**Courses**

* *Accelerate app development by using GitHub Copilot* — **4 h** (learn.microsoft.com)
* *GitHub Copilot Certification* — **5 h** (learn.microsoft.com — note: $99, Free for EY Employees)

**Assessment (DEV Team):**

You are provided with two intentionally “bad code” projects — one in Java (Maven, Spring Boot style) and one in .NET (C#).

Pick the project that matches your tech stack (Java or .NET) and improve it using GitHub Copilot.

**Instructions**

**Download & Extract**

* The project ZIPs are provided below (Java & .NET).
* Extract the project and open it in your preferred IDE (IntelliJ/Eclipse for Java, Visual Studio/VS Code for C#).

**Run the Project & Tests**

* Each project includes batch (.bat) scripts:
* run.bat → builds and runs the project
* run-tests.bat → runs the unit tests

**Improve the Codebase (Your Task)**

Use Copilot/AI to:

* Refactor messy, poorly structured code into clean, maintainable functions/classes.
* Fix logic errors and improve test coverage.
* Optimize inefficient code (look for hotspots like O(n²) implementations).
* Write missing unit tests to validate correctness.

**Deliverables**

* A working, refactored project where tests pass.
* A short README update (1–2 pages) describing:
  + What improvements you made.
  + How AI assisted you.
  + Before vs. after (examples of messy → clean code).

**Reference**

* Each project already includes a **README.md** with full instructions.
* Use that as your detailed guide while working.



(Note: Full details are in the README.md inside each project)

**Assessment (DevOps+ Infra):**

CI/CD Pipeline with GitHub Actions

Task:

* Create a .github/workflows/deploy.yml workflow that:
  + Runs terraform fmt or bicep build for validation.
  + Executes your Python/Bash script.
  + Deploys a sample app (static HTML or containerized app) to Azure Web App or Docker Hub.
* Use Copilot to write YAML syntax, add caching, and trigger pipeline on push.

*How Copilot Helps:*

* Use natural language comments like # Add step to install Azure CLI to see how Copilot generates correct steps.