



Google Developer Student Clubs
University of Hail

Cloud Computing



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Table Of Content

What is AWS?

Create an AWS account

Lambda functions

RDS databases

Lambda & API: add trigger

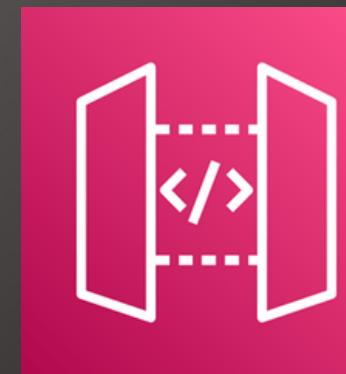
Building the project

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 final 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.

AWS Home Console (Step 5):

- Services bar: 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 (highlighted with a star)
- Description: Run Code without Thinking about Servers

AWS Lambda Dashboard (Step 7):

- Dashboard sidebar: Applications, Functions, Additional resources (Code signing configurations, Layers, Replicas), Related AWS resources (Step Functions state machines).
- Main area: 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
- Metrics section: Account-level metrics (charts showing metrics across all Lambda functions in the region). Time range selector: 1h, 3h, 12h, 1d, 3d, 1w, Custom, etc.
- Create function button: Create function (highlighted with a red hand icon).

Lambda: create function

The screenshot shows the AWS Lambda 'Create function' wizard with three numbered steps highlighted by yellow circles with black outlines:

- Step 8:** A dropdown menu for selecting a region. The 'Bahrain' option is selected, indicated by a red hand cursor icon over its name.
- Step 9:** A list of regions. The 'Middle East (Bahrain)' region is selected, indicated by a red hand cursor icon over its name.
- Step 10:** The 'Create function' wizard interface. It shows four options for creating a function:
 - Author from scratch** (radio button selected, indicated by a red hand cursor icon over the button)
 - Use a blueprint**
 - Container image**
 - Browse serverless app repository**The 'Basic information' section is visible below the creation methods, containing fields for 'Function name' (set to 'myFunctionName') and 'Runtime' (set to 'Node.js 18.x').

Lambda: create function

11

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

12

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

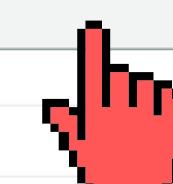
Java 11 (Corretto)

Node.js 18.x

Ruby 2.7

Other supported

Java 8 on Amazon Linux 1



13

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

14

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

Description
Last modified
12 minutes ago
Function ARN
Function
Function URL

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

FirstFunction - /

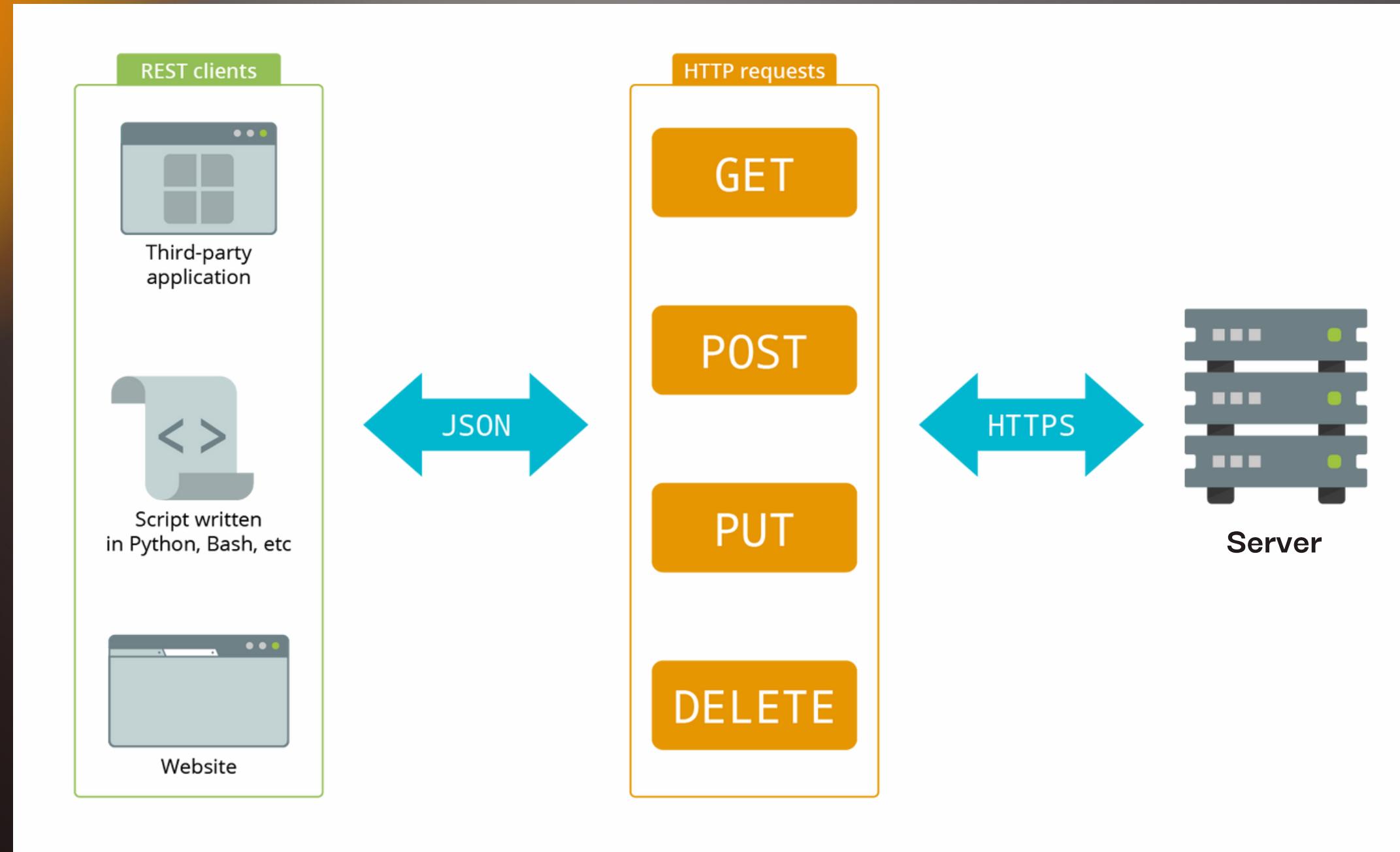
lambda_function.py

```
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
```

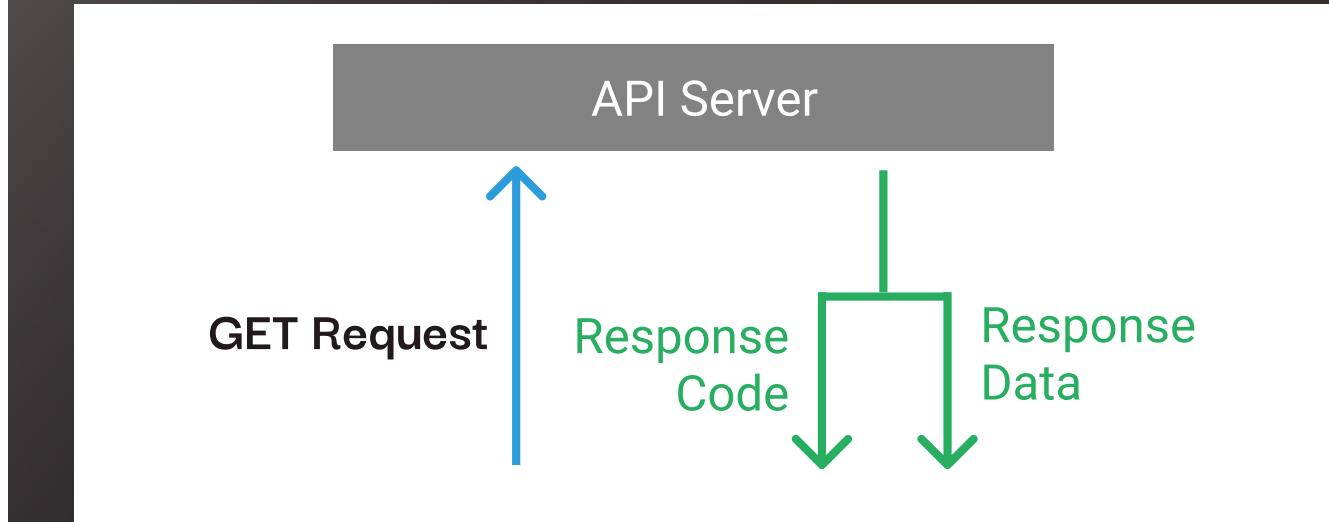
[CLICK HERE TO VISIT THE PAGE](#)



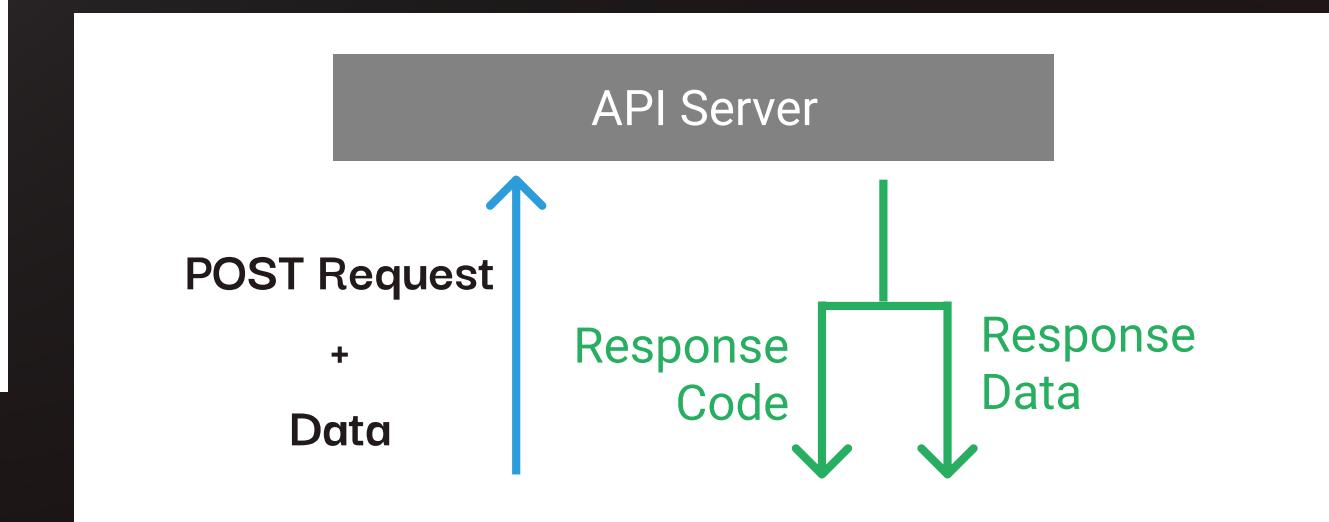
API Types



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



2

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



3

4

Lambda & API: add trigger

5

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]

Configuration

Triggers (1)

API Gateway: FirstFunction API

arn:aws:execute-api:me-south-1:61141926:lkcq8qtr6/*/*/FirstFunction

6

Amazon API Gateway

APIs > FirstFunction-API (lkcq8qtr6) > Resources > /FirstFunction (wxa3zt) > ANY

Resources Actions /FirstFunction - ANY - Method Execution

Method Request: TEST ANY

Integration Request: Type: LAMBDA_PROXY

Method Response: HTTP Status: Proxy

Integration Response: Proxy integrations cannot be configured to transform responses.

Actions

Edit Method Documentation
Delete Method

7

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

8

Resources Actions /FirstFunction

Actions

Edit Method Documentation
Delete Method

10

/FirstFunction

ANY
DELETE
GET
HEAD
OPTIONS
PATCH
POST
PUT

11

/FirstFunction

GET

Choose "GET"

9

10

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

Lambda & API: add trigger

12

FirstFunction - GET - Setup

Choose the integration point for your new method.

Integration type Lambda Function i

HTTP i

Mock i

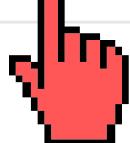
AWS Service i

VPC Link i

Use Lambda Proxy integration i

Lambda Region i

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

Deployment description

Choose "default"

Cancel

Deploy



15

Stages Create

default Stage Editor Delete Stage Configure

Invoke URL: https://[REDACTED].execute-api.me-south-1.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

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

16

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

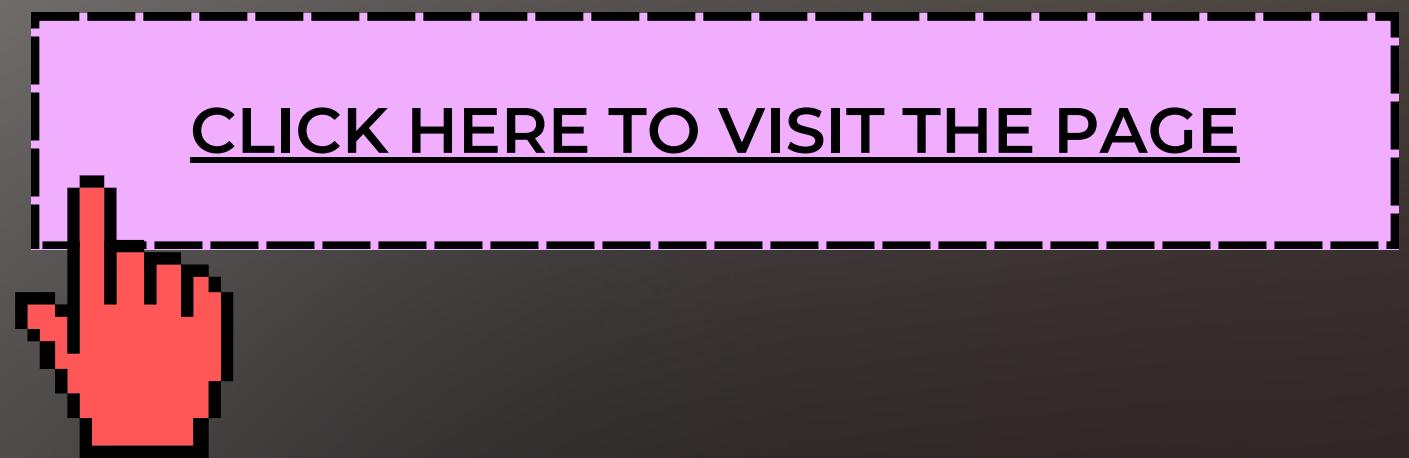
3

Share Generate Code App Mode

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

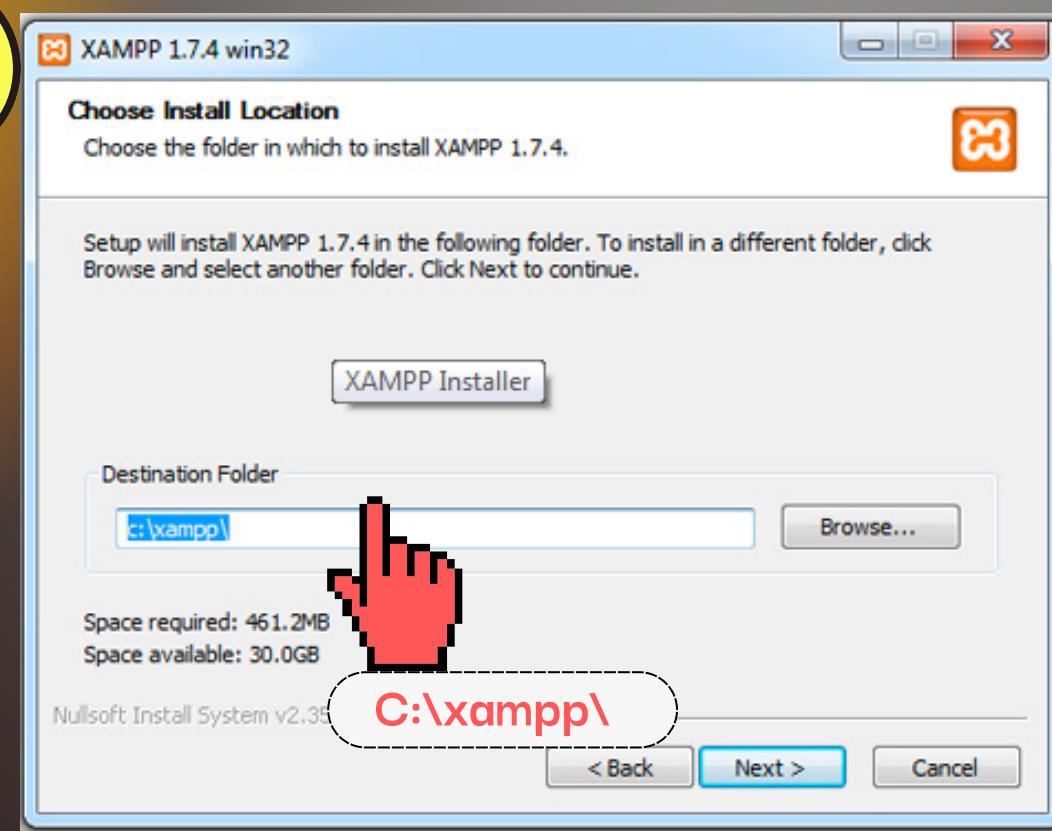
Content (4) Headers (8) Raw (10) JSON Timings

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

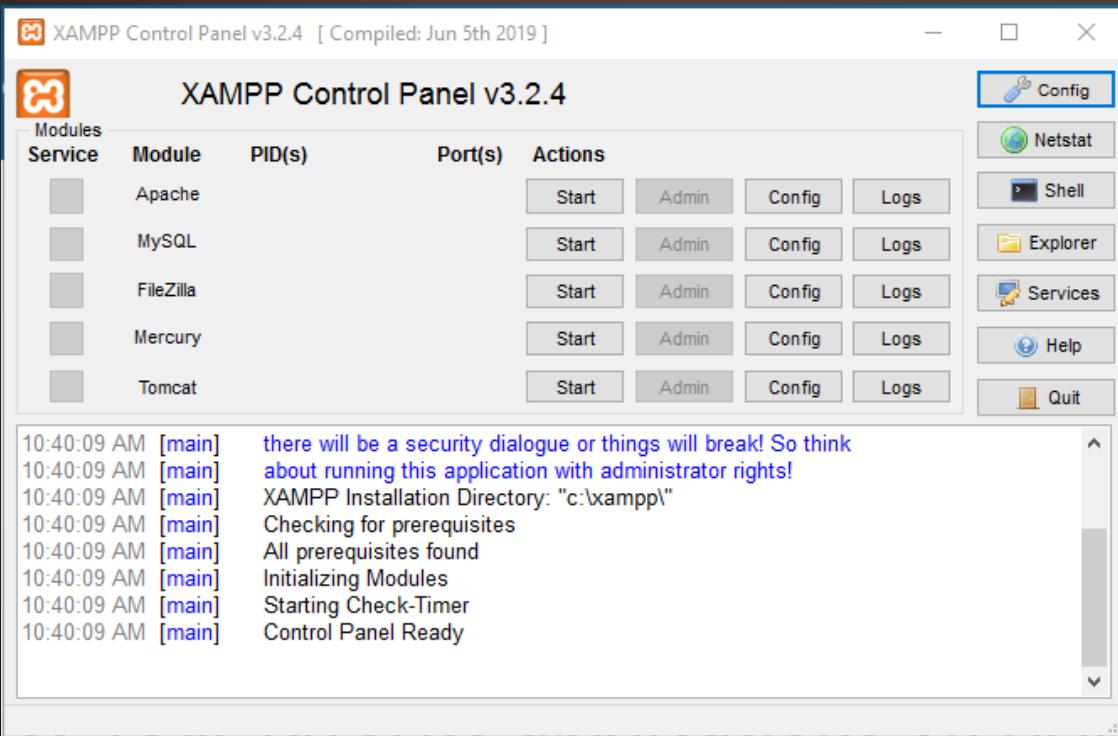


Building the project: XAMPP

1



2

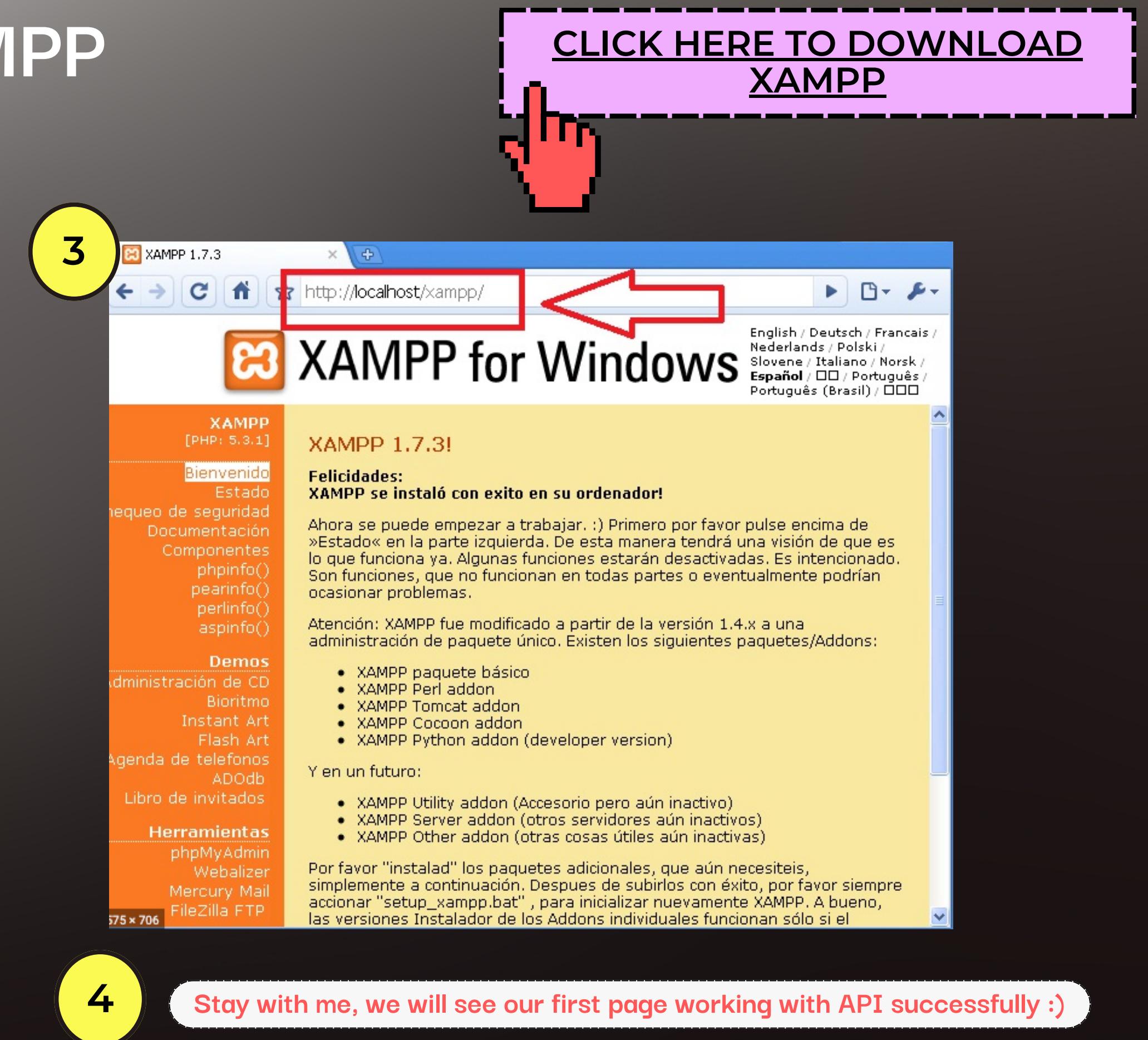


1

2

3

4



I hope you've enjoyed it :)



Please, fill out the form



mokh08



Mohammed
Almalki

