

Take-Home Assignment: Web-Based Task Manager

Background

Build a minimal web-based task manager that lets users:

- Submit long-running jobs
- Run them in the background
- Monitor their progress
- Access logs
- Cancel jobs

Core Requirements

1. Task Submission

- HTTP endpoint (e.g. POST /tasks)
- Payload: task name + command to execute
- Returns a unique **task ID** immediately

2. Asynchronous Execution

- Jobs run in the background without blocking the server

3. Status Checking

- Endpoint (e.g. GET /tasks/:id) returns:
 - State (queued | running | completed | failed | canceled)
 - Start time, end time (if finished)
 - Exit code (if finished)

4. Log Access

- **Streaming:** WebSocket or Server-Sent Events for live logs
- **Fetch:** GET /tasks/:id/logs for the full log history

5. Cancellation

- Endpoint (e.g. DELETE /tasks/:id) to stop a running task

6. Demo Client

A simple web or CLI client to show:

- Submitting a task
- Checking its status
- Streaming live logs
- Downloading full logs
- Canceling the task

Deliverables

- A Git repo with:
 - Server code

- Demo client
 - README.md covering setup, usage, and API specs
- (Optional) Tests for core functionality