

Lab 085: Prompt and Context Engineering in GitHub Copilot

Level: L100 Journey: copilot Time: ~45 min Cost: GitHub Free

info "Free-first design" Complete the guided exercise with Copilot Free or the included simulation. Paid features are optional and explicitly labeled.

tip "AI Credit impact" Low for guided work; medium/high for agentic or repeated runs. Prefer automatic model selection, plan before acting, keep context focused, and avoid unnecessary parallel sessions.

What You'll Learn

Choose between selection, files, and codebase context Write compact prompts with constraints and acceptance criteria Use Ask, Plan, and Agent with the right context boundary Reduce AI Credit waste by keeping context intentional

GH-300 alignment

Responsible AI (15?20%) · Prompt and context (10?15%). This mapping follows the GH-300 curriculum snapshot dated 2026-08-07. The official outline may retain older product wording such as ?Copilot Edits?; this lab teaches the current product experience and calls out that difference.

Concept Map

[diagram or code sample]

Hands-on Exercise

Step 1: Build a context ladder

Open a small repository and solve the same question four times: with a selection, one referenced file, a focused set of files, and the repository context. Record which evidence changed the answer.

Step 2: Write an implementation prompt

Use the structure goal ? context ? constraints ? acceptance criteria ? validation. Ask Plan mode to identify affected files before Agent mode edits anything.

Step 3: Run the responsible-AI check

Verify generated code, cite the source files used, inspect security-sensitive assumptions, and reject any suggestion that invents APIs or secrets.

Supporting kit

The site build generates stable PDF and ZIP downloads. The ZIP contains the lab guide and every supporting file declared for this lab.

Download generated PDF Download generated ZIP

Supporting file: context_modes.md

Supporting files: Lab 085: Prompt and Context Engineering in GitHub Copilot

Use these files with the lab guide and generated kit.

Lab: 085 File: context_modes.md Validate locally before using an optional hosted path.

Supporting file: prompt_patterns.csv

pattern,goal,risk goal-context-contract,bounded response,missing validation
examples-with-tests,stable format,overfitting

Supporting file: starter/README.md

Lab 085: Prompt and Context Engineering in GitHub Copilot ? starter repository

1. Copy this directory into a new repository.
2. Complete the lab tasks in small commits.
3. Run local validation before opening a pull request.