

Software Developer Assessment



Technical Assessment

Overview

As part of our hiring process, we ask candidates to complete a technical assessment that demonstrates core software engineering skills such as API design, data modelling, testing, and deployment.

This assessment involves building a small application within the context of a fictional MMORPG (Massively Multiplayer Online Role-Playing Game) catalog. The purpose is to assess your ability to design and implement a well-structured, testable, and maintainable system.

Objective

Develop a small application that represents part of a game catalog system for an MMORPG. You are free to define the specific functionality, but possible ideas include:

- A catalog of in-game items (weapons, armour, consumables)
- A character profile system
- Quest or mission tracking
- A leader board or rankings service
- Guild management or social features

You may define your own use case as long as it clearly fits within an MMORPG-style game universe.

Core Requirements

API Development

- The application must expose a RESTful API to manage its core entities.
- CRUD operations should be supported where appropriate.
- Optional features such as pagination, filtering, or sorting are welcome.

Relational Database

- Your application must use a relational database (e.g., PostgreSQL, MySQL, SQLite).
- No NoSQL databases should be used.

Software Developer Assessment



Automated Testing

- Include automated tests for key application logic and API endpoints.
- Tests should be easy to run and documented clearly in the README.

Containerization and Deployment

- The application must be packaged using Docker so it can be run locally by the interviewer.
- A single command or script should be sufficient to launch the application.
- Include a README.md file with all setup and usage instructions.

Optional Enhancements (Bonus)

The following are not required but will be considered bonus additions:

- A formal API specification (e.g., OpenAPI/Swagger)
- Basic performance/load testing
- Use of authentication and role-based access (e.g., admin vs. regular player)
- Modular or layered architecture design
- Documentation of design decisions or trade-offs

Interview Follow-Up

In the follow-up interview, you will:

- Demonstrate the functionality of your application
- Walk through key aspects of your implementation and architecture
- Discuss design decisions, trade-offs, and potential improvements
- Answer questions about testing, deployment, and scalability

Submission Instructions

Please submit a link to a Git repository (e.g., GitHub, GitLab, Bitbucket) that includes:

- All source code
- Dockerfile and any required configuration
- Automated tests
- A README.md with clear instructions for running the application and tests

Please send all relevant documents/files to aparna.watman@portfolioplus.com by Monday April 21st, 2025 at 8am EST. Good Luck!