

?????

- [illegible]

BookStack ??????????????????

BookStack ??????????????????

1. ? ?????????

1GB RAM
 VPS
 Docker Compose
 BookStack
 us1.w3lk.eu.org
 st.w3lk.eu.org
 HTTPS

- 502 Bad Gateway**
Nginx
bookstack
The application key is missing, halting init!
- 500 Internal Server Error**
500
Access denied
for user 'database_username'

(Root Cause)

- 502**
BookStack
Laravel
APP_KEY
- 500**
 - linuxserver/bookstack
DB_USER /
DB_PASS
DB_USERNAME / DB_PASSWORD
database_username
 - (Dirty Volume)**
bookstack_data
mariadb_data
YAML
" "

2. ? ?????????

- APP_KEY ()
Laravel
Base64
Session
Cookie
- / (Volume Contamination)
Docker
" "

- **YAML** `docker-compose.yml` `$`
`$`
`$$` `BookStack`
- `301` `APP_URL` `BookStack` `Nginx`
`301`

3. ????????

```
# =====
# 
# =====
# 1.  APP_KEY
docker run --rm --entrypoint /bin/bash lscr.io/linuxserver/bookstack:latest appkey

# 2. 
docker compose logs -f

# 3.  Δ 
docker compose down
rm -rf /opt/bookstack/mariadb_data /opt/bookstack/bookstack_data

# =====
# 
# =====
# 4.  Docker 
docker compose up -d

# 5. Nginx 
nginx -t

# 6.  Nginx 
systemctl reload nginx

# 7.  SSL 
certbot install --cert-name us1.w3lk.eu.org --nginx
```

4. ? ? ? ? ? ? ? ?

4.1 ? ? ? docker-compose.yml

```
services:
  bookstack:
    image: lscr.io/linuxserver/bookstack:latest
    container_name: bookstack
    environment:
      - PUID=1000
      - PGID=1000
      - TZ=Asia/Singapore
      - APP_URL=https://us1.w3lk.eu.org
      - APP_KEY=base64:YOUR_GENERATED_KEY_HERE      # 随机生成32位字符串
      - APP_LANG=zh-CN                               # 语言
      - DB_HOST=bookstack_db
      - DB_USERNAME=bookstack                        # 数据库用户名
      - DB_PASSWORD=YourStrongPasswordHere          # 数据库密码
      - DB_DATABASE=bookstackapp
    volumes:
      - ./bookstack_data:/config
    ports:
      - 127.0.0.1:6875:80
    restart: unless-stopped
    depends_on:
      - bookstack_db

  bookstack_db:
    image: lscr.io/linuxserver/mariadb:latest
    container_name: bookstack_db
    environment:
      - PUID=1000
      - PGID=1000
      - TZ=Asia/Singapore
      - MYSQL_ROOT_PASSWORD=YourRootPasswordHere
      - MYSQL_DATABASE=bookstackapp
      - MYSQL_USER=bookstack                        # 数据库用户名
      - MYSQL_PASSWORD=YourStrongPasswordHere      # 数据库密码
```

```
volumes:
  - ./mariadb_data:/config
restart: unless-stopped
```

4.2 Nginx ?????????? (/etc/nginx/sites-available/bookstack)

(????? Certbot ???? SSL ?????????)

```
# =====
# ?????????
# =====
server {
    listen 80;
    listen [::]:80;
    server_name st.w3lk.eu.org;

    # ?????????????????????????????????
    return 301 https://us1.w3lk.eu.org$request_uri;
}

# =====
# ?????????
# =====
server {
    listen 80;
    listen [::]:80;
    server_name us1.w3lk.eu.org;

    location / {
        # ????????????????????????????????? Docker ?????????
        proxy_pass http://127.0.0.1:6875;
        proxy_set_header Host $host;
        proxy_set_header X-Real-IP $remote_addr;
        proxy_set_header X-Forwarded-For $proxy_add_x_forwarded_for;
        proxy_set_header X-Forwarded-Proto $scheme;
    }
}
```

5. ?? ?????????

1.
2. “”

Volumes

docker-compose.yml
3. **Shell**

\$

YAML

\$\$

A-Z, a-z, 0-9, -, _, +
4. 502/500 HTTP

Nginx

docker compose logs -f

halting

init

Access denied

Oracle Cloud ?????? ARM ?? (A1.Flex) ????????????

????????

Oracle Cloud

????????

Oracle Cloud ?????? ARM ?? (A1.Flex) ????????????

???? v1.0

Oracle Cloud

AMD

OCI

CLI

Resource Manager

24

ARM (A1.Flex)

1. ????????????

- `Always Free` `VM.Standard.A1.Flex` 4 OCPU, 24GB , 100GB
- `API`: `VM.Standard.A1.Flex` `AD-1`
- **(Root Cause Analysis)** `US West San Jose`
`ARM`
- `Cookie` `Python` `Cookie`
- `B` `futchas` `CLI` `OCID`
- `C` **Stack** `API Key` + `OCI CLI` + `tmux`

2. ????????????

- **Resource Manager (terraform) / Stack (kubernetes):** Oracle Cloud “Infrastructure as Code” Terraform CPU “OCI CLI”
- **OCI CLI (Oracle Cloud Infrastructure Command Line Interface):** Oracle
- **OCID (Oracle Cloud Identifier):** Oracle Cloud

User OCID

Tenancy OCID

Stack OCID
- **API Signing Key (API Key):** OCI CLI RSA Cookie

API
- **tmux:** Linux (Terminal Multiplexer)

SSH

3. ??????????

??????????

```
# 1. Install OCI CLI
bash -c "$(curl -L https://raw.githubusercontent.com/oracle/oci-cli/master/scripts/install/install.sh)"

# 2. Source oci
source ~/.bashrc
# Run exec -l $SHELL

# 3. Setup config (User OCID Tenancy OCID)
oci setup config

# 4. Oracle
cat ~/.oci/oci_api_key_public.pem
```

????????? (tmux)

```
# auto_arm
tmux new -s auto_arm
```

```
# 编译并安装
chmod +x arm_stack.sh
./arm_stack.sh

# 编译并安装
# 编译并安装Ctrl+B -> 编译 -> 编译 D

# 编译并安装
tmux attach -t auto_arm

# 编译并安装
ps -ef | grep arm_stack.sh
```

```
# iptables 設定
sudo -i

iptables -P INPUT ACCEPT
iptables -P FORWARD ACCEPT
iptables -P OUTPUT ACCEPT

iptables -F

apt-get install -y iptables-persistent
netfilter-persistent save
```

```

arm_stack.sh
STACK_OCID:
sleep 120
)
Resource Manager
120
2
OCID
Oracle WAF (Web

```

```
#!/bin/bash
```


tmux -> -> Ctrl+B, D
4. Oracle 139 QQ Oracle Events
Gmail
"Instance - Launch End"
5. "Failed" (Jobs)
(Failed) Oracle

???????? - Google Gemini

???????? - Google Gemini

Date: May 28, 2026 at 10:03 PM Turns: 5 Source: [Gemini Chat](#)

Turn 1

? User

? Assistant

Prompt
Role
Task
Format
Rules
"
+
AI

? ??????????????????

```
# Role

```

```
# Task

```

```
# Rules
- 
- 
- 
```

Output Format

Use Markdown format with 5 sections

1. Translation

- **Provide** the English translation of the Japanese text.
- **Provide** the Japanese translation of the English text.

2. Vocabulary & Roots

- List 3-5 key vocabulary words from the text.
- Provide the root/prefix/suffix for each word.
- **Provide** the English meaning of each word (Root/Prefix/Suffix) and 1-2 example sentences.

3. Grammar & Tenses

- Identify the main verb and its tense.
- **Provide** the English meaning of the verb and its tense.
- **Provide** the English meaning of the sentence and 1-2 example sentences.

4. Idioms & Slang

- Identify any idioms or slang used in the text.
- **Provide** the English meaning of the idiom/slang and 1-2 example sentences.

5. Practice & Expansion

- Provide 2-3 practice sentences for the user to translate.

? ??????????????????????

1. [] Rules [] " [] AI [] OCR
[]
2. [] []
3. " [] " [] [] " [] "
[] AI
[]
4. [] [] AI [] " [] "
[] [] [] " []

? ??????

 AI "I've been feeling a bit under the weather lately, so I postponed the meeting." AI

- 1.
 -
- 2.
 - postpone *post-* ... + *pon/pos* $\rightarrow$
 $\rightarrow$ compose, deposit
- 3.
 - *I've been feeling*
 - "
- 4.
 - *under the weather*
feel off-color
- 5.
 - *under the weather* *postpone*

Turn 2

? User

GEM

? Assistant

```

{
  "contents": [
    {
      "role": "system",
      "content": "(Instructions)"
    },
    {
      "role": "model",
      "content": "AI"
    },
    {
      "role": "user",
      "content": "Gemini"
    },
    {
      "role": "model",
      "content": "Gemini"
    }
  ]
}

```

1. ??????

- **(Name)** (English Deep-Dive Tutor)
- **(Description)** " "

2. ?? (Instructions)

( Gem  "Instructions" )

Role

你是一名专业的文档处理专家，负责将输入的文本内容按照指定的格式和规则进行整理和输出。

Workflow

请按照以下步骤进行工作：

- **Step 1** 识别输入文本中的关键信息，并进行 OCR 识别，确保内容准确无误。
- **Step 2** 根据识别出的信息，按照指定的格式进行整理和排版。
- **Step 3** 检查整理后的内容是否符合 Markdown 格式要求，并进行必要的调整。

Output Format

输出格式要求：使用 Markdown 格式，标题使用 `##` 表示，内容清晰易读。

1. 引言

- 介绍背景信息，包括项目目标和范围。
- 说明文档的编写目的和适用范围。

2. 项目背景

- 描述项目的背景信息，包括项目启动的原因和背景。
- 介绍项目的目标和范围，明确项目的边界和预期成果。
- 说明项目的组织架构和参与人员，包括项目负责人、团队成员和外部合作伙伴。

3. 项目目标

- 明确项目的总体目标，包括项目的核心价值和预期成果。
- 列出项目的具体目标，包括项目的关键里程碑和交付物。
- 说明项目的成功标准，包括项目的质量、进度和成本等方面的要求。

4. 项目计划

- 制定项目的详细计划，包括项目的任务分解、资源分配和时间安排。
- 说明项目的风险管理，包括项目的潜在风险和应对措施。

5. 结论

- 总结项目的关键信息，包括项目的目标、计划、风险和结论。

Constraints

- 项目必须在规定的时间内完成，并确保交付物的质量。
- 项目必须在规定的预算范围内进行，并确保资源的合理分配。
- 项目必须遵守相关的法律法规和行业标准，并确保数据的准确性和安全性。

3. ??? (Starter Prompts)

([] Gem [])

- [] 1 [] “It never rains but it pours.”
- [] 2 [] [] []

? ?????????? Gem?

[] Gem[] Instructions[] “[] ”[] # Workflow
[] [] # Constraints[]
[]
[] 5 []

Turn 3

? User

[] “[] (Starter Prompts)”[]

? Assistant

[] [] Gemini Gem [] [] [] [] “
[] (Starter Prompts)”[] “[] ”[] AI
[]
[] Gemini Gem []

1. [] (Name)
2. [] (Description)
3. [] (Instructions)

???“???”???????

[] [] []
[] “[] ”[] “[] (Instructions)”[] [] / [] [] “
[] ”[]
[] “It never rains
but it pours.”
[]

Turn 4

? User

.....

? Assistant

..... AI Gem
..... Web
..... “..... (UI) + (API) +
..... (Gemini API)” Firebase Cloudflare
Serverless.....
.....

? ???????

??????“??” (?? API Key)

- Gemini
- .. **Google AI Studio**..... API Key.....
 - Gemini 1.5 Pro OCR
.....
 - API Key

???????? / ?????? (Serverless)

- API Key.....
- **Cloudflare Workers** **Firebase Cloud Functions**.....
 -
 1.
 2. **(System Prompt)**
 3. API Key..... Google
 4. Streaming.....

???????????? (Frontend)

- HTML/CSS/JavaScript
..... Vue 3 **React**.....
-

- o 文件 目录结构 /目录
- o 文件 内容 “ ”
- o 文件 元数据
- 文件 (Markdown 文件) 文件 AI 文件 ## 文件
 Markdown 文件 marked.js 文件 AI 文件 Markdown
 文件 HTML 文件

??????? (Hosting & DNS)

???????

- 文件 Cloudflare Pages 文件 Firebase Hosting 文件 Koyeb
 文件
- 文件 CNAME
 文件 HTTPS
 文件 Web 文件
 文件
 文件 HTML+JS 文件 React/Vue
 文件

Turn 5

? User

Firebase Cloud Functions 文件

? Assistant

文件 Firebase Cloud Functions 文件 文件 Firebase Cloud
Functions 文件 **Blaze**
 文件

????????????

文件 Blaze 文件 文件

- 文件 (Invocations) 文件 200 文件
- 文件 (GB-seconds) 文件 40 GB- 文件
- CPU 文件 (GHz-seconds) 文件 20 GHz- 文件
- 文件 (Outbound networking) 文件 5 GB 文件

??????????? Blaze ?????

Firebase
 Spark
 Google
 Google Cloud
 Gemini API
 DDoS
 Google
 Cloud
 Functions
 Blaze

???????????????

Google Cloud
 (Budget Alerts)
 \$1

? ????????????Cloudflare Workers

Functions
 Cloudflare Workers
 Cloudflare Workers
 Firebase Cloud

1. 10
 2.
 3. Gemini API Key Google
 Cloudflare Workers JavaScript
 4. Cloudflare Pages
 Cloudflare Workers + HTML/JS
 Vue/React
 Cloudflare

????????????

Conversation 3df1d8b2

Date: May 28, 2026 at 10:05 PM **Turns:** 5 **Source:** [Gemini Chat](#)

Turn 1

? User

[
[
[
[
[]]

? Assistant

[" "]
[
[

????????????

[" + + + " AI
[
[
[
[
[
[" "
[
[
[
[]]

- ## 2. Narrative Case Studies?

3. ??????Infographics & Visualization?

4. ??????Simulation & Gamification?

5. ???????Socratic Dialogue?

●   “”  “” ”



 “” ”  ”  “” ”

“ ”

●   "  "  "  "  "  "

[illegible]

11

[illegible]

- “ ”

[illegible]

“

--	--	--	--

”

[illegible]

-

? User

“ ”

[illegible]

1. ?? (?????“????”)

[illegible]

-
- The diagram illustrates the structure of a 5:1 ratio in a sequence of blocks. It shows a series of blocks of varying lengths, with some blocks containing a ratio of 5:1. The blocks are arranged in a sequence, with some blocks being larger than others. The diagram is divided into three main sections by vertical lines. The first section on the left contains a large block with a 5:1 ratio. The middle section contains a smaller block with a 5:1 ratio. The third section on the right contains a large block with a 5:1 ratio. The diagram uses a grid of squares to represent the blocks, with some squares being shaded to indicate the 5:1 ratio. The text '5:1' is written next to the shaded squares in each section.

2. ?? (?????“????”??)

[illegible]

-
-
-
-
-
-
-
-
-

3. ??? (?????“????”)

“ ”

-
-

“ ”

“ ”

3. ?????????“?????”???????

“”

“”

“”

“”

4. ??“????”????????????

“” “”

“”

5. ??????“????”???????

“”

”

2500

“”

Terroir

”

3

2

1

4

5

????????????????????

Conversation f623d6ad

Date: May 28, 2026 at 10:08 PM Turns: 2 Source: [Gemini Chat](#)

Turn 1

? User

????????????????????
???????????????????? "???"
????????????????????
?? "????"
????????????????????
???????????????????? "????"
????????????????????
???????????????????? "????"
????????????????????
????????????????????
????????????????????

????????????????

????????????????????????????????

???“

????????????????????????????????

?”

????????????????????????????????

??????????“

????????????????????????????????

????????????????????????????????

????????”

????????????????????????????????

????????????????????????????“????”

????????????????????????????????

????????????????????

????????????????????“

????????????????????????????????

????????????????????????????????

????????????????” ?????????????“

????????????????????????????????

????????????????????????????????

????????????????”

??

??

??

??

??

??

????????????

??????

[illegible][illegible]

“

--	--	--	--

 ”

--

 “

--	--	--	--

 ”

[illegible][illegible][illegible]
$$\bullet \begin{array}{|c|c|c|c|} \hline & & & \\ \hline \end{array} \quad " \begin{array}{|c|c|c|c|} \hline & & & \\ \hline \end{array} " = \begin{array}{|c|c|} \hline & \\ \hline \end{array} / \begin{array}{|c|c|c|c|c|c|c|c|} \hline & & & & & & & \\ \hline \end{array}$$
[illegible]
$$\bullet \begin{array}{|c|c|c|c|c|c|} \hline & & & & & \\ \hline \end{array} = \begin{array}{|c|c|c|c|c|c|c|c|c|c|} \hline & & & & & & & & & \\ \hline \end{array}$$
[illegible]

_____ "_____

- = TRL 4-6

[illegible][illegible][illegible][illegible][illegible]

1.

--	--	--	--	--	--	--

 VC

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

 "

--	--	--

 "

--	--	--

“□□□□” □ Valley of Death □□

TTTTT TRLTTTT TRL 1-3

TRL 7-9

Pilot Testing

“ ” VC

"

“

--	--	--

 ”

--	--	--	--	--

-

□ □ 20:00 - 21:30 □ □ 08:00 - 09:00

Turn 2

? User

? Assistant

“ ” “AI + Canva Figma PPT
 ” AI Midjourney Stable Diffusion
 “ ” AI
 ” AI

?????AI?????????????Midjourney?

The diagram shows three horizontal bars, each composed of 20 small squares. The top bar is completely filled (20 squares), representing 100%. The middle bar has 15 squares filled and 5 squares empty, representing 75%. The bottom bar has 10 squares filled and 10 squares empty, representing 50%.

- 
- ** **A cinematic concept art depicting a massive dark, dry canyon separating two distinct worlds. On the top left, a beautiful floating island made of white ivory, featuring a glowing glass greenhouse. On the bottom right, a bustling steampunk-style continent with warm fires and golden lights. A deep, dark abyss lies between them. Epic lighting, high contrast between the glowing bioluminescent green from the greenhouse and the warm gold from the continent, Unreal Engine 5 render, highly detailed, 8k, masterpiece. --ar 9:16 --v 6.0 
-  **1** 
- ** **Macro photography of a futuristic bioluminescent fern glowing with bright neon green light, the glowing veins clearly visible, growing in dark soil, magical atmosphere, depth of field, dramatic lighting, 8k. --ar 16:9 --v 6.0
-  **2** 
- ** **A withered small plant struggling in dry, cracked earth in a dark stormy valley. In the blurred background, several shiny gold coins. High contrast, cinematic, melancholic mood, dramatic shadow, photorealistic. --ar 16:9 --v 6.0

????????????????

AI#####

? ????????

(#####)

- ##### “”
- #####
- ##### “#####” ——
#####

? ????????????????

(##### “”) [#####]

- ##### “”
- ##### TRL 1-3#####
- ##### “” [#####]
- #####
- ##### TRL 7-9#####
- ##### “” [#####]
- #####
- ##### TRL 4-6#####

? ????????????????

(#####)

- ##### “”
- 1. ##### / VC ##### “” “”
- 2. ##### (PoC) & ##### (TTO) ##### “”
- 3. #####

? ????????

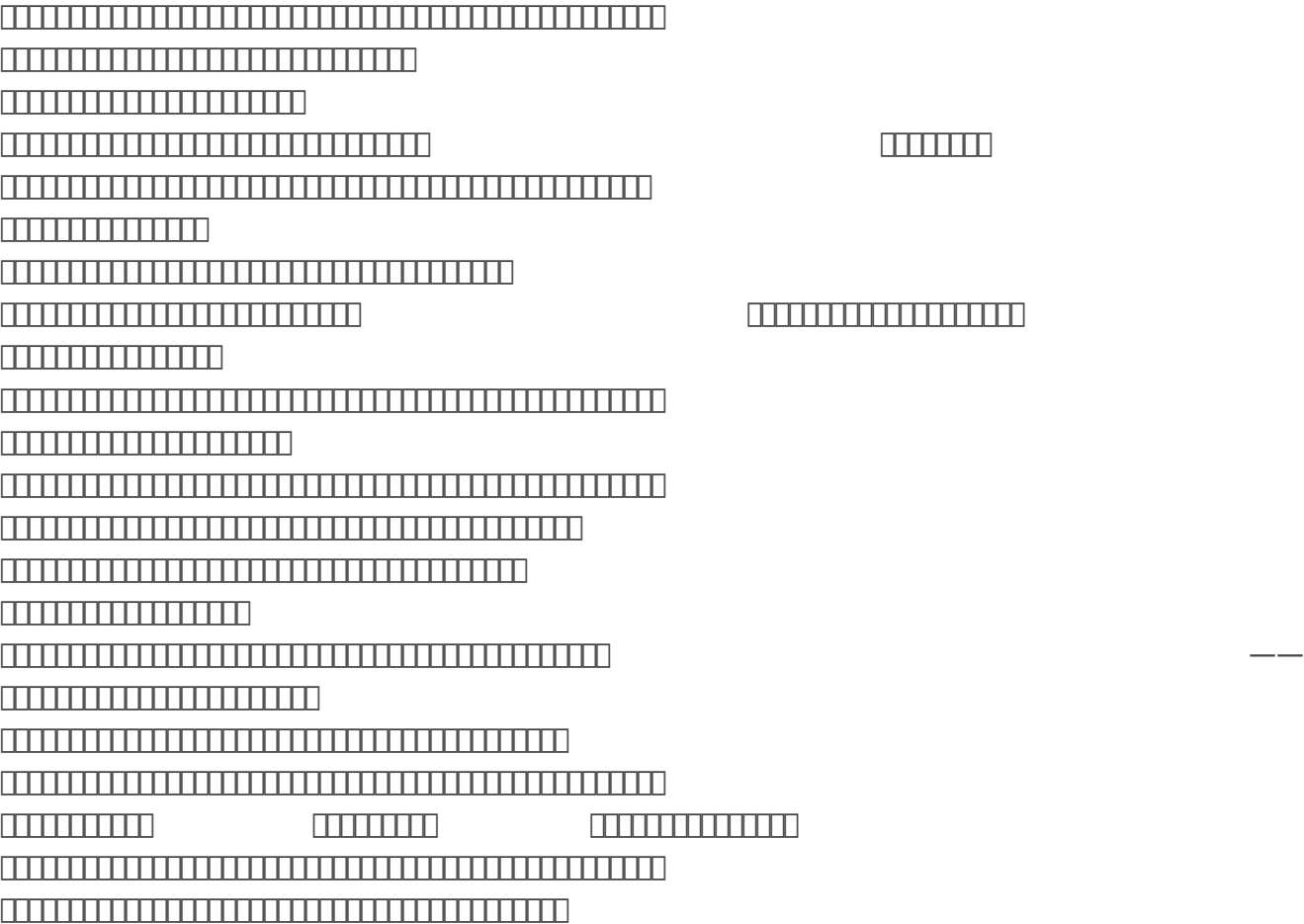
- #####
- ##### /##### Logo##### “
#####”

Conversation d1214e94

Turn 1

??????????

The diagram consists of 16 horizontal bars, each made of small squares. The bars are arranged in a sequence that suggests a binary or digital pattern. The lengths of the bars vary, with some being longer than others, creating a stepped effect. The bars are arranged in a sequence that suggests a binary or digital pattern, with some bars being longer than others, creating a stepped effect.



???????Berry Phase?/ ????Geometric Phase?

Geometric Phase Berry Phase
Michael Berry 1984

- Quantum State/Wavefunction Parameter Space
- Adiabatic Theorem
- Closed Loop
- Dynamic Phase

Conversation 42674968

Turn 1

A 10x20 grid of empty boxes for handwriting practice. The grid is composed of 10 rows and 20 columns of identical empty rectangular boxes, arranged in a uniform pattern.

????????Retrieval-Augmented Generation, ?? RAG?

```

graph TD
    Prompt[Prompt] --> LLM1[LLM]
    LLM1 --> Response1[Response]
    Response1 --> Retriever[Retriever]
    Retriever --> VectorDB[Vector Database]
    VectorDB --> ContextAug[Context Augmentation]
    ContextAug --> LLM2[LLM]
    LLM2 --> Response2[Response]
  
```

The diagram illustrates the RAG (Retrieval-Augmented Generation) process flow. It starts with a **Prompt** (represented by a blue bar) which is fed into an **LLM** (Large Language Model, represented by a green bar). The LLM generates a **Response** (represented by a blue bar). This response is then fed into a **Retriever** (represented by a green bar), which searches a **Vector Database** (represented by a green bar) to find relevant information. The retrieved information is then fed into a **Context Augmentation** step (represented by a green bar), which combines the original prompt with the retrieved context. The augmented prompt is then fed back into the **LLM** to generate a final **Response**.