Erick Franco
Cs430p
3/9/2025

10.1g.5

- Examine the document cleaning code. What kinds of characters are removed when the text is cleaned?
  - 20   text = re.sub(r"\s+", " ", text).strip()
  - So "\s" and " " being empty spaces

- What size chunks is the content split into?
  - chunk_size=10000
- What amount of overlap is there between chunks?
  - chunk_overlap=1000
- How many documents are loaded at a time into the vector database?
  - 300

10.1g.6

Each one returned pdx.edu/visit and just explained the website every time

```
(env) francoer@ada:~/cs430-src/08_llm$ python 02_docsearch.py
RAG database initialized.
  https://www.pdx.edu/visit/
  https://www.pdx.edu/computer-science/
This program queries documents in the RAG database that are similar to whatever is entered.  A blank query exits the program.
>> Tell me about Firebase
Number of requested results 4 is greater than number of elements in index 3, updating n_results = 3
Query database for: Tell me about Firebase
Closest document match in database: https://www.pdx.edu/computer-science/
Document content is: Computer Science The Department of Computer Science offers a full range of courses and degree programs. Our programs, in addition to the
opportunities to develop professional skills through MECOP and PCEP, are designed to provide students with the educational background to achieve a career in t
he computing industry. With over 800 undergraduate CS majors and almost 200 graduate students, we offer a community to learn, discover, innovate, and share a
curriculum based on the application and theoretical foundations of Computer Science. The department is home to 31 regular faculty members who specialize in a
variety of research areas such as computer graphics and vision, computer security, databases, intelligent systems, programming languages, software engineering
, open source software, sensor networks, and high performance computing. We invite you to join our Computer Science community and to explore our programs! Dep
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 Department Manager: sarreal@pdx.edu (mailto:sarreal@pdx.edu) Department Chair: mpj@pdx.edu (mailto:mpj@pdx.edu?subject=Reaching%20out%20from%20the%20CS%20Hom
e%20Page) Department Services Coordinator: elisa.salgado@pdx.edu (mailto:elisa.salgado@pdx.edu) CS Office: csoffice@pdx.edu (mailto:csoffice@pdx.edu) We look
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rms & Policies (/computer-science/forms-and-policies)
```

```
>> Tell me about Terraform
Number of requested results 4 is greater than number of elements in index 3, updating n_results = 3
Query database for: Tell me about Terraform
Closest document match in database: https://www.pdx.edu/visit/
Document content is: Visit Portland State University Tour One of the Nation's Top College Locations At Portland State, we move forward with bold resolve to af
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>> Tell me about Cloud Run
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s-guide) (https://www.pdx.edu/visit/living-portland-oregon) Living in Portland (https://www.pdx.edu/visit/living-portland-oregon)
>> Traceback (most recent call last):
  File "/u/francoer/cs430-src/08_llm/02_docsearch.py", line 29, in <module>
    line = input(">> ")
```

10.1g.8

Instead of using whatever data it had it looks through the database and says if it has or doesnt have data about the subject

```
llm>> Tell me about Terraform
Number of requested results 4 is greater than number of elements in index 3, updating n_results = 3
I'm sorry, but this document is about Portland State University and its various departments and programs.  It does not contain any information about Terraform
.  I don't know the answer to your question.
llm>> Tell me about Cloud Run
Number of requested results 4 is greater than number of elements in index 3, updating n_results = 3
I'm sorry, but this document is about Portland State University and its various tours and programs.  It does not contain any information about Cloud Run.  I d
on't know the answer to your question.
llm>> What are the advantages and disadvantages of Firebase?
Number of requested results 4 is greater than number of elements in index 3, updating n_results = 3
I'm sorry, but this document is about Portland State University's Computer Science Department and does not contain information about Firebase.  Therefore, I c
annot answer your question using the provided context.
llm>> How do you use Terraform?
Number of requested results 4 is greater than number of elements in index 3, updating n_results = 3
I'm sorry, but this document is about Portland State University and does not contain information on how to use Terraform.  Therefore, I cannot answer your que
stion.
llm>> Why would you use Cloud Run instead of App Engine?
Number of requested results 4 is greater than number of elements in index 3, updating n_results = 3
I am sorry, but this document is about the Portland State University Department of Computer Science and does not contain any information about Cloud Run or Ap
p Engine.  Therefore, I cannot answer your question using the provided context.
llm>> What are the advantages and disadvantages of Firebase?
Number of requested results 4 is greater than number of elements in index 3, updating n_results = 3
I'm sorry, but this document is about Portland State University's Computer Science Department and does not contain information about Firebase.  Therefore, I c
annot answer your question using the provided context.
llm>> Traceback (most recent call last):
  File "/u/francoer/cs430-src/08_llm/03_query.py", line 54, in <module>
    line = input("llm>> ")
           ^^^^^^^^^^^^^^^^
KeyboardInterrupt

(env) francoer@ada:~/cs430-src/08_llm$
```

10.1g.11

```
(env) francoer@ada:~/cs430-src/08_llm$ python 04_opanapi_agent.py
Welcome to my XKCD API application. I am configured with these tools generated by the OpenAPIToolkit:
  Tool: api_planner = Can be used to generate the right API calls to assist with a user query, like api_planner(query). Should always be called before trying
to call the API controller.
  Tool: api_controller = Can be used to execute a plan of API calls, like api_controller(plan).
llm>> What is the current xkcd?

> Entering new AgentExecutor chain...
Thought: I should generate a plan to help with this query and then copy that plan exactly to the controller.
Action: api_planner
Action Input: Find the current xkcd comic.  This likely involves a single API call to retrieve the latest comic information.
Observation: 1. GET /info.0.json: This call retrieves the current comic and its metadata.  This fulfills the user's request.
Thought: I'm ready to execute the API call.
Action: api_controller
Action Input: 1. GET /info.0.json

> Entering new AgentExecutor chain...
Plan: 1. GET /info.0.json

Thought: I need to fetch the current comic's information using the `/info.0.json` endpoint.  I'll use `requests_get` for this.

Action: requests_get

Action Input:
```json
{
  "url": "http://xkcd.com/info.0.json",
  "params": {},
  "output_instructions": "Extract the 'num', 'title', 'img', 'alt', 'transcript' fields."
}
```
Observation: ```json
{
  "num": 3060,
  "title": "Omniroll",
  "img": "https://imgs.xkcd.com/comics/omniroll.png",
  "alt": "It seems wrong that Fruit by the Foot is only sold by weight or by number of rolls.",
  "transcript": ""
}
```

Thought: Thought: I have successfully retrieved the comic information. I can now formulate the final answer.

Final Answer: The current XKCD comic is number 3060, titled "Omniroll". The image URL is https://imgs.xkcd.com/comics/omniroll.png, the alt text is "It seems
wrong that Fruit by the Foot is only sold by weight or by number of rolls.", and the transcript is empty.

> Finished chain.

Observation: The current XKCD comic is number 3060, titled "Omniroll". The image URL is https://imgs.xkcd.com/comics/omniroll.png, the alt text is "It seems
wrong that Fruit by the Foot is only sold by weight or by number of rolls.", and the transcript is empty.
Thought: I am finished executing a plan and have the information the user asked for.
Final Answer: The current XKCD comic is number 3060, titled "Omniroll". The image URL is https://imgs.xkcd.com/comics/omniroll.png, the alt text is "It seems
wrong that Fruit by the Foot is only sold by weight or by number of rolls.", and the transcript is empty.

> Finished chain.
{'input': 'What is the current xkcd?', 'output': 'The current XKCD comic is number 3060, titled "Omniroll". The image URL is https://imgs.xkcd.com/comics/omn
iroll.png, the alt text is "It seems wrong that Fruit by the Foot is only sold by weight or by number of rolls.", and the transcript is empty.'}
```

```
llm>> What is the image link of the current xkcd?

> Entering new AgentExecutor chain...
Thought: I should generate a plan to help with this query and then copy that plan exactly to the controller.
Action: api_planner
Action Input: Find the API call to get the current xkcd's image link. Assuming an API endpoint exists like `/xkcd` that returns JSON with an `img` field.
Observation: Plan: Sorry, this API does not provide information about xkcd comics or image links. The available endpoints only fetch comic information via ID
or the current comic, but don't offer the functionality to search for specific comics by name or other attributes.
Thought:I am finished executing a plan and have the information the user asked for or the data the user asked to create
Final Answer: I cannot fulfill this request. The available API does not provide the necessary information.

> Finished chain.
{'input': 'What is the image link of the current xkcd?', 'output': 'I cannot fulfill this request. The available API does not provide the necessary informati
on.'}
llm>> What was xkcd 327 about?

> Entering new AgentExecutor chain...
Thought: I should generate a plan to help with this query and then copy that plan exactly to the controller.
Action: api_planner
Action Input: Find the information about xkcd comic 327. Assume an API endpoint exists like `/xkcd/{comic_number}` that returns comic details.
Observation: Plan: 1. GET /327/info.0.json to fetch information about xkcd comic 327.
Thought:I'm ready to execute the API calls.
Action: api_controller
Action Input: 1. GET /327/info.0.json to fetch information about xkcd comic 327.

> Entering new AgentExecutor chain...
Plan: 1. GET /327/info.0.json to fetch information about xkcd comic 327.

Thought: I need to construct a request to fetch the comic information using the `requests_get` tool.

Action: requests_get

Action Input:
```json
{
  "url": "http://xkcd.com/327/info.0.json",
  "params": {},
  "output_instructions": "Extract the title, alt text, and image URL. Return them as a dictionary with keys 'title', 'alt', and 'img'."
}
```
Observation: ```json
{
  "title": "Exploits of a Mom",
  "alt": "Her daughter is named Help I'm trapped in a driver's license factory.",
  "img": "https://imgs.xkcd.com/comics/exploits_of_a_mom.png"
}
```
Thought:Thought: I have successfully fetched the comic information. I am finished.

Final Answer: {
  "title": "Exploits of a Mom",
  "alt": "Her daughter is named Help I'm trapped in a driver's license factory.",
  "img": "https://imgs.xkcd.com/comics/exploits_of_a_mom.png"
}

> Finished chain.
Observation: {
  "title": "Exploits of a Mom",
  "alt": "Her daughter is named Help I'm trapped in a driver's license factory.",
  "img": "https://imgs.xkcd.com/comics/exploits_of_a_mom.png"
}
Thought:I am finished executing a plan and have the information the user asked for.
Final Answer: xkcd 327 was titled "Exploits of a Mom".  The alt text was "Her daughter is named Help I'm trapped in a driver's license factory."  The image UR
L is https://imgs.xkcd.com/comics/exploits_of_a_mom.png

> Finished chain.
{'input': 'What was xkcd 327 about?', 'output': 'xkcd 327 was titled "Exploits of a Mom".  The alt text was "Her daughter is named Help I\'m trapped in a driv
er\'s license factory."  The image URL is https://imgs.xkcd.com/comics/exploits_of_a_mom.png'}
llm>> []
```

Francoer

| File | Edit | View |

Francoer

Ln 1, Col 9 | 8 characters | 100% | Window | UTF-8
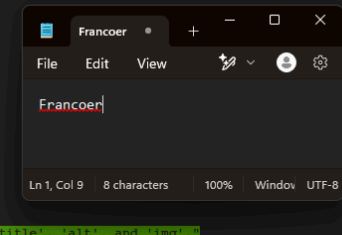
10.2g.6

```
NAME: asia-east1
TYPE: compute.v1.subnetwork
STATE: COMPLETED
ERRORS: []
INTENT:

NAME: asia1-vm
TYPE: compute.v1.instance
STATE: COMPLETED
ERRORS: []
INTENT:

NAME: e1-vm
TYPE: compute.v1.instance
STATE: COMPLETED
ERRORS: []
INTENT:

NAME: eu1-vm
TYPE: compute.v1.instance
STATE: COMPLETED
ERRORS: []
INTENT:

NAME: europe-west1
TYPE: compute.v1.subnetwork
STATE: COMPLETED
ERRORS: []
INTENT:

NAME: networking101
TYPE: compute.v1.network
STATE: COMPLETED
ERRORS: []
INTENT:

NAME: us-east5
TYPE: compute.v1.subnetwork
STATE: COMPLETED
ERRORS: []
INTENT:

NAME: us-west-s1
TYPE: compute.v1.subnetwork
STATE: COMPLETED
ERRORS: []
INTENT:

NAME: us-west-s2
TYPE: compute.v1.subnetwork
STATE: COMPLETED
ERRORS: []
INTENT:

NAME: w1-vm
TYPE: compute.v1.instance
STATE: COMPLETED
ERRORS: []
INTENT:

NAME: w2-vm
TYPE: compute.v1.instance
STATE: COMPLETED
ERRORS: []
INTENT:
francoer@cloudshell:~/networking101 (cloud-franco-francoer)$
```

- Take a screenshot of the output to include in your lab notebook. How many networks, subnetworks, and VM instances have been created?
  - 5 Instances, 5 subnetworks, and 1 network

- Visit the web console for VPC network and show the network and the subnetworks that have been created. Validate that it has created the infrastructure in the initial figure. Note the lack of firewall rules that have been created.

- Click on the ssh button for one of the VMs and attempt to connect. Did it succeed?
  - No the connection to the proxy failed

10.2g.8

10.2g.9

Location pair	Ideal latency	Measured latency
us-west1 us-east5	~45 ms	~57
us-west1 europe-west1	~93 ms	~140
us-west1 asia-east1	~114 ms	~131
us-east5 europe-west1	~76 ms	~94
us-east5 asia-east1	~141 ms	~178
europe-west1 asia-east1	~110 ms	~250

10.2g.16

- Are the instances in the same availability zone or in different ones?
    - Different zones
- List all availability zones that your servers show up in for your lab notebook.
    - Region and Zone: us-east5-c
    - Region and Zone: europe-west1-d

10.2g.19

Networking 101 Lab
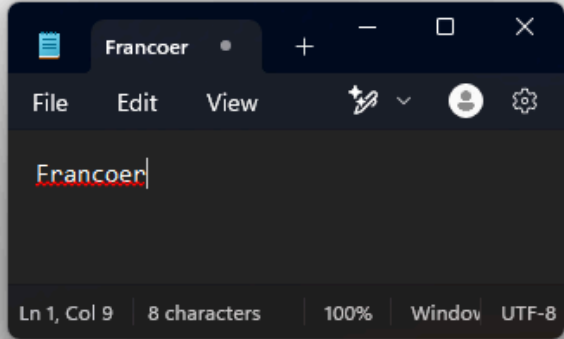
Client IP

Your IP address : 35.191.32.97

Hostname

Server Hostname: us-east5-mig-k3ss
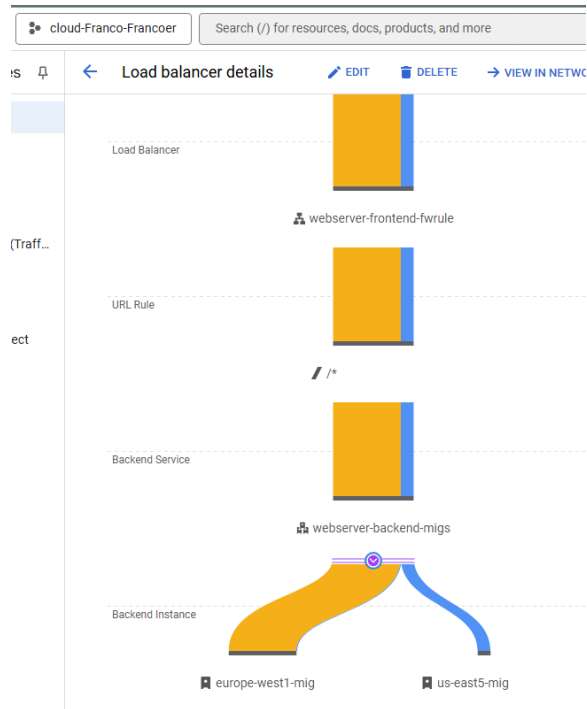
Server Location

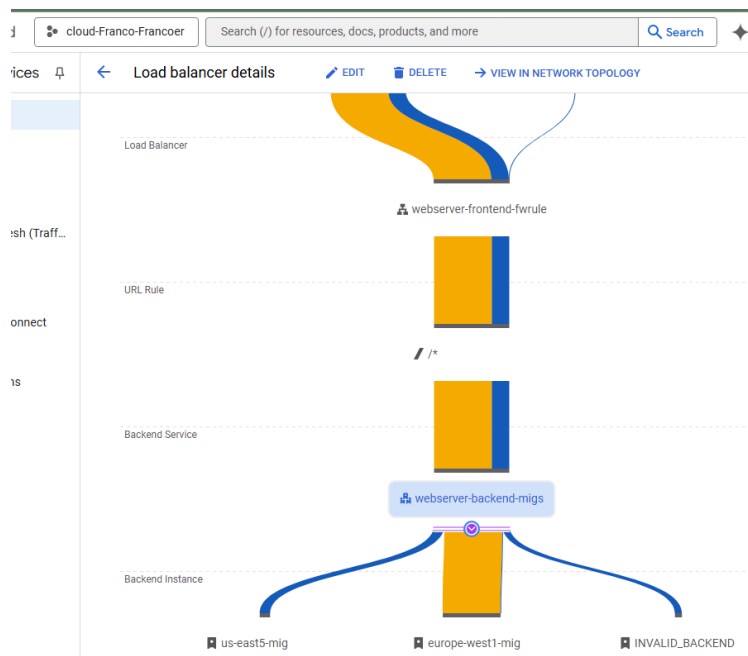Region and Zone: us-east5-c

- Which availability zone does the server handling your request reside in?
  - us-east5-c

10.2g.20

Nothing happened after 20 min

10.2g.21

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← Load balancer details   ✎ EDIT   🗑 DELETE   → VIEW IN NETWORK TOPOLOGY

✓ 1 hour   6 hours   12 hours   1 day   2 days   4 days   7 days   14 days   30 days

🌐 Europe   🌐 America

Load Balancer

⊓ webserver-frontend-fwrule

URL Rule

/ /*

Backend Service

⊓ -   ⊓ webserver-backend-migs

Backend Instance

🔖 europe-west1-mig   🔖 INVALID_BACKEND   🔖 us-east5-mig   🔖 -