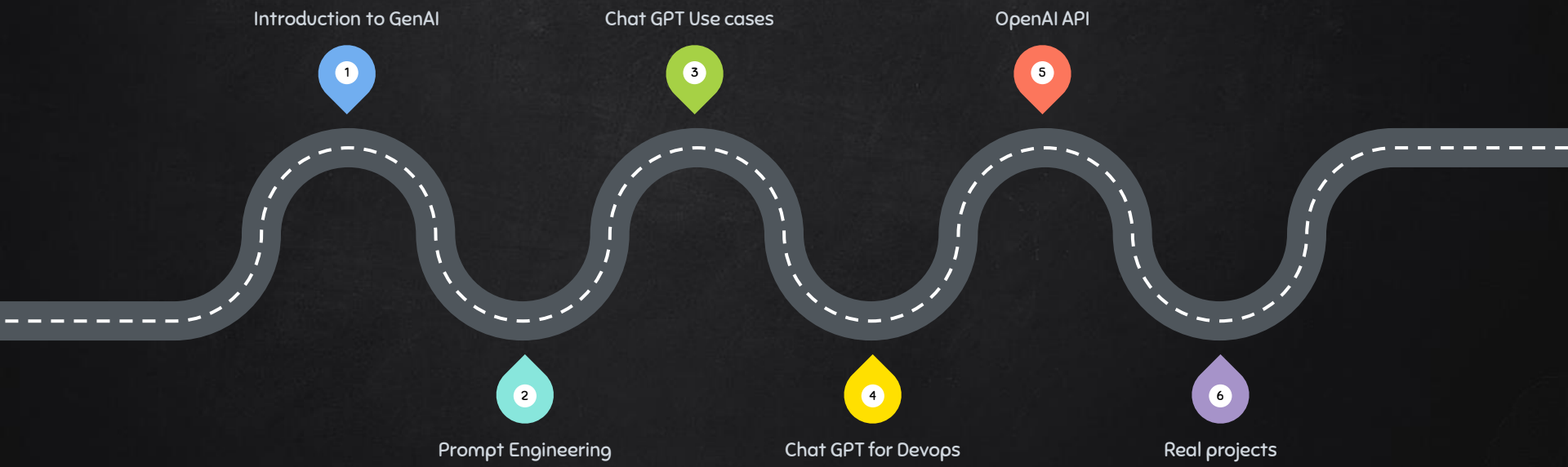
Roadmap


Introduction to GenAI
1
Chat GPT Use cases
3
OpenAI API
5
2
Prompt Engineering
4
Chat GPT for Devops
6
Real projects

Transforming DevOps Processes with ChatGPT

Harnessing the Power of GenAI

Popular Use Cases for DevOps

- Code Explanation
- Code Writing
- Code Documentation
- CICD Pipeline
- Infrastructure as Code (IaC)
- Containerization and Orchestration
- Configuration Management
- Architecture

What is Generative AI

Generative AI is a type of artificial intelligence that can create text, images, or other content based on patterns it has learned from data.

It generates content by predicting what comes next in a sequence, making it useful for tasks like language generation and content creation.

Generative AI has a wide range of applications and is valuable for tasks like chatbots, text generation, and creative content production.

Prompt engineering

Prompt engineering is the process of designing and crafting prompts, instructions, or queries in a way that elicits specific and desired responses from artificial intelligence (AI) models, such as language models like GPT-3.5.

Effective prompt engineering is crucial in leveraging AI models to perform tasks or provide information accurately.

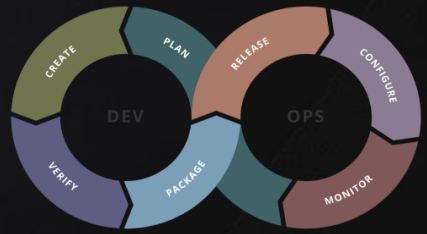
Developing Web Application

- [x] Help me write my first flask web application
- [x] Give me a sample html text for an ecommerce app
- [x] Give me a css to style the above html. keep the theme dark
- [x] Help me start this python flask application locally. clearly describe where to keep the css, images and html template along with python code

Code Explanation with ChatGPT

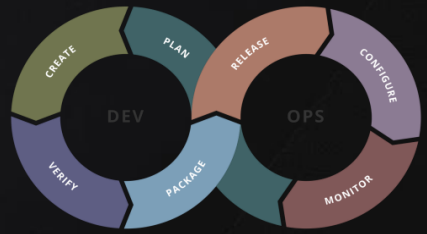
DevOps Role

The DevOps team's role is to streamline software development and deployment processes by fostering collaboration between development and operations, automating tasks, and ensuring efficient, reliable software delivery.



Code Explanation

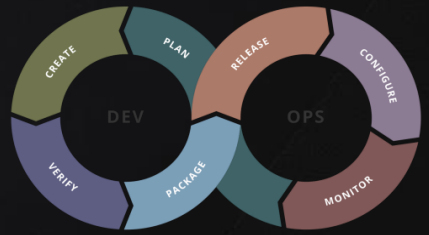
- ✗ Explain the purpose and functionality of this Python function/class: [Insert code snippet].
- ✗ Explain the control flow and logic used in this code: [Insert code snippet]



Code Explanation

- ✗ How does error handling and exception management work in this code?
  [Insert code snippet]

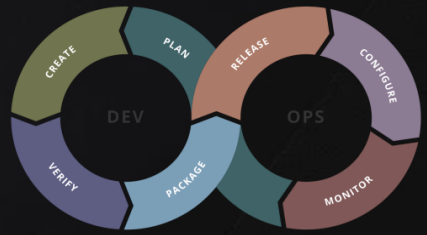
- ✗ Discuss any security concerns or measures implemented in this code.
  [Insert code snippet]



Transforming DevOps Processes with ChatGPT

Code Generation

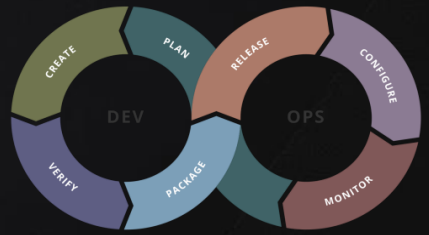
- ✗ "Unlock your coding potential with ChatGPT and bring your software ideas to life with ease!"
- ✗ "Experience the magic of code generation with ChatGPT and watch your projects flourish."
- ✗ "Don't hesitate – let ChatGPT be your coding companion and turn your coding dreams into reality!"



Code Generation

- ✗ Generate a Terraform script to provision a scalable AWS EC2 infrastructure with load balancing and auto-scaling based on predefined requirements.

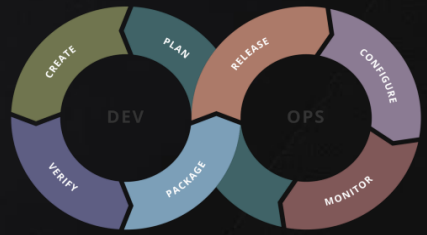
- ✗ Create an Ansible playbook to automate the deployment of a Dockerized application to a Kubernetes cluster.



Code Generation

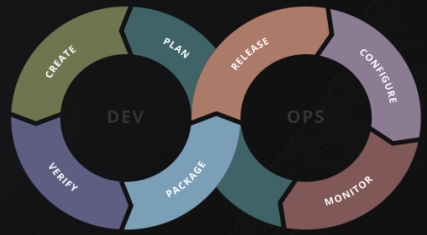
- ✗ Create an Ansible playbook to automate the deployment of a Dockerized application to a Kubernetes cluster.

- ✗ Generate a Dockerfile for containerizing a Node.js application, including all the necessary dependencies and environment settings.



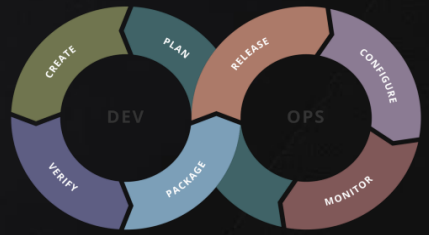
Code Generation

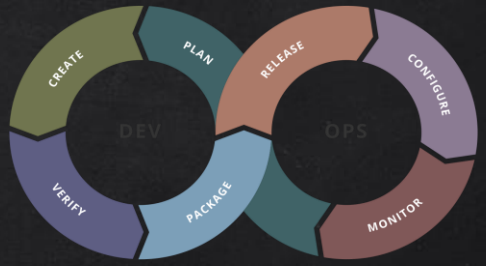
- ✗ Generate a complete CI/CD pipeline configuration for a Node.js application. This should include code for automatically building, testing, and deploying the application from a GitHub repository to a Kubernetes cluster. Be sure to include necessary steps for linting, unit testing, containerization, and rolling updates.



Code Generation

- ✗ Create a Python script to generate SSL/TLS certificate signing requests (CSR) for multiple domains, with the required configurations.

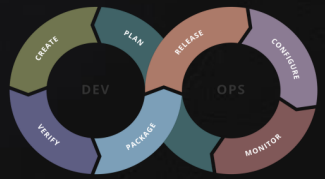



CREATE
PLAN
RELEASE
CONFIGURE
DEV
OPS
VERIFY
PACKAGE
MONITOR

Designing App Architecture with ChatGPT

App Architecture

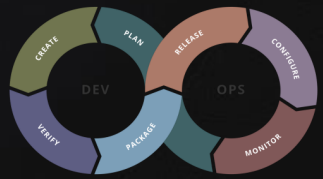
In the context of cloud applications, "architecture" refers to the overall structure and design of the application's components, how they interact, and how data and processes are organized



IaC vs Manual

IaC streamlines IT management, automating deployments for efficiency and reliability.

Manual management is error-prone and time-consuming, suitable for smaller, less complex setups



Transforming DevOps Processes with ChatGPT

Infrastructure as Code with ChatGPT

Documentation

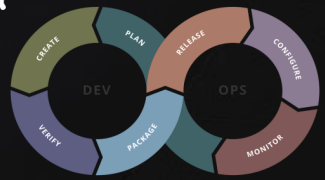
- ✗ Create comprehensive documentation for our CI/CD pipeline, detailing the stages, tools, and configurations used in the software development and deployment process.

- ✗ Document the infrastructure architecture, including network configurations, server specifications, and security measures implemented in our AWS cloud environment.

CICD

- ✗ Create a CI/CD (Jenkins/github action/ADO) pipeline for a web application that automates the build, testing, and deployment process. Provide configuration files and scripts for each stage.

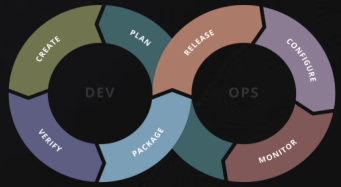
- ✗ Design and document a CI/CD strategy for a microservices-based architecture, ensuring efficient version control and containerized deployment.



CICD

- ✗ Explain the integration of CI/CD with cloud services (e.g., AWS CodePipeline) and provide an example of a cloud-based CI/CD configuration.

- ✗ Describe the monitoring and reporting tools and practices used in a CI/CD pipeline to ensure visibility and traceability of the deployment process.



CICD

- ✗ Explain the key benefits of implementing Blue-Green deployments in a CI/CD pipeline and provide a step-by-step guide to set up such a deployment strategy.

Popular DevOps Prompts

1. Explain the process of setting up a version control system for a software development project and its benefits.
2. Describe best practices for managing and securing secrets and sensitive information in a DevOps environment.
3. Explain the key principles and advantages of Infrastructure as Code (IaC) for managing and provisioning infrastructure.
4. Discuss the importance of automated testing in the CI/CD pipeline and how to implement it effectively.
5. Describe the advantages and use cases of containerization technologies such as Docker in DevOps.

Popular DevOps Prompts

6. Explain the concept of Blue-Green deployments and how they can minimize downtime and risk during updates.
7. Discuss the benefits of monitoring and observability in a DevOps environment, and how to implement them.
8. Explain the role of orchestration tools like Kubernetes in managing containerized applications in a production environment.
9. Describe the DevOps best practices for collaborating and communicating effectively between development and operations teams.
10. Explain the key steps and practices involved in disaster recovery and backup planning for a DevOps system.

Thank You