Uploading Files to S3 Using API Gateway via Lambda Function:

[] Create a s3 bucket.

Steps to Create to Lambda Function:

[] Navigate to lambda console
[] Create an AWS Lambda function with Python 3.10.
[] Once lambda is created. Add Below Code and Deploy.

```python
import json

import boto3
import base64
import uuid
from datetime import datetime

def lambda_handler(event, context):
    # Initialize S3 client
    S3 = boto3.client("s3")

    # Get file content from event
    get_file_content = event["content"]

    # Decode the base64 encoded content
    decode_content = base64.b64decode(get_file_content)

    # Generate a unique file name using UUID and timestamp
    unique_file_name = f"data_{uuid.uuid4()}.txt"

    # Upload the file to S3 with the unique name
    s3_upload = S3.put_object(Bucket="filesuploding", Key=unique_file_name, Body=decode_content)

    # Return success message with the new file name
    return {
        'statusCode': 200,
        'body': json.dumps(f'The Object {unique_file_name} is uploaded successfully!')
```

```
    }
```

[] delete the previous one and update to a new one.

```python
import json
import boto3
import base64

def lambda_handler(event, context):
    S3 = boto3.client("s3")
    get_file_content = event["content"]
    decode_content = base64.b64decode(get_file_content)
    s3_upload =
S3.put_object(Bucket="filesuploding",Key="data.txt",Body=decode_content)

    # TODO implement
    return {
        'statusCode': 200,
        'body': json.dumps('The Object is Uploaded successfully!')
    }
```
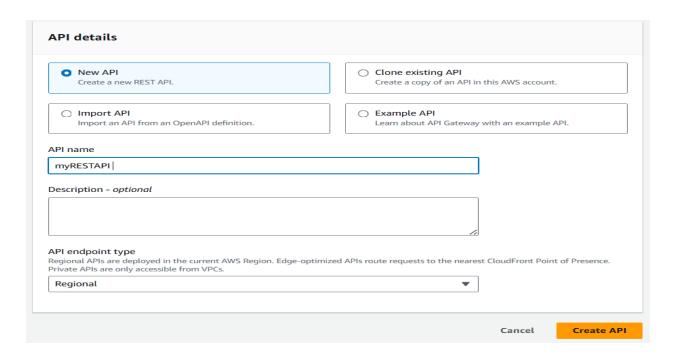
[] add permission to lambda role, i.e. s3 full access and API gateway (go to IAM, select role, choose which we create lambda add the permissions)

Steps to Create to Rest API in Api gateway:

[] Navigate to Api gateway console.
[] Click on Create new Api.
[] Choose Api type as Rest API and click on Build.

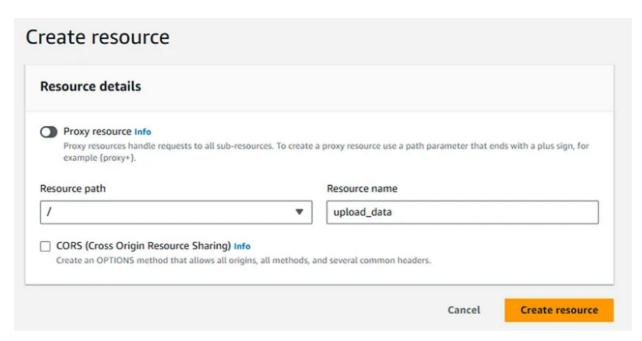**REST API**

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

Works with the following:
Lambda, HTTP, AWS Services

Import   Build

[] Select as New Api, Enter Api name, Description(optional), Api Endpoint type as "Regional" and Click on Create Api.

API details

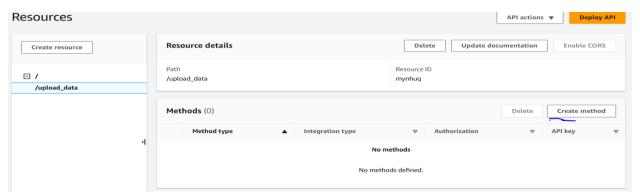○ **New API**
Create a new REST API.

○ **Clone existing API**
Create a copy of an API in this AWS account.

○ **Import API**
Import an API from an OpenAPI definition.

○ **Example API**
Learn about API Gateway with an example API.

API name

myRESTAPI

Description – optional

API endpoint type
Regional APIs are deployed in the current AWS Region. Edge-optimized APIs route requests to the nearest CloudFront Point of Presence. Private APIs are only accessible from VPCs.

Regional

Cancel   Create API

[] Once api is created successfully, Click on Create resource.

Resources   API actions ▼   Deploy API

Create resource

Resource details   Update documentation   Enable CORS

/   Path   Resource ID
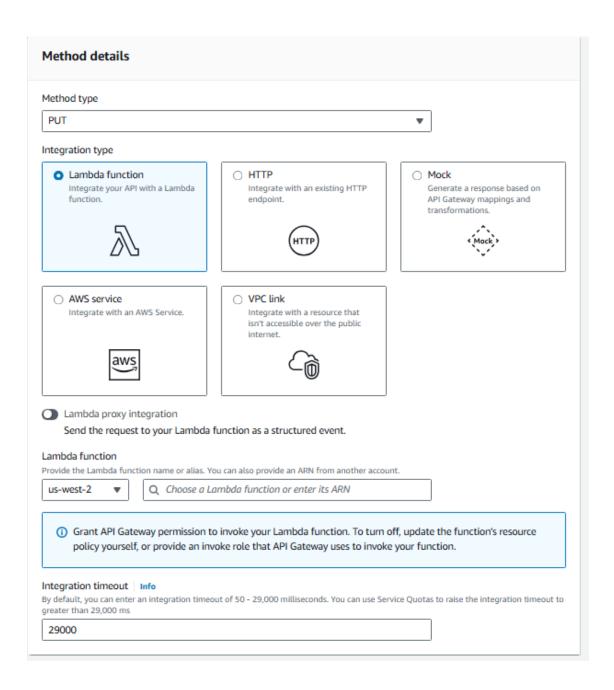   /   kyfx9gvsdd

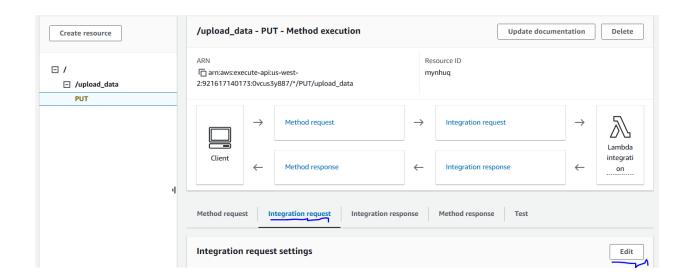[] Enter Resource name (eg: upload_data) and Click on create resource.

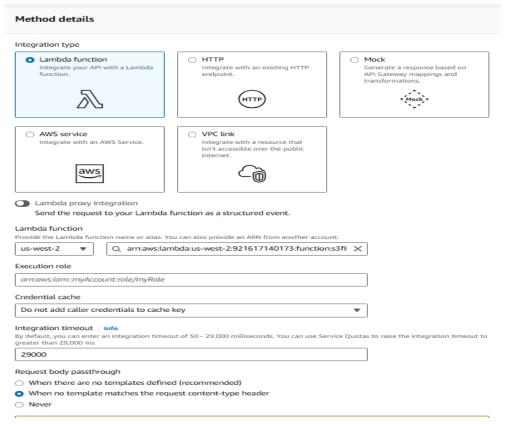[] Once a resource is created, Click on Create Method.

[] Select Method type as Put, Integration Type as "Lambda function", Lambda Function as function created in Step and Click on Create Method.
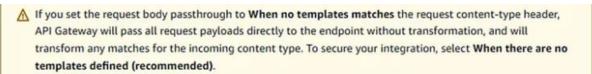
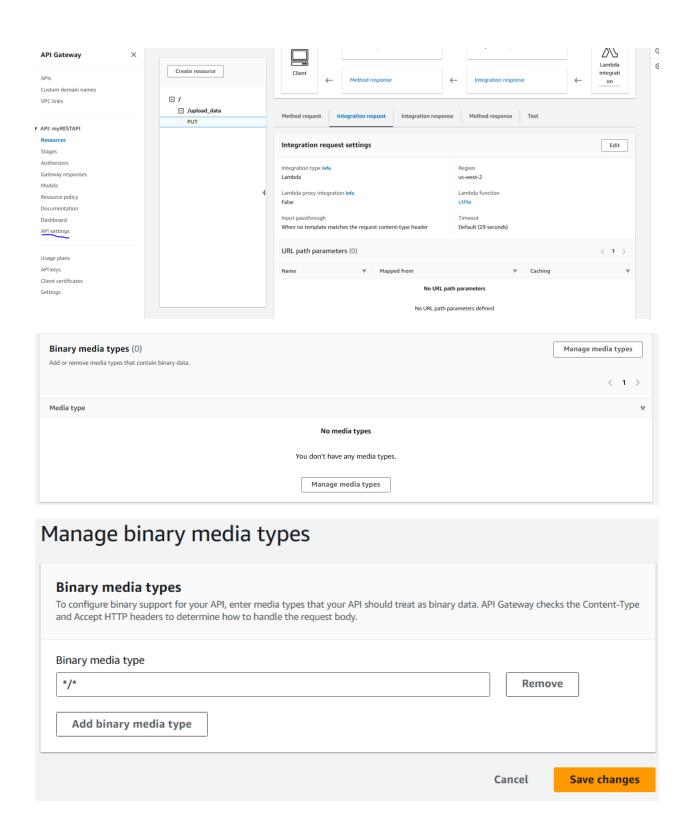[] After method is created, in Integration Request tab, click on Edit

[] Select Request body passthrough as "When no template matches the request content-type header". In Mapping Template, add mapping template, enter Content type as "application/pdf and Template body as below and Click on Save.
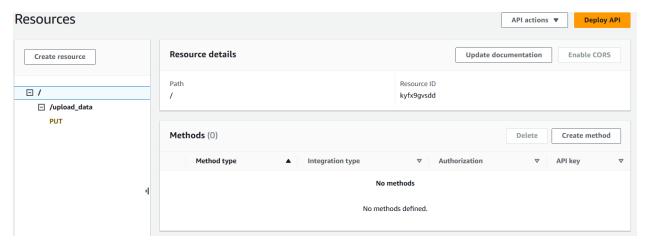
⚠ If you set the request body passthrough to **When no templates matches** the request content-type header, API Gateway will pass all request payloads directly to the endpoint without transformation, and will transform any matches for the incoming content type. To secure your integration, select **When there are no templates defined (recommended)**.

▶ **URL path parameters**

▶ **URL query string parameters**

▶ **URL request headers parameters**

▼ **Mapping templates**

Content type

| application/pdf | Remove |

Generate template

▼

Template body

```
1 ▼ {
2        "content": "$input.body"
3   }
```
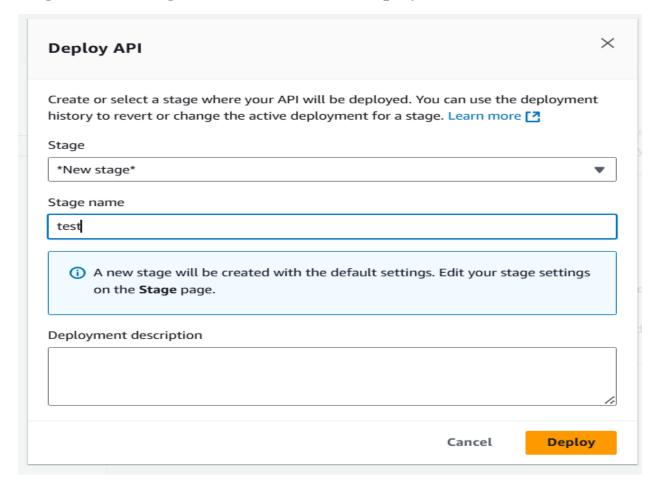
```
[] {
  "content": "$input.body"
}
```

In the left panel choose Api Settings. In the Binary Media Types, select manage media type, section choose Add Binary Media Type. Add the string */* and click Save changes.
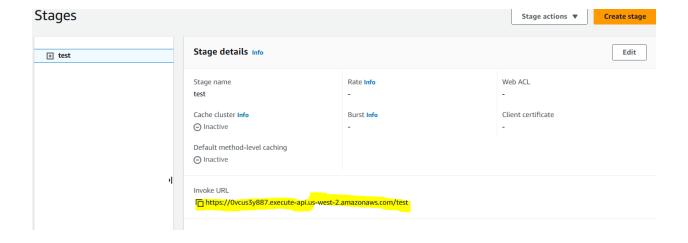
[] Click on Deploy Api. We see a small pop up

[] If you are deploying Api for the first time, choose stage as *New stage*, Enter Stage name and Click on Deploy.
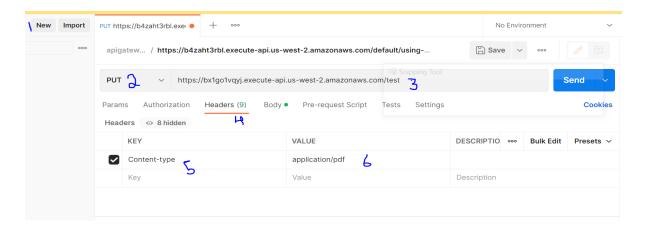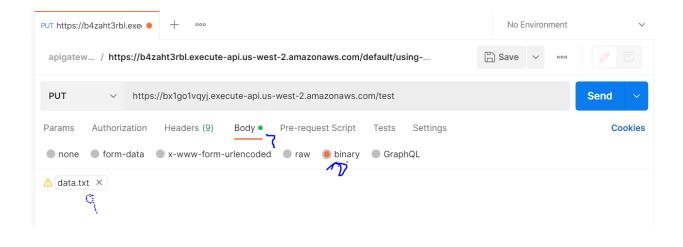

[] Once its deployed, it redirects to stage page, where we can see invoke url. Copy the Invoke Url.
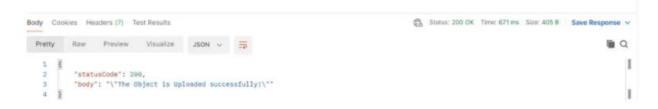
Test the API:

[] We can use Postman to test the connectivity.

1. in new select HTTPS
2. Choose Put
3. paste the URL
4. select Header
5. Content-type
6. application/pdf
7.select body
8.select Binary
 9.upload files and Click on Send.

[] we will get output.

[] check the s3 bucket.