



Introduction to Developer Efficiency on Google Cloud

In this course, you are introduced to how generative AI can be used to make developers more efficient at writing code with Gemini Code Assist and implementing new features into applications. You will explore how Gemini Cloud Assist can help you to architect your applications and investigate issues that arise. Finally, you will put everything together into an end-to-end workflow.

DURATION
1 day

LEVEL
Introductory

FORMAT
Instructor led

What you'll learn

- Understand the efficiency challenges in a developer workflow and how generative AI can make developers more efficient.
- Use Gemini Code Assist to more efficiently write code for your applications.
- Use Gemini Code Assist with tools and agents
- Understand the features of Gemini Cloud Assist
- Create an end-to-end developer workflow using Gemini Code Assist and Gemini Cloud Assist

Overview	5 modules · 4 labs · 4 classroom activities
Who this course is for	Application developers who wish to use Gemini Code Assist and Gemini Cloud Assist to support application development workflows
Products	<ul style="list-style-type: none">• Gemini• Gemini Code Assist• Gemini Cloud Assist• Vertex AI
Prerequisite	Basic Google Cloud knowledge for application development

Module 01 **Developer Efficiency on Google Cloud**

Topics	<ul style="list-style-type: none">• Developer Workflows, SDLC, DORA, and Efficiency Challenges• Generative AI for Developer Efficiency• AI-powered Developer Tools on Google Cloud• Developer Workflows with LLMs
Objectives	<ul style="list-style-type: none">• Understand developer workflows, SDLC, DORA, and efficiency challenges• Improve developer efficiency in Google Cloud with generative AI• Explore the AI-powered developer tools on Google Cloud• Understand developer workflows with Large Language Models (LLM)

Module 02 **Gemini Code Assist**

Topics	<ul style="list-style-type: none">• Introduction to Gemini• Gemini Code Assist• Generating and Completing Code Using Gemini• Prompting Best Practices
Objectives	<ul style="list-style-type: none">• Understand the role of Gemini• Learn how to set up Google Cloud Code and Code Assist in your IDE• Generate and complete code with Gemini• Use Gemini with the Cloud Code IDE extension
Activities	Lab: Getting Started with Gemini Code Assist

Module 03 Expanding Code Assist Usage

Topics	<ul style="list-style-type: none">• Grounding on Your Codebase• Code Assist Tools• Code Assist Agents• Additional Code Assist Capabilities
Objectives	<ul style="list-style-type: none">• Ground on your codebase• Extend capabilities with external services• Automate complex development tasks with Code Assist agents• Utilize advanced Code Assist capabilities
Activities	Lab: Using Gemini and Tools in Code Assist to Develop a CI/CD Pipeline

Module 04 Gemini Cloud Assist

Topics	<ul style="list-style-type: none">• Gemini Cloud Assist Capabilities• Designing with Gemini Cloud Assist• Investigating Issues with Gemini Cloud Assist
Objectives	<ul style="list-style-type: none">• Leverage the Power of Gemini in Cloud Operations• Utilize Gemini Cloud Assist's Application Design Center (ADC) for designing and building cloud applications• Optimize costs with Gemini Cloud Assist• Investigate and diagnose issues with Gemini Cloud Assist
Activities	Lab: Diagnosing Issues with Gemini Cloud Assist

Module 05 Putting it All Together

Topics	<ul style="list-style-type: none">• Revisiting Example Use Case• Overall Approach Using Gemini
Objectives	<ul style="list-style-type: none">• Use Gemini Code Assist to perform design and initial code generation• Create infrastructure and deploy using Gemini Cloud Assist• Perform operations and optimization using Gemini Cloud Assist
Activities	Lab: End-to-End Application Development with Gemini