Deployment Plan

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1. Deployment Overview

This document outlines the deployment process for the movie desktop application. The project is developed using Python with PyQt for the frontend and MySQL as the database. The deployment environment consists of a local machine setup for demonstration purposes.

Tools and Technologies Used

- **Frontend**: PyQt with PyQt Designer for UI design
- **Backend**: Python
- **Database**: MySQL with mysql.connector
- **Version Control**: GitHub repository for code collaboration and tracking
- **External API**: TMDB API for movie data retrieval
- **Development Environment:** VS Code
- **Operating System**: Windows

2. Deployment Process

The following steps describe the deployment process:

- **Environment setup**
  Python 3.10 and pip installed on the system.
  PyQt5 installed using pip: pip install PyQt5
  MySQL server installed and running locally.
  Database schema manually initialized (using provided .sql file).
  TMDB API key stored securely in a config file or environment variable.

- **Cloning the Repository**
  Repository cloned using GitHub Desktop.
  Branches were checked out and merged as needed.

- **Database Setup**
  Created a MySQL database called movienest.
  Ran setup SQL to create tables: users, movies, watchlists.
  Populated tables with sample movie data or allowed the application to fetch and store dynamically.

- **Running the Application**
  Application started using main.py.
  UI windows (login, main page, watchlist) handled by PyQt5.
  On successful login, users can search, filter, sort, and manage watchlists.

- **Testing Deployment**
  Each team member ran the application on their machine using the same steps to validate cross-environment functionality.

3. Configuration Plan

The application requires the following configurations:
- Python: Version: 3.10, installed via official installer
- PyQt5: Installed via pip (pip install PyQt5)
- MySQL Server: Host: localhost, User: root, Port: 3306, DB name: movienest
- TMDB API: API Key stored in .env or config module, used via requests
- GitHub Repo: Public repository with version-controlled commits
- Qt Designer Files: .ui files stored and converted to .py using pyuic5
- OS Environment: Windows 10/11, Visual Studio Code for development