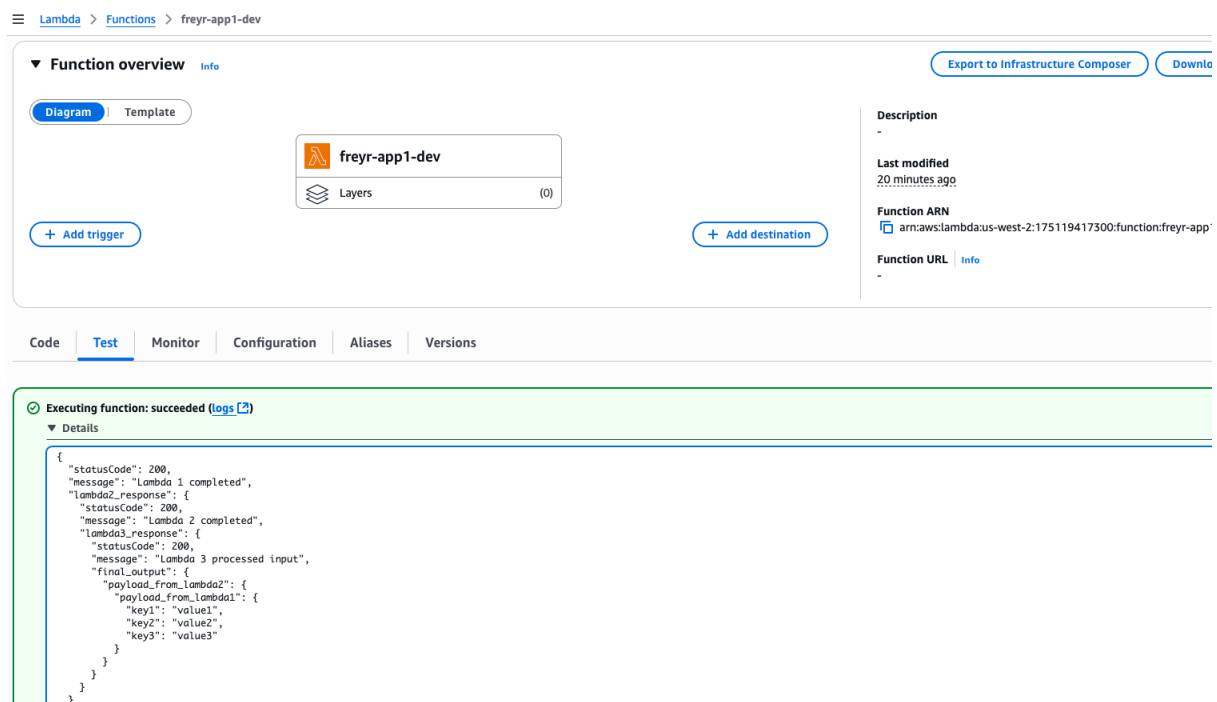
All three lambdas are deployed

Triggering the lambda function1 with sample payload it shall forward it to
lambda2 with the arn provide in the environment variables, lambda2 gets
invoked by lambda1 and receives all the payload and forwards it to
lambda3 with its arn provided in the environment variables, lambda3 is
invoked by lambda2 and prints the payload it received

Triggering the lambda1 with payload

Output logs of lambda1


```
{
    "statusCode": 200,
    "message": "Lambda 1 completed",
    "lambda2_response": {
        "statusCode": 200,
        "message": "Lambda 2 completed",
        "lambda3_response": {
            "statusCode": 200,
            "message": "Lambda 3 processed input",
            "final_output": {
                "payload_from_lambda2": {
                    "payload_from_lambda1": {
                        "key1": "value1",
                        "key2": "value2",
                        "key3": "value3"
                    }
                }
            }
        }
    }
}
```

Lambda2 logs

CloudWatch > Log groups > /aws/lambda/freyr-app2-dev > 2025/07/29/[$LATEST]d928cf49e2d94e25bb9219de08fb02e7

CloudWatch

Favorites and recents

Dashboards

AI Operations New
  Overview
  Investigations
  Configuration

Alarms 0 0 4
  In alarm
  All alarms

Logs

Log events

You can use the filter bar below to search for and match terms, phrases, or values in your log events. Learn more about filter patterns

Filter events - press enter to search

Clear   1m   30m   1h   12h   Custom   UTC timezone   Display

Actions ▼   Start tailing   Create metric filter

Message

No older events at this moment. Retry

INIT_START Runtime Version: python:3.11.v83   Runtime Version ARN: arn:aws:lambda:us-west-2::runtime:26afe95b80f712a3037463ff3166f54bef5aa010c870d7110cc2ce1e1233a3d5

START RequestId: b1d1470e-6a1b-44d3-bb89-7ebea9075a45 Version: $LATEST

Lambda 2 received: {'payload_from_lambda1': {'key1': 'value1', 'key2': 'value2', 'key3': 'value3'}}

Response from Lambda 3: {'statusCode': 200, 'message': 'Lambda 3 processed input', 'final_output': {'payload_from_lambda2': {'payload_from_lambda1': {'key1': 'value1', 'key2': 'value2', 'key3': 'value3'}}}}

END RequestId: b1d1470e-6a1b-44d3-bb89-7ebea9075a45

REPORT RequestId: b1d1470e-6a1b-44d3-bb89-7ebea9075a45 Duration: 464.89 ms   Billed Duration: 465 ms Memory Size: 128 MB   Max Memory Used: 84 MB Init Duration: 444.32 ms

No newer events at this moment. Auto retry paused. Resume

Lambda3 logs

CloudWatch > Log groups > /aws/lambda/freyr-app3-dev > 2025/07/29/[$LATEST]f47db63c04234208b94b6fb059008495

CloudWatch

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Log events

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Filter events - press enter to search

Clear   1m   30m   1h   12h   Custom   UTC timezone   Display

Actions ▼   Start tailing   Create metric filter

Message

No older events at this moment. Retry

INIT_START Runtime Version: python:3.11.v83   Runtime Version ARN: arn:aws:lambda:us-west-2::runtime:26afe95b80f712a3037463ff3166f54bef5aa010c870d7110cc2ce1e1233a3d5

START RequestId: b4d3a7b6-ab75-4d1d-af49-2db7272bbd22 Version: $LATEST

Lambda 3 received: {'payload_from_lambda2': {'payload_from_lambda1': {'key1': 'value1', 'key2': 'value2', 'key3': 'value3'}}}

END RequestId: b4d3a7b6-ab75-4d1d-af49-2db7272bbd22

REPORT RequestId: b4d3a7b6-ab75-4d1d-af49-2db7272bbd22 Duration: 1.38 ms   Billed Duration: 2 ms   Memory Size: 128 MB   Max Memory Used: 34 MB Init Duration: 80.95 ms

No newer events at this moment. Auto retry paused. Resume

Conclusion

lambda1 (payload forward) -> lambda2(receives payload and forwards) -> lambda3 (prints payload)

Soultion2:

We can also achieve sequential lambda triggers using aws step functions