1 Use Case
- 1 We want to use the emoji Python library inside a Lambda function
- 2 But AWS Lambda doesn't have emoji by default, so we will
  - 1 Write code that uses the library (and fails)
  - 2 Fix it by creating a Lambda Layer

Lambda Layers Lab

2 ☑ Step-by-Step Lab Plan

1 ☑ Step 1: Create a Lambda Function
- 1 Go to AWS Lambda Console
- 2 Click Create function
- 3 Select
  - 1 Author from scratch
  - 2 Function name EmojiFunction
  - 3 Runtime Python 3.9
- 4 Click Create function

2 ☑ Step 2: Add Code That Uses the emoji Library and Test the function
- 1 Replace the default code with

```
import emoji

def lambda_handler(event, context):
    message = emoji.emojize("Hello from Lambda! :rocket: :grinning_face_with_big_eyes:")
    return {
        'statusCode': 200,
        'body': f"{message}"
    }
```

- 2 Click Deploy, then click Test (create a test event with default values)
- 3 ✕ See the Error
  - 1

```
{
 "errorMessage": "Unable to import module 'lambda_function': No module named 'emoji'",
 "errorType": "Runtime.ImportModuleError"
}
```

  - 2 This is expected — because emoji is not available in Lambda by default

3 ☑ Step 3: Create the emoji Layer ZIP File
- 1 Open AWS CloudShell
- 2 Create a folder and install emoji library
  - 1 mkdir -p emoji-layer/python Create parent and subfolders
  - 2 cd emoji-layer/python Change directory to the python folder
  - 3 pip3 install emoji -t . Install the emoji library locally into this folder
- 3 Zip the folder
  - 1 cd ~/emoji-layer Go back to the emoji-layer root directory
  - 2 zip -r9 emoji_layer.zip python This creates the file emoji_layer.zip
  - 3 Now you have emoji_layer.zip in your CloudShell environment.
- 4 Download the ZIP file to your local system
  - 1 Open CloudShell Action menu
  - 2 Choose Download file
  - 3 Enter the full path /home/cloudshell-user/emoji-layer/emoji_layer.zip
  - 4 Then click Download — this will save the ZIP to your PC 💻

4 ☑ Step 4: Upload the ZIP File as a Lambda Layer
- 1 Go to the AWS Lambda Console
- 2 In the left sidebar, click “Layers”
- 3 Click the “Create layer” button
- 4 Fill in the form
  - 1 Name emoji-layer
  - 2 Description: (optional) Layer for emoji Python library
  - 3 Upload a .zip file Click “Upload” and choose emoji_layer.zip from your PC
  - 4 Compatible runtimes ☑ Select Python 3.9
  - 5 Click Create
- 5 ☑ Your emoji-layer is now ready!

5 ☑ Step 5: Attach the Layer to Your Lambda Function
- 1 Go to your Lambda function (EmojiFunction)
- 2 Scroll down to the “Layers” section
- 3 Click “Add a layer”
- 4 Choose
  - 1 Custom layers
  - 2 Select emoji-layer
  - 3 Choose the latest version (usually version 1)
- 5 Click “Add”
- 6 ☑ Layer is now attached!

6 ☑ Step 6: Re-Test the Lambda Function
- 1 Click Deploy (if not done already)
- 2 Click Test (Use the same test event as before)
- 3 You should now see

```
{
 "statusCode": 200,
 "body": "Hello from Lambda! 🚀 😀"
}
```

- 4 🎯 Success! Your Lambda function now uses the emoji library from the custom layer!