



[2] AWS Workshop

Name: Mohammed Almalki

Senior CS student at King Abdulaziz University

Data Scientist | IOS Developer

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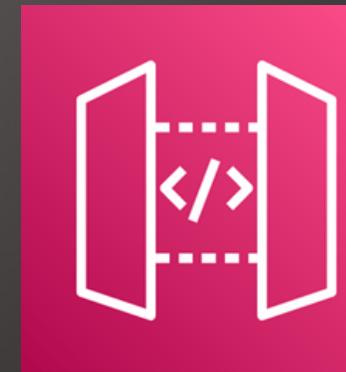
Building the project

What is AWS?



Lambda functions

Running a piece of code as function on the cloud.



API Gateway

Creating APIs and control them by the gateway panel.



RDS database service

Creating instances of many types of database admin systems.

How to create an AWS account?



More information about free tiers
that AWS servers provides for
developers



Link for sign up page

Sign up for AWS

Root user email address

Used for account recovery and some administrative functions

AWS account name

Choose a name for your account. You can change this name in your account settings after you sign up.

Verify email address

OR

Sign in to an existing AWS account

1

Sign up for AWS

Confirm you are you

Making sure you are secure -- it's what we do.

We sent an email with a verification code to
m[REDACTED]ail.com. (not you?)

Enter it below to confirm your email.

Verification code

Verify

Resend code

Didn't get the code?

- Codes can take up to 5 minutes to arrive.
- Check your spam folder.

2

Sign up for AWS

Create your password

It's you! Your email address has X
been successfully verified.

Your password provides you with sign in access
to AWS, so it's important we get it right.

Root user password

 key icon

Conf

>Passwords must be at least 8
characters long and contain at least 3
of the following:

- Uppercase letters
- Lowercase letters
- Numbers
- Non-alphanumeric characters

Sign in to an existing AWS account

3

Sign up for AWS

Contact Information

How do you plan to use AWS?

- Business - for your work, school, or organization
- Personal - for your own projects

Who should we contact about this account?

Full Name

Phone Number

+1 ▼ 222-333-4444

Country or Region

United States ▼

Address

Apartment, suite, unit, building, floor, etc.

City

State, Province, or Region

Postal Code

I have read and agree to the terms of the
[AWS Customer Agreement](#).

Continue (step 2 of 5)

4

Sign up for AWS

Billing Information

Credit or Debit card number



AWS accepts all major credit and debit cards. To learn more about payment options, review our [FAQ](#)

Expiration date

 Month Year

Cardholder's name

Billing address

 Use my contact address Use a new address**Verify and Continue (step 3 of 5)**

You might be redirected to your bank's website to authorize the verification charge.



Troubleshooting

- ✖ There was a problem with your payment information. To continue, [sign in to your account](#) and update your payment information. Then you can continue signing up. If this problem persists, contact [AWS Customer Support](#) .

Lambda: create function

The screenshot illustrates the process of creating a new AWS Lambda function across three main sections: the AWS Home Console, the AWS Lambda search results, and the AWS Lambda dashboard.

- Step 5:** The AWS Home Console is shown. A red hand icon points to the "Lambda" service in the top navigation bar.
- Step 6:** The search results for "Lambda" are displayed. A red hand icon points to the "Lambda" service entry in the "Services" section.
- Step 7:** The AWS Lambda dashboard is shown. A red hand icon points to the "Create function" button in the top right corner of the main content area.

AWS Home Console (Step 5):

- Services: API Gateway, Lambda, Secrets Manager, CloudShell, Amazon Simple Email Service, etc.
- Search bar: Search [Option+S]
- Console Home Info
- Message: Introducing the new Managed instances, Ops summary, and Patch compliance widgets. Find them in the widget library.

Search Results (Step 6):

- Search bar: Lambda
- Search results for 'Lambda': Services (7), Features (2), Resources New, Blogs (921)
- Services section: Lambda
- Description: Run Code without Thinking about Servers

AWS Lambda Dashboard (Step 7):

- Dashboard: Applications, Functions
- Additional resources: Code signing configurations, Layers, Replicas
- Related AWS resources: Step Functions state machines
- Resources for Middle East (Bahrain):
 - Lambda function(s): 50
 - Code storage: 39.2 MB (0% of 75.0 GB)
 - Full account concurrency: 50
 - Unreserved account concurrency: 50
- Create function button
- Account-level metrics chart (disabled)
- Time range: 1h, 3h, 12h, 1d, 3d, 1w, Custom, etc.

Lambda: create function

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US East (N. Virginia)	us-east-1
US East (Ohio)	us-east-2
US West (N. California)	us-west-1
US West (Oregon)	us-west-2
Asia Pacific (Mumbai)	ap-south-1
Asia Pacific (Osaka)	ap-northeast-3
Asia Pacific (Seoul)	ap-northeast-2
Asia Pacific (Singapore)	ap-southeast-1
Asia Pacific (Sydney)	ap-southeast-2
Asia Pacific (Tokyo)	ap-northeast-1
Canada (Central)	ca-central-1
Europe (Frankfurt)	eu-central-1
Europe (Ireland)	eu-west-1
Europe (London)	eu-west-2
Europe (Paris)	eu-west-3

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europe (Paris)	eu-west-3
Europe (Stockholm)	eu-north-1
Middle East (Bahrain)	me-south-1
South America (São Paulo)	sa-east-1

10

Lambda > Functions > Create function

Create function Info

Choose one of the following options to create your function.

Author from scratch Start with a simple Hello World example.

Use a blueprint Build a Lambda application from sample code and configuration presets for common use cases.

Container image Select a container image to deploy for your function.

Browse serverless app repository Deploy a sample Lambda application from the AWS Serverless Application Repository.

Basic information

Function name
Enter a name that describes the purpose of your function.

Runtime Info
Choose the language to use to write your function. Note that the console code editor supports only Node.js, Python, and Ruby.

Lambda: create function

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Basic information

Function name

Enter a name that describes the purpose of your function.

Use only letters, numbers, hyphens, or underscores with no spaces.

Runtime Info

Choose the language to use to write your function. Note that the console code editor supports only Node.js, Python, and Ruby.

Architecture Info

Choose the instruction set architecture you want for your function code.

 x86_64 arm64

Permissions Info

By default, Lambda will create an execution role with permissions to upload logs to Amazon CloudWatch Logs. You can customize this default role later when adding triggers.

▶ Change default execution role

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Runtime Info

Choose the language to use to write your function. Note that the console code editor supports only Node.js, Python, and Ruby.

Latest supported

.NET 6 (C#/PowerShell)

.NET Core 3.1 (C#/PowerShell)

Go 1.x

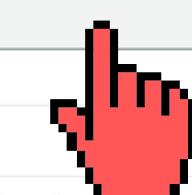
Java 11 (Corretto)

Node.js 18.x

Ruby 2.7

Other supported

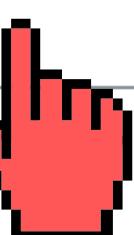
Java 8 on Amazon Linux 1



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Function name

Enter a name that describes the purpose of your function.



Use only letters, hyphens, or underscores with no spaces.

Runtime Info

Choose the language to use to write your function. Note that the console code editor

Architecture Info

Choose the instruction set architecture you want for your function code.

 x86_64 arm64

Lambda: create function

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Successfully created the function **FirstFunction**. You can now change its code and configuration. To invoke your function with a test event, choose "Test".

Lambda > Functions > FirstFunction

FirstFunction

▼ Function overview [Info](#)



+ Add trigger

+ Add destination

Code | Test | Monitor | Configuration | Aliases | Versions

15

Code source [Info](#)

File Edit Find View Go Tools Window

Test | Deploy



Go to Anything (⌘ P)



lambda_function

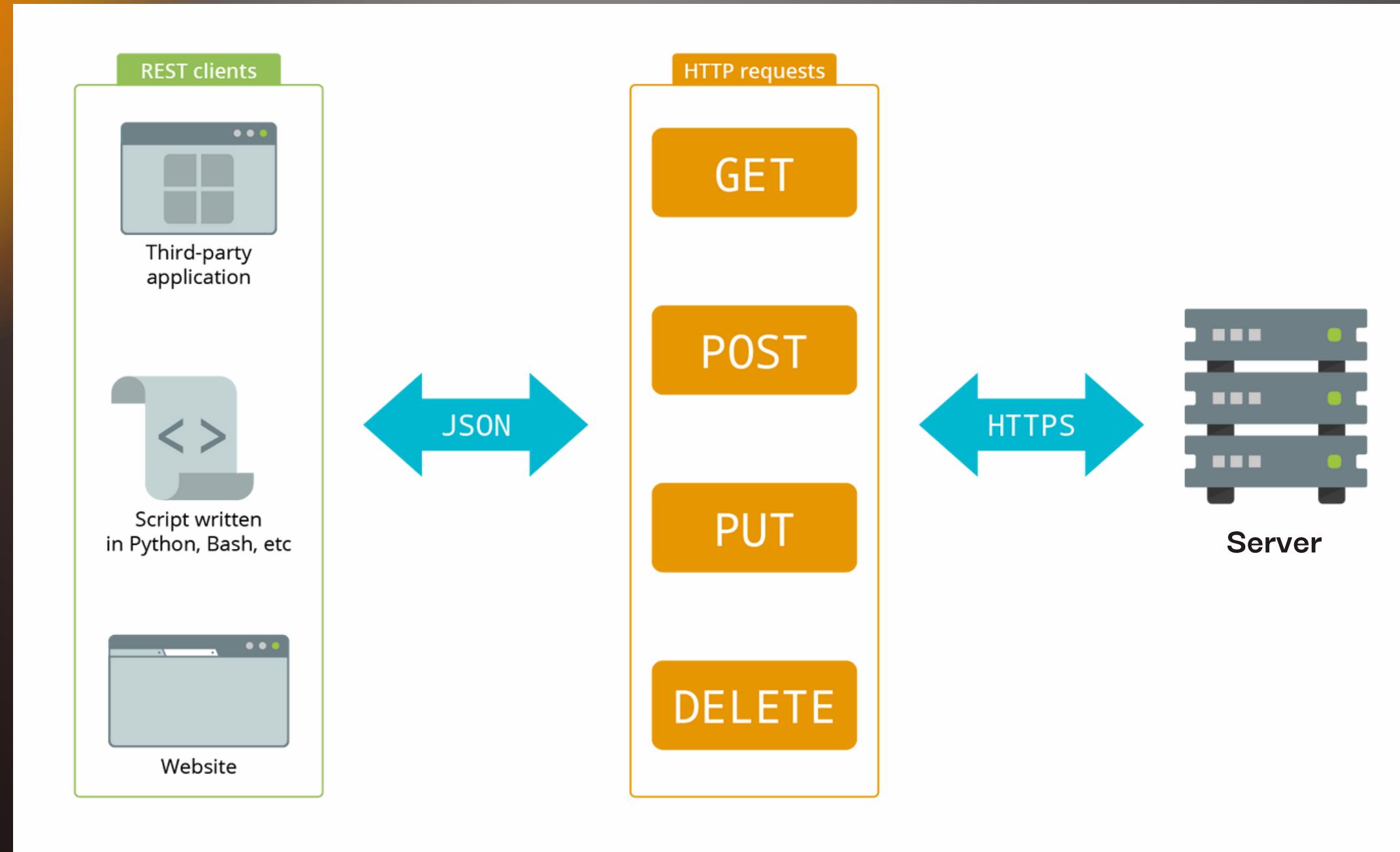


```
1 import json
2
3 def lambda_handler(event, context):
4     # TODO implement
5     return {
6         'statusCode': 200,
7         'body': json.dumps('Hello from Lambda!')
8     }
9
```

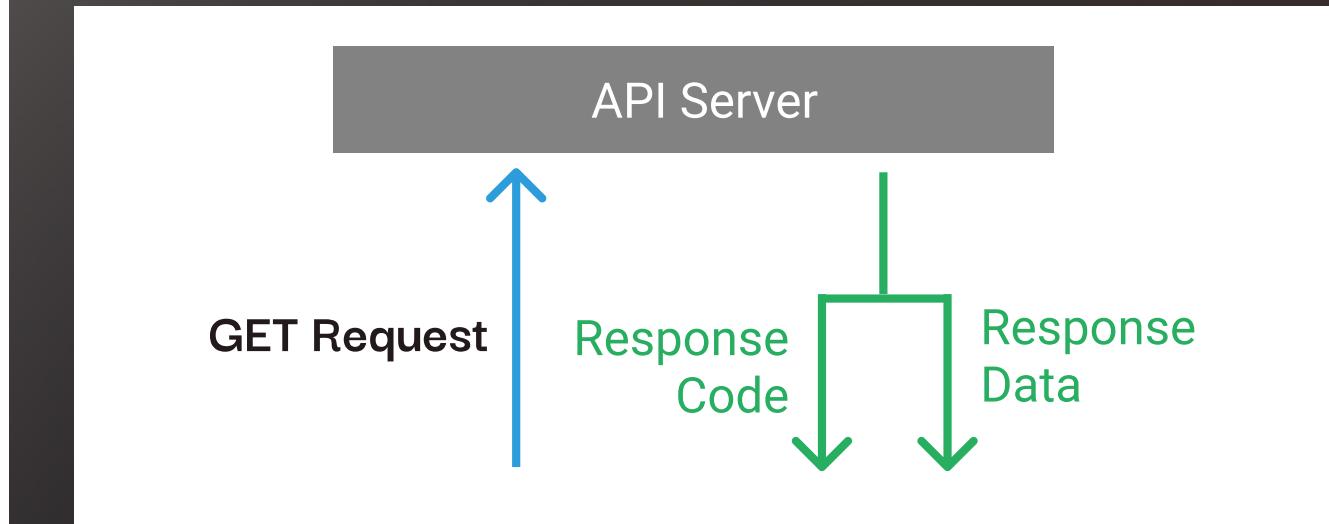
CLICK HERE TO VISIT THE PAGE



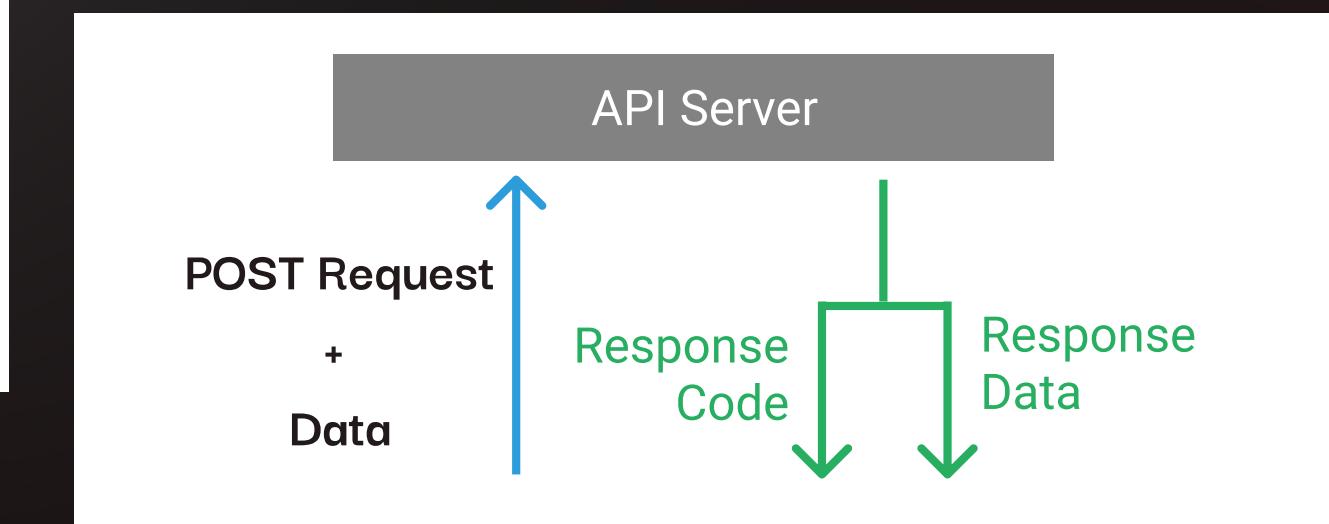
API Types



1 GET API



2 POST API



Lambda & API: add trigger

1

Lambda > Functions > FirstFunction

FirstFunction

Function overview Info



+ Add trigger



+ Add destination

Lambda > Add trigger

Add trigger

Trigger configuration Info

Select a source

Cancel

Add

Select a source



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Trigger configuration Info



API Gateway

api application-services aws serverless

Add an API to your Lambda function to create an HTTP endpoint that invokes your function. API Gateway supports two types of RESTful APIs: HTTP APIs and REST APIs. [Learn more](#)

Intent

Use an existing api or have us create one for you.

Create a new API

Use existing API

API type

HTTP API

Build low-latency and cost-effective REST APIs with built-in features such as OIDC and OAuth2, and native CORS support.

REST API

Develop a REST API where you gain complete control over the request and response along with API management capabilities.

Security

Configure the security mechanism for your API endpoint.

Open

▶ Advanced settings

Lambda will add the necessary permissions for Amazon API Gateway to invoke your Lambda function from this trigger.

[Learn more](#) about the Lambda permissions model.

Cancel

Add



Lambda & API: add trigger

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The trigger FirstFunction-API was successfully added to function FirstFunction. The function is now receiving events from the trigger.

Function overview

FirstFunction

Description: -

Last modified: 1 hour ago

Function ARN: [REDACTED]

Function URL: [REDACTED]

+ Add destination

+ Add trigger

Code Test Monitor Configuration Aliases Versions

General configuration

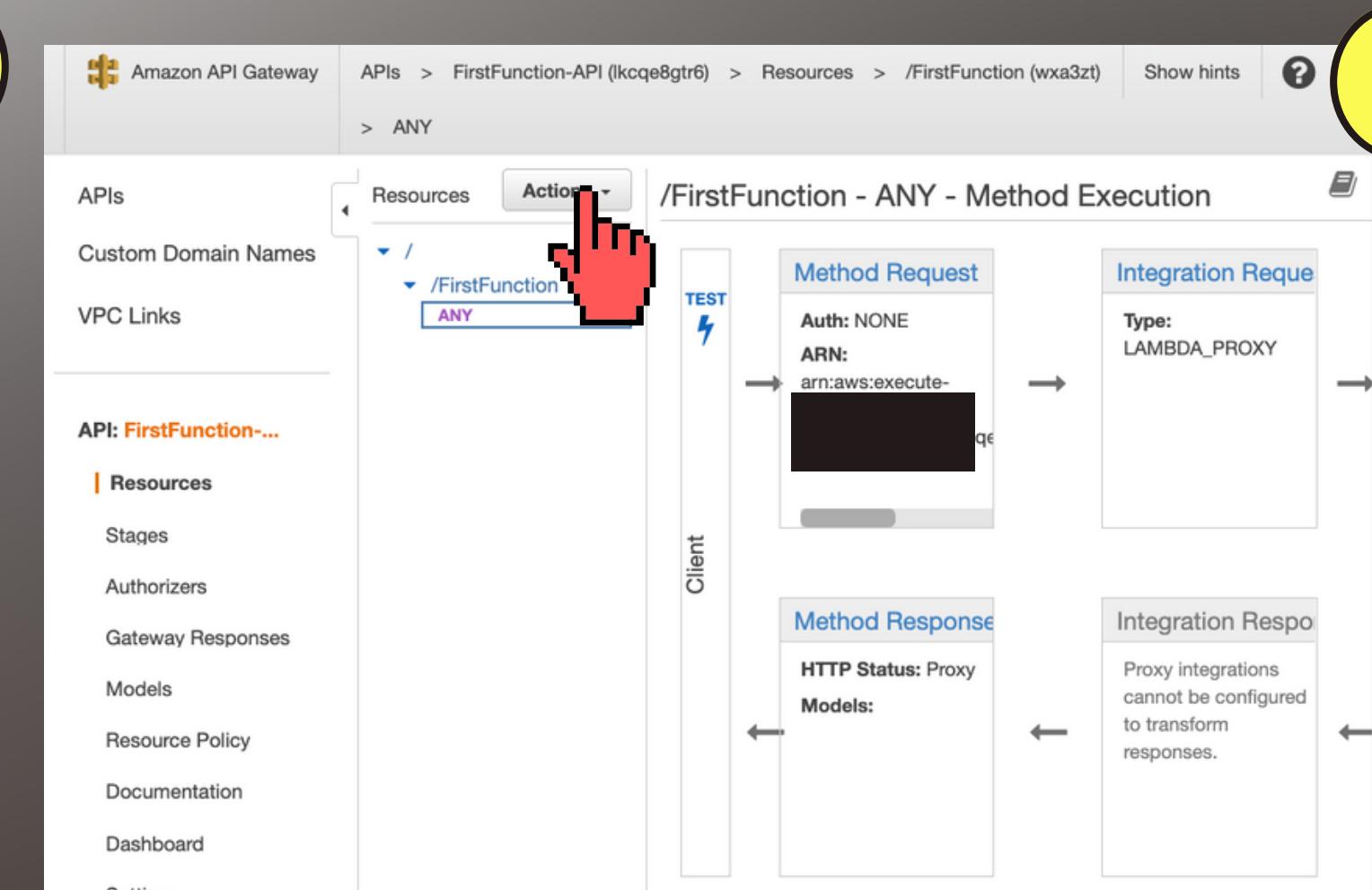
Triggers (1) Info C Fix errors Edit Delete Add trigger

Find triggers < 1 >

Trigger API Gateway: FirstFunction API arn:aws:execute-api:me-south-1:61141926:lkcqe8gtr6/*/*/FirstFunction

Details

This screenshot shows the AWS Lambda console. In the left sidebar, under 'General configuration', there's a 'Triggers' section with one item: 'API Gateway: FirstFunction API'. A red hand icon is pointing at this item. The main panel shows a summary of the function 'FirstFunction' with its ARN and a note about a successful trigger addition. There are tabs for 'Code', 'Test', 'Monitor', and 'Configuration' (which is selected). Below the configuration tab, there's a 'Triggers' table with one row.



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Actions /FirstFunction

METHOD ACTIONS

Edit Method Documentation
Delete Method

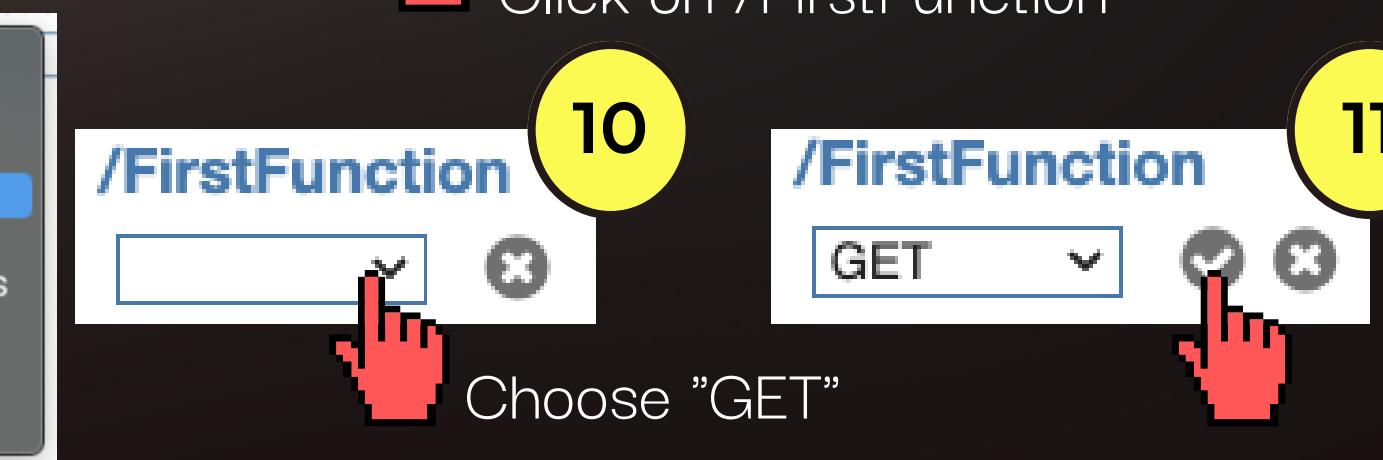
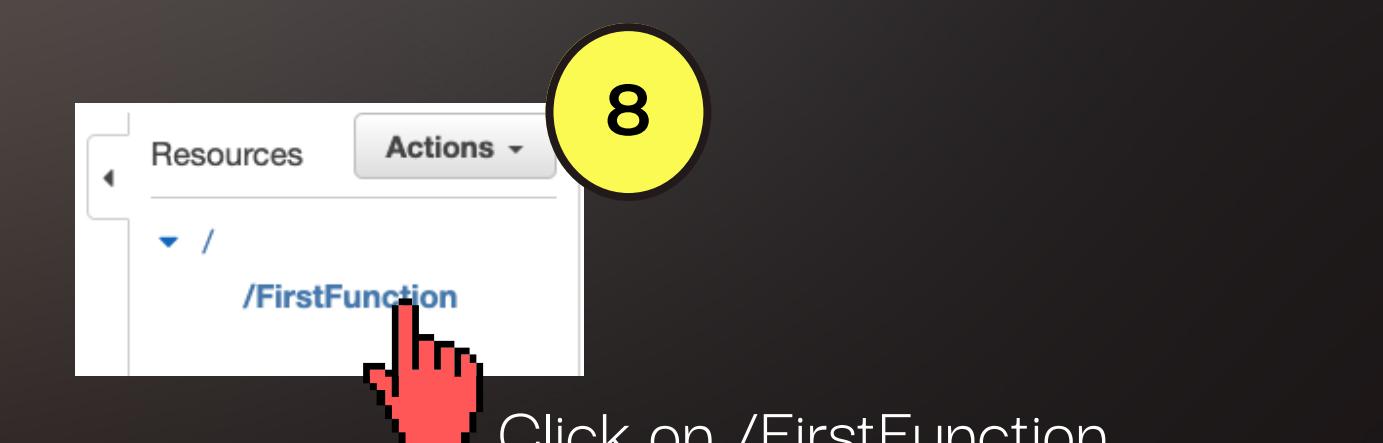
RESOURCE ACTIONS

Create Method
Create Resource
Enable CORS
Edit Resource Documentation
Delete Resource

API ACTIONS

Deploy API
Import API
Edit API Documentation
Delete API

This screenshot shows the 'Actions' dropdown menu for the '/FirstFunction' resource. It includes options for method actions like 'Edit Method Documentation' and 'Delete Method', resource actions like 'Create Method' and 'Delete Resource', and API actions like 'Deploy API' and 'Delete API'.



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Actions /FirstFunction

METHOD ACTIONS

Edit Method Documentation
Delete Method

RESOURCE ACTIONS

Create Method
Create Resource
Enable CORS
Edit Resource Documentation
Delete Resource

API ACTIONS

Deploy API
Import API
Edit API Documentation
Delete API

This screenshot shows the 'Actions' dropdown menu for the '/FirstFunction' resource, identical to the one shown in step 7. It includes options for method actions like 'Edit Method Documentation' and 'Delete Method', resource actions like 'Create Method' and 'Delete Resource', and API actions like 'Deploy API' and 'Delete API'.

Lambda & API: add trigger

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FirstFunction - GET - Setup

Choose the integration point for your new method.

Integration type Lambda Function i



HTTP i



Mock i

AWS Service i

VPC Link i

Use Lambda Proxy integration i

Lambda Region me-south-1



Lambda Function

Use Default Timeout i

Type "FirstFunction"

Save



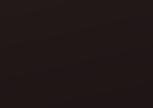
13

Add Permission to Lambda Function

You are about to give API Gateway permission to invoke your Lambda function:
arn:aws:lambda:me-south-1:123456789012:function:FirstFunction

Cancel

OK



14

Deploy API

Choose a stage where your API will be deployed. For example, a test version of your API could be deployed to a stage named beta.

Deployment stage default



Deployment description



Choose "default"

Cancel

Deploy



15

Stages Create

default

Invoke URL: https://[REDACTED].amazonaws.com/default

Settings Logs/Tracing Stage Variables SDK Generation Export

Deployment History Documentation History Copy

Stages Create

default

/

/FirstFunction

GET



default - GET - /FirstFunction

Invoke URL: https://[REDACTED]-south-1.amazonaws.com/default

Use this page to override the default stage settings for the GET to /FirstFunction method.

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This is our API link, copy it

Testing API

2

REQBIN

Curl Python JavaScript PHP Java JSON XML Contact Profile

EXAMPLES SAVED

- POST Request Example
- Bearer Token Auth Example
- HTML Form POST Example
- GET Request Example
- REST API POST Example
- PUT Request Example
- Auth Bearer Header Example
- POST API Example
- POST JSON Example
- JSON Payload Example
- Content-Length Example
- REST API GET Example

Online REST & SOAP API Testing Tool

ReqBin is an online API testing tool for REST and SOAP APIs. Test API endpoints by making API requests directly from your browser. Test API responses with built-in JSON and XML validators. Load test your API with hundreds of simulated concurrent connections. Generate code snippets for API automation testing frameworks. Share and discuss your API requests online.

File Generate Code Tools

https://google.com GET US Send

Authorization Content Headers Raw

Past API Link here

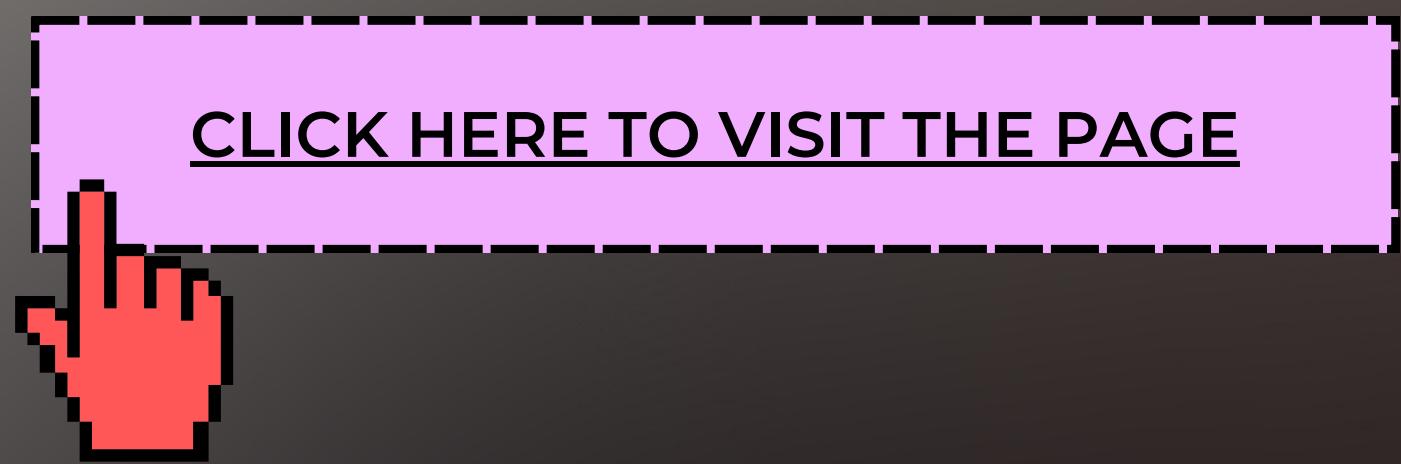
3

Share Generate Code App Mode

Status: 200 (OK) Time: 672 ms Size: 0.07 kb

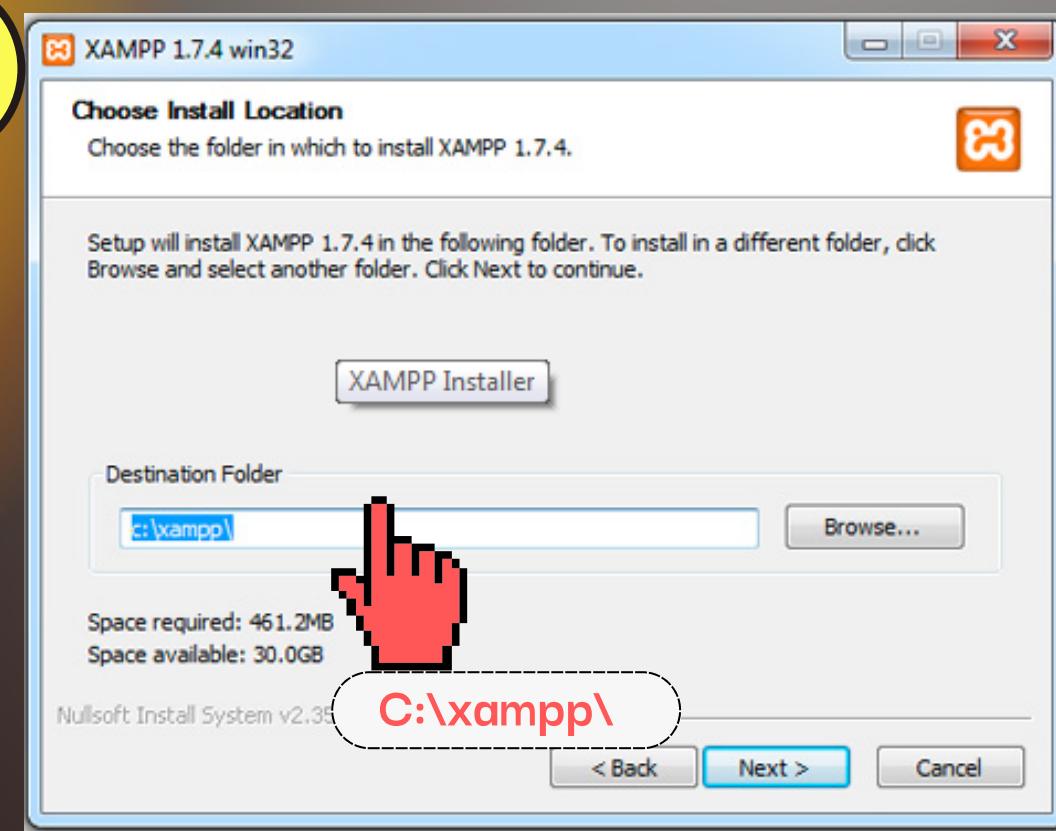
Content (4) Headers (8) Raw (10) JSON Timings

```
{  
  "statusCode": 200,  
  "body": "\"Username existed and password is correct\""  
}
```

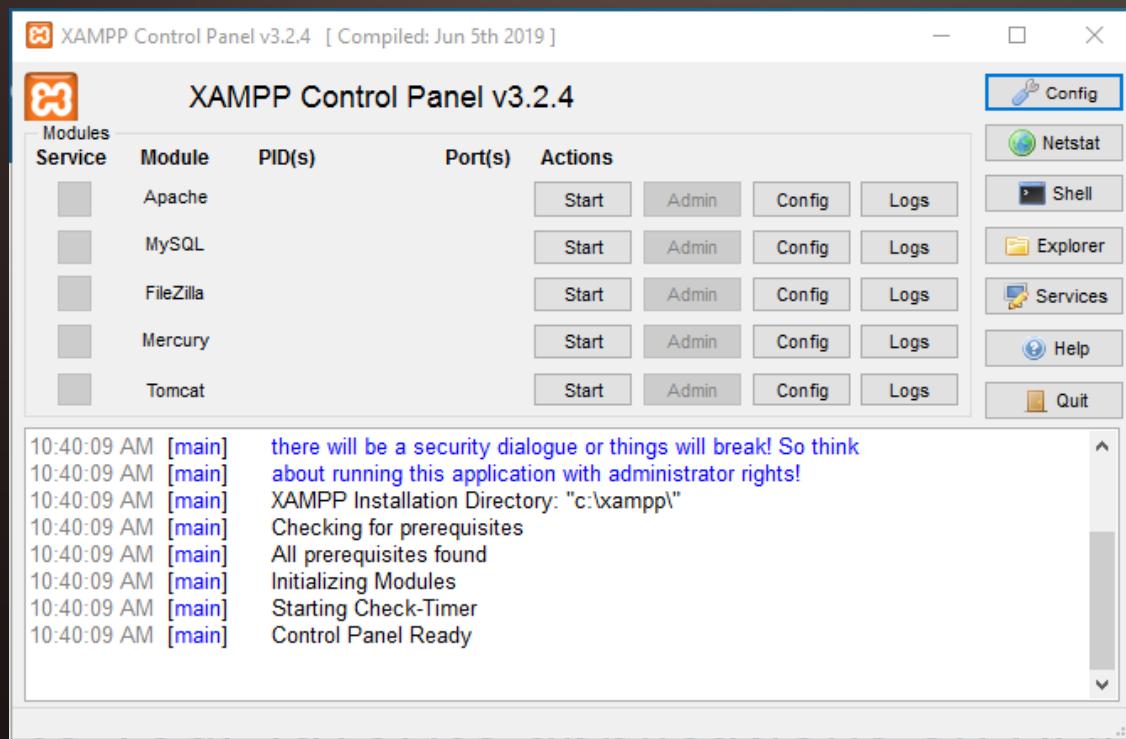


Building the project: XAMPP

1



2



3



4

Stay with me, we will see our first page working with API successfully :)

[CLICK HERE TO DOWNLOAD XAMPP](#)

Mohammed Almalki

I hope you've enjoyed it :)



Please, fill out the form



mokh08



Mohammed
Almalki

