Sample Software Engineer - Java Assignment 1

It is a SAMPLE project - You don't need to work on it.
It might not be relevant to the role you are applying for, it's just to demonstrate the format / types of tests we provide.

Your objective is to perform a set of tasks described below. Please try to complete as much as possible within trial time-frame, even if you do not finish all requirements.

Tools and Technologies

- JDK 1.7
- MySQL
- Apache Tomcat 7
- Apache Maven 3.2.5
- Eclipse IDE
- Spring 4.1.x
- Hibernate 4.3.x

Requirements

Create "Online Test Exam Maker" web application with the following requirements:-

- Test exam pages: You should create three pages as described below (do not waste a time in web design for those pages):-

    a. **Description page**: this is the home page which describe what the test exam is about (description should be read from database). Candidate should insert his/her credentials as user name and password.
    b. **Question page**: this page shows a single question and its multiple choices. Candidate can switch to another question by selecting question number from a combo box and clicking on go button. user can submit the answer and go to next question. Candiate can end the exam and go to third page to confirm finishing.
    c. **End exam page**: final submit of the exam. you should notify the candidate if he/r does not answer any question with an appropriate message.

    Automatic candidate grading after final exam submission. save candidate grade result into database.
- You can fill manually into database the information related to tests, users and questions as a test data
- but you have to provide all needed scripts (including insertions of test data) in your assignment delivery.
  Backend timer callback service that check if candidate passed the exam duration, this service should be
- invoked by front end every 2 seconds. in front end; exam should be end with a message if test duration passed.

Your database should cover the following domain entities(design the database tables and add any necessary tables)

User

- Full name.

- User name.
- User password.

Test exam

- Name.
- Description.
- Pass score.
- Total score.
- Exam duration.

Question

- Title.
- Problem description.
- flag if question may have more than one answer.
- Order.

Question choice answer

- Answer choice text.
- Display order.
- Flag if it's a correct choice.

To be evaluated

- Functionalities and output.
- Code quality (style, documentation and performance).
- Database design.
- Fulfilment of running and deployment Instructions.

Delivery / What to submit

Please, read and follow this section carefully. Any delivery that does not follow this section will score much less or simply won't be evaluated.

First of all, review Delivery Instructions (Sent to your personnel mail), which describes general delivery process.
Delivery for this assignment should consist of:
Archive named **<your_name – Software Engineer - Java>.zip** containing the following:

- **Readme.txt** -> containing report about work done.
- **Howto.txt** -> detailed description of running and deployment steps including changes that need to be done in different environments like database credentials.
- **Design.doc** -> contains your design implementation.
- **Wink Folder** -> Wink video shows you application running, and perform required functionality.
- **Code Folder** -> contains your solution.
- **SQL Folder** -> All SQL scripts.
- **Deployment** -> all artifacts and detailed instructions to deploy your solution.

So the resulting structure of your delivery should be:

- <your_name – Software Engineer - Javar>.zip
- <your_name - Software Engineer - Java>.zip \ Readme.txt
- <your_name - Software Engineer - Java>.zip \ Howto.txt
- <your_name - Software Engineer - Java>.zip \ Design.doc
- <your_name - Software Engineer - Java>.zip \Code\
- <your_name - Software Engineer - Java>.zip \SQL\
- <your_name - Software Engineer - Java>.zip \Deployment\