≡   COMP-4537-0 - Internet Software Architecture (...   ✉   💬   🔔   **JX**

Assignments › Lab 2 API Inspector Postman, literature review (individually)

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▼ **Hide Folder Information**

Instructions

Part 1 (3 marks)

You are going to be using Postman in this part.

Postman can be used to test RESTful APIs and can be downloaded from https://www.postman.com/downloads/

Choose an **AI Powered** image generator API service that requires HTTPS and authentication to obtain an API key. This may involve either receiving the key via email or creating an account to access it.
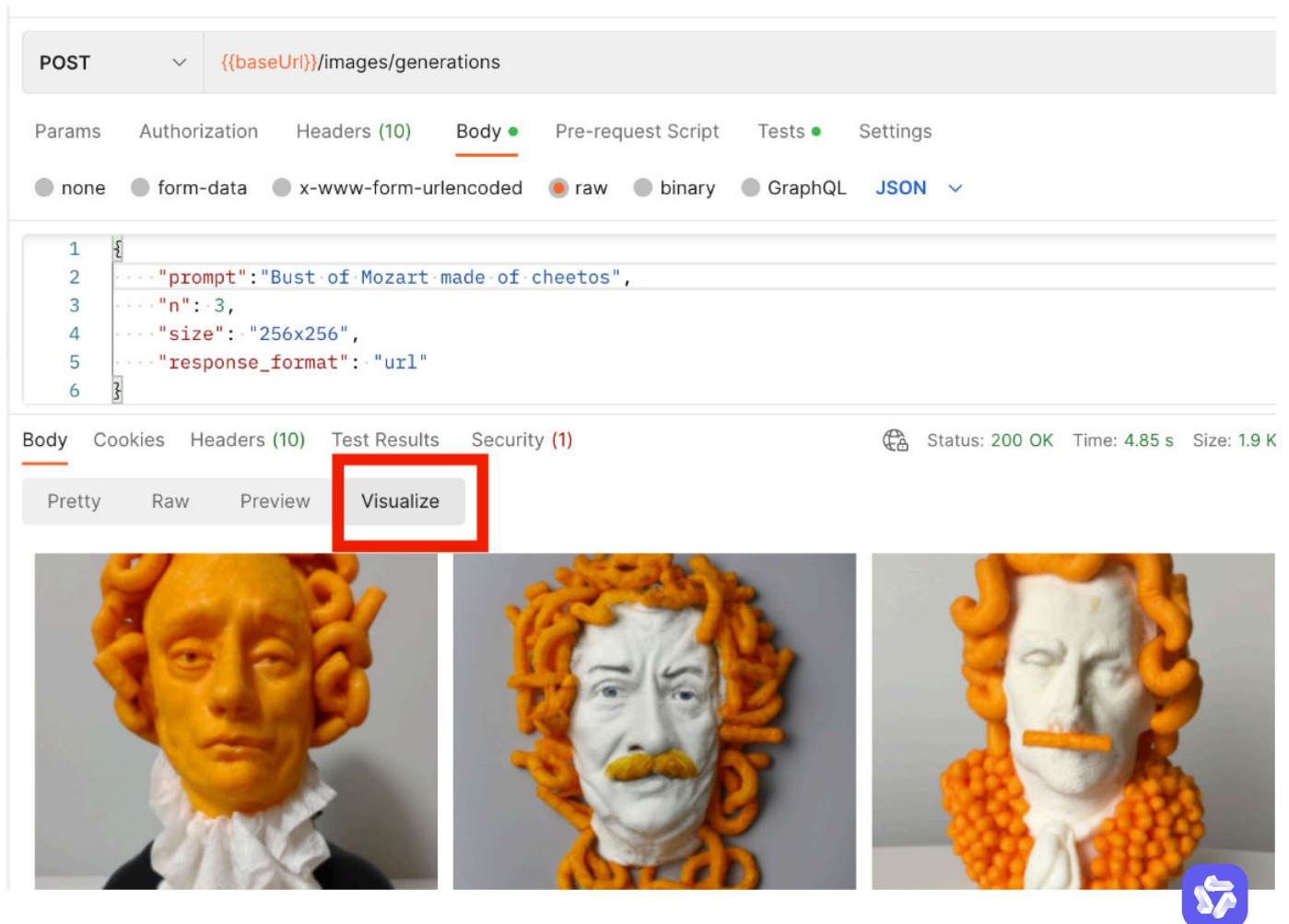**please note that you need to provide a prompt to your AI powered server**

If you cannot find a way to send an API request to an image generator, you can select an **AI powered** text generator API instead, such as:

- ChatGPT (free or paid)
- Gemini

Based on the documentation for the API you selected, sign up for the service to obtain your API key, or use OAuth for authentication.

Run the API in Postman successfully, capture your screen, and save the image as yourName.jpg or .png (similar to the example below).

source:https://www.postman.com/postman/fun-apis-only/request/qiey1x1/image-generation

Part 2 (4 marks) Literature review

Pick a company or one of the companies below that migrated from monolithic architecture to Microservices and explain how they leverage microservice architecture in their design practices.

realtor.com
Comcast Cable
Uber
Netflix
Amazon
Ebay
Sound Cloud
Groupon
Hailo
Zalando
Capital One

facebook

zoom

Or any company with market cap one billion or more that uses microservices as part of their design

Requirements:

1- Redraw the architecture diagram and explain the services and modules of their architecture (how the gateway/services communicate with one another). You can get some ideas from the net, but you need to produce (or reproduce) the diagram yourself (**copy/paste is not accepted,** do not use their icons either, reDraw it on a piece of paper and take photo with your phone and include it in your report).

2- you need to at least list three of their microservices

3- Including the diagram, charts, list pros and cons (pros and cons of using microservice architecture as a new approach for their design vs not using Microservices), etc the entire report has to be not more than two pages (so that me or your TA can mark them in timely manner, so do not dedicate an entire page to title. Also no table of contents is needed to a 2 page report) , the entire report has to be at least one full pages or maximum two pages. (plz dont ask me what font size etc, up to you)

4- list your references at the bottom of your work
e.g.

[1] https://www.youtube.com/watch?v=57UK46qfBLY&ab_channel=GOTOConferences (nice talk btw)

[2] https://medium.com/swlh/a-design-analysis-of-cloud-based-microservices-architecture-at-netflix-98836b2da45f

5- At the top of first page include the name of the company. e.g. Lab 2, Microservices at Netflix
6- Underneath the title or top corner of the first page list your legal name

Part 3 (0 marks) questions

This part has no marks associated with it, which means if you don't complete it, you won't lose any marks. However, if you do, you'll learn concepts that will help you present well above a junior level (or even knowledge of solution architect) during job interviews.

Pick 5 of the microservice components/patterns from list below, identify:
Which company invented or strongly popularized it, and What the component is meant to do (its purpose in microservices).

Components:

Circuit Breaker (Hystrix)

API Gateway (Zuul / Zuul 2)

Chaos Monkey

DOMA (Domain-Oriented Microservice Architecture)

Service Discovery (Eureka)

Distributed Tracing (Dapper)

Envoy Proxy

Service Mesh (Istio)

gRPC

BFF (Backend for Frontend)

Part 4 (0 marks) n8n!

This section is optional (0 marks) — so skipping it won't hurt your grade. But if you do it, you'll unlock a superpower: you'll be able to build automations that work for you like a personal assistant.

Can you try n8n to do one of these tasks or do something fun with it?

1. **Group Lunch Organizer**

   Can you use n8n to create an automation that asks 3 people for their availability, selects the best time, and sends the final lunch confirmation?

2. **Birthday Reminder + Auto Message**

   Can you build an n8n workflow that reads a list of birthdays from Google Sheets and automatically sends a message on the correct day?

3. **Smart Shopping Deal Watcher**

   Can you create an automation that checks prices of 2–3 products daily and notifies you if any drops below a threshold?

This lab description was proofread by open API chatGPT

Deliverable

A- Upload two files separately

1- the screenshot of Postman (do not zip it), Lab2_yourName .jpg or .png (make sure font is not too small) in a separate file

2- your report and responses to part 3 Lab2_yourName_nameOfCompany.pdf (only pdf format): e.g. Lab2_John_green_Uber.pdf

3- demo part 4 if you have done something fun with n8n

B- At the **comment section**, post the url of the API you used (or the documentation page for that API)

Rubrics (additional deductions)

-3 if screenshot is not attached or if it is in a zip file

-2 if the url of the API used is not posted at the comment section

-2 if the API does not need any security measure to access

-2 if the API is not on https

-2 if your report is missing references

Note that I will be asked questions about your report when marking your report in person and up to -3 deduction for wrong answers

you will get 0 if your report is copy paste from the net or written by AI no exception (you need to write the report in your own words. Read the resources and then annotate)

-10% deduction for each day late submission

Due on Jan 25, 2026 11:59 PM

Available on Jan 18, 2026 12:01 AM. **Access restricted before availability starts.**

Submit Assignment

Files to submit *

(0) file(s) to submit

After uploading, you must click Submit to complete the submission.

| Add a File | Record Audio | Record Video |

Comments