

Task 4: Deploy a Serverless Function to the Cloud

Objective

To understand serverless computing by creating and deploying a simple cloud function (FaaS) that executes code automatically when triggered — without managing any servers. This task helps interns learn about event-driven computing, resource optimization, and cost-effective deployments in modern cloud environments.

Tools (Free Options)

Choose any one of the following cloud providers (all have free tiers): • Google Cloud Functions • AWS Lambda • Microsoft Azure Functions
Optional local tools: • Visual Studio Code (VS Code) • Postman (for testing API endpoints)

Deliverables

- Source code file (e.g., index.js or main.py)
- Screenshot(s) showing successful deployment in the cloud console
- Function endpoint URL (if available)
- Short note explaining how your function works

Step-by-Step Guide

1 Understand What a Serverless Function Is

A serverless function runs your code in response to specific events — such as HTTP requests, file uploads, or database updates — without managing any servers.

2 Create a Simple Function

```
Example using Node.js (JavaScript):
exports.helloWorld = (req, res) => {
  res.send("Hello from my first cloud function!");
};
```

```
Example using Python:
def hello_world(request):
    return "Hello from my first cloud function!"
```

3 Deploy the Function

1. Go to your cloud provider's console. 2. Choose Create Function. 3. Select a trigger type (HTTP trigger recommended). 4. Paste or upload your function code. 5. Click Deploy and wait for the success message.

4 Test the Function

Copy your trigger URL (e.g., <https://region-project.cloudfunctions.net/helloWorld>) Open it in your browser or test using Postman. You should see your response message — for example: "Hello from my first cloud function!"

5 Modify and Experiment

```
Example (Python):
def greet_user(request):
```

```
name = request.args.get('name', 'Guest')
return f"Hello, {name}! Welcome to Cloud Functions."
```

6 Clean Up Resources

After testing, delete your deployed function to avoid unnecessary usage in your free tier.

Outcome

By completing this task, you will:

- Understand serverless architecture and Function-as-a-Service (FaaS).
- Learn how to deploy and test applications without managing servers.
- Gain hands-on experience with trigger-based execution.
- Build a foundation for automated cloud workflows.

Interview Questions — Serverless Function Deployment

1. What is serverless computing, and how is it different from traditional hosting?
2. Explain what triggers are in serverless functions.
3. What happens behind the scenes when a cloud function is deployed?
4. What are the advantages of using a serverless architecture?
5. How does a FaaS model reduce operational overhead?
6. What are cold starts in serverless computing, and why do they occur?
7. How can you secure a serverless HTTP endpoint?
8. Give one real-world use case ideal for serverless computing.