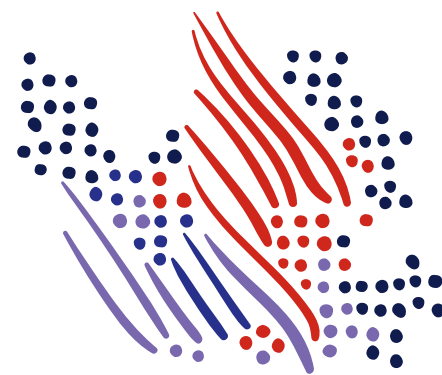
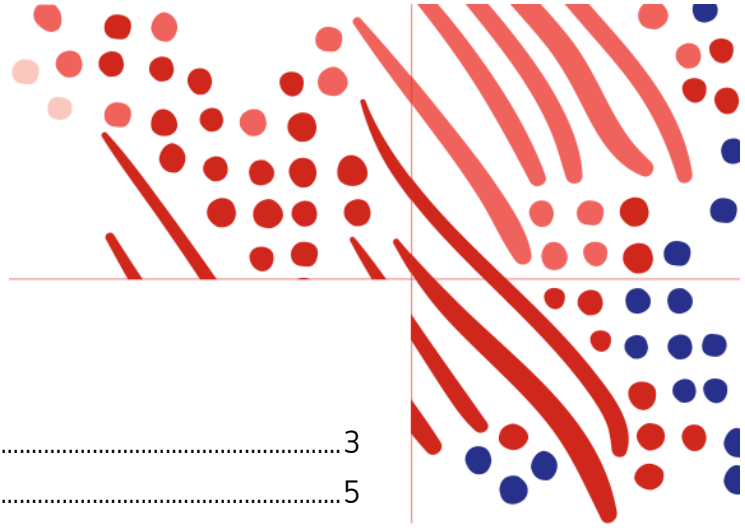




JumpStart 2020 – Java Project





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Welcome to ADP GPT team! Now that you're halfway thru your trainings, it's time to start putting them in action. We have a project assignment for you, to take you thru building a basic web app (or maybe **not-so-basic**, depending on how much attention you paid to your trainings). Please do read this entire document at least once before starting the project, and definitely pay attention to what you're being asked to do and how you'll be evaluated at the end of this assignment.

Don't hesitate to reach out to us for help. But, do checkout all the links in this document before you reach out to us. Many of these links do serve a dual purpose, they guide you for this project, and also provide you with a small set of helpful sites and examples, which may help you now and continue helping you in future as you embark on your professional developer journey.

Good Luck Coding!

Software, Plugins and Tools Needed

| IDE/Tool/Plugin/ Software Needed | Version | Download Link | Note |
|--|---------|----------------------|--|
| Java | 8+ | Link | Download appropriate package depending on your OS. Remember, you need JDK, not just JRE. |
| Eclipse IDE | any | Link | Download and extract the zip in a folder. Remember, you can either use Eclipse's in-built JDK, or the one you downloaded above. Do configure your environment correctly in case you're using a different JDK than what came with Eclipse. Some plugins may need an external JDK, so best to configure it. Setup JDK In Eclipse . |
| Maven | 3.5+ | Link | You can either download, install and configure this (like we do in real projects), or go the rookie way: which is use M2Eclipse plugin, and here is how to install it . |
| Spring | any | Link | Use Maven to get Spring. |

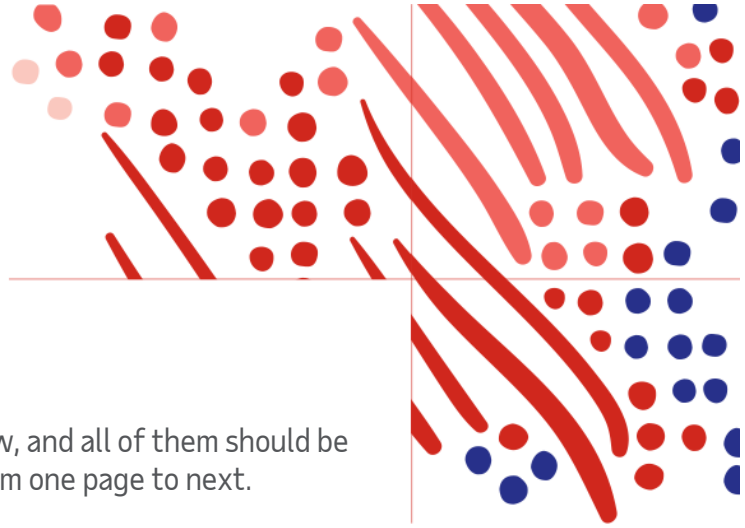


| | | | |
|---------------------|-----|----------------------|---|
| SonarLint | any | Link | Use Eclipse Installer to get SonarLint. |
| Log4j | any | | Configure your application logs using Log4j2, using XML or properties file. Use Maven to get Log4j. |
| Hibernate | any | | Here . Use Maven to get Hibernate. |
| Mockito | any | | Here . Use Maven to get Mockito. |
| EclEmma | any | | Help available here . |
| NPM / NodeJS | any | | Help available here . |
| Angular | any | | Use NPM to install Angular. Help available here . |
| React | any | | Use NPM to install React. Search NPM packages here . |
| Tomcat | any | Link | Help available here . |
| MySQL | any | Link | Download appropriate package depending on your OS. |
| PostgreSQL | any | Link | Download appropriate package depending on your OS. |

Try and work with a stable version, these are usually mentioned on the sites, the latest builds might not be stable and might not work with other plugins or tools that you have.

You may not need all of the above, so read this document, chose your tech stack and then download what you need.

OK, you're all set. Remember, the links provided in this document link to some helpful websites with good resources which can help with your project, so use them!



Your Project – “Mentor-a-ship”

Your project site will have a few pages, as listed below, and all of them should be connected to each other, i.e. have links/navigation from one page to next.

Registration Page - Mentor

Need to build a page where Mentor will register. They need to provide data like,

- Name of the Mentor
- Email id of the Mentor
- Organization of the Mentor
- Role of the Mentor
- Area of Interest of Mentor
- Expertise's of Mentor
- Photograph of the Mentor

Following validation must be applied,

- Name, email id, password is mandatory
- Email id must be unique and should not be registered with another user
- Password must be of minimum 8 character with the combination alphabets, number and special character
- Mentor should be able to edit profile once registered
- Mentor should be able to change password

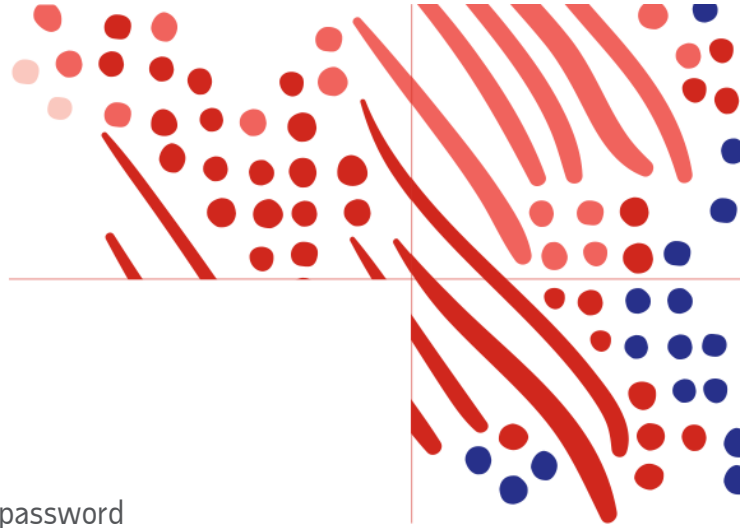
Registration Page - Associate

Need to build a page where Associate will register. They need to provide data like,

- Name of the Associate
- Email id of the Associate
- Photograph of the Associate

Following validation must be applied,

- Name, email id, password in mandatory
- Email id must be unique and should not be registered with another user
- Password must be of minimum 8 character with the combination alphabets, number and special character
- Associate should be able to edit profile once registered
- Associate should be able to change password



Login page

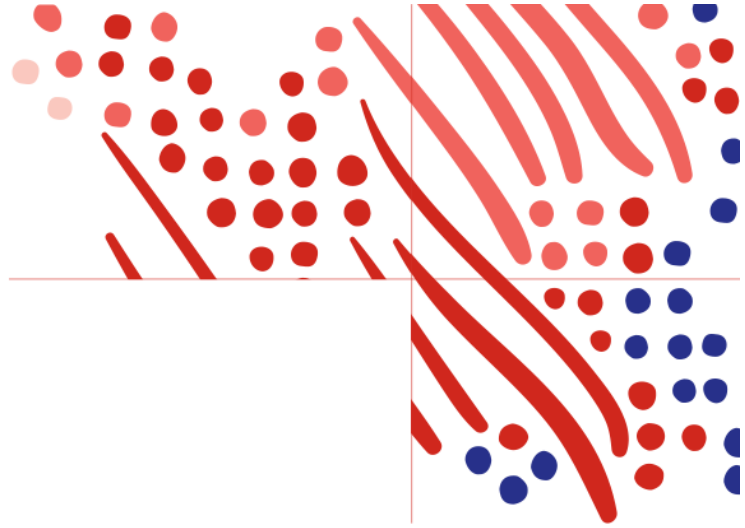
Login Page should have forgot password link to reset password
Admin, Mentor or Associate should be able login and redirected landing page upon successful login

- Admin should be redirected to Admin Home Page
- Mentor should be redirected to Mentor Home Page
- Associate should be redirected to Associate Home Page

Mentor Home Page

Mentor Home Page should contain link to

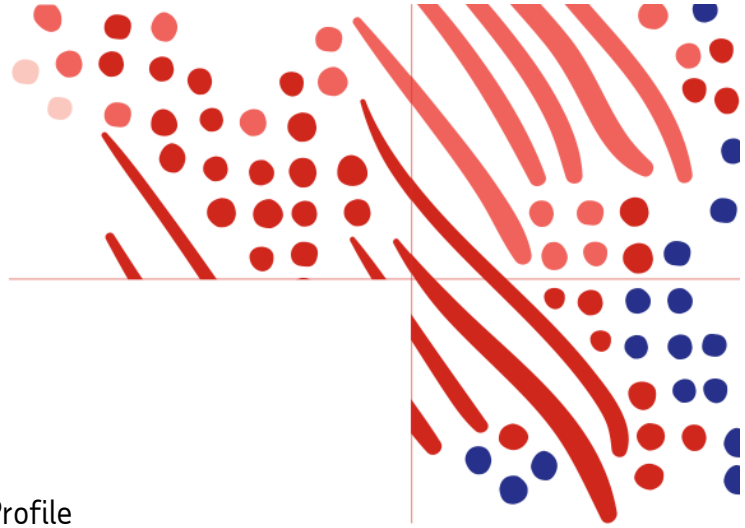
- Logout
- Mentor Profile
 - Mentor should be able to View his/her Profile
 - Mentor should be able to Edit his /her Profile
- View Associates
 - Mentor should be able to view associates assigned/mapped
 - Mentor should be able to create a Plan for each of the associate assigned to him/her, which includes
 - Task/Training course
 - Assessment
 - Useful link and notes to associate
- Mentor Dashboard Page
 - Mentor should be able to see the dashboard with the details like,
 - Associate Name
 - Task
 - Completion Percentage
 - Date
 - Mentor should be able to switch between views like,
 - Associate View
 - Task View



Associate Home Page

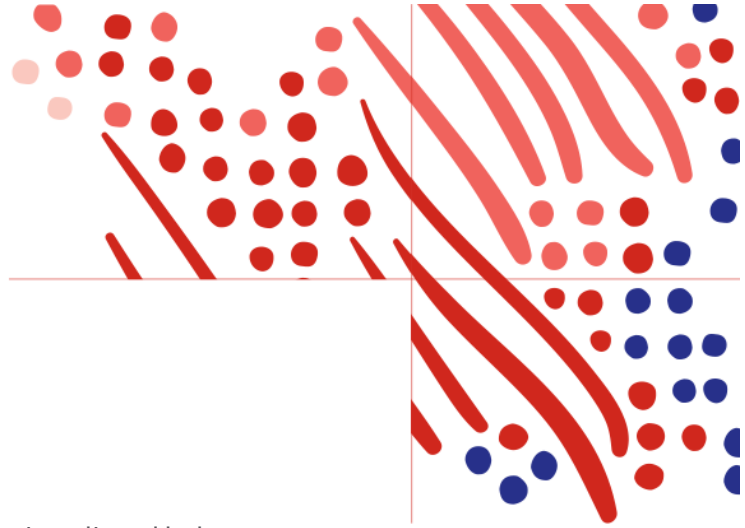
Associate Home Page should contain link to

- Logout
- Associate Profile
 - Associate should be able to View his/her Profile
 - Associate should be able to Edit his /her Profile
- View Mentor
 - Associate should be able view Mentor Profile
- View /Update Tasks/Course
 - Associate should be able to update the task/course assigned to with percentage
- View Useful Links
 - Associate should be able view links and notes updates by Mentor



Admin Home Page

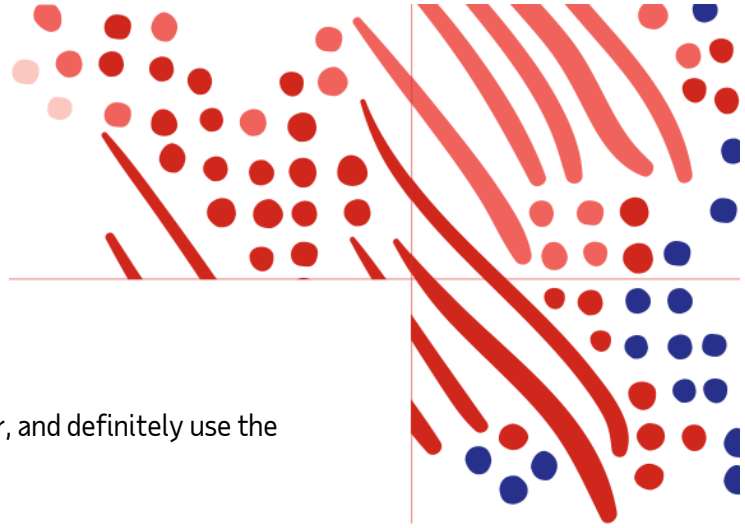
- Logout
- Admin Profile
 - Admin should be able to View his/her Profile
 - Admin should be able to Edit his /her Profile
- Associate Mentor Mapping
 - Admin should be able to assign Mentor to Associates. Below are the validations
 - Each Mentor can have max 5 associates assigned
 - An Associate should not be mapped to multiple Mentor
- Admin Dashboard Page
 - Mentor should be able to see the dashboard with details of all mentors and all associate assigned to him/her with task and status of each tasks. Data elements are,
 - Mentor Name
 - Associate Name
 - Task
 - Completion Percentage
 - Date
 - Admin be able to switch between views like,
 - Mentor View
 - Associate View
 - Task View



Objectives

Your project should try to achieve as many of the objectives listed below as possible, while creating all the pages mentioned above. The more objectives you complete, the more **your** end score is going to be!

- Web Pages, UX (Look and Feel) and Navigation
 - All pages should be professional looking, all images and other assets should be aligned with each other (unless your design theme says otherwise, which is also OK).
 - Color scheme on the pages should be consistent. So, best to stick to a color theme across the project.
 - Pages should have buttons/links connecting the entire site together.
 - Navigation should not be broken, i.e. there should not be a dead page from where we cannot go back to the main page, or to other pages in your site.
 - Pages should have proper validations on all fields, for e.g. numbers should not be allowed in name fields, characters should not be allowed in number fields, dates should only be accepted in DD/MM/YYYY format etc. You can define your validations as you seem fit.
 - You may choose Angular, React or plain old HTML/CSS/JS, as long as the pages look neat and professional.
- Database
 - Save all mentor, associate and course details in the database.
 - You may choose either MySQL or PostgreSQL.
- Web App
 - App should have REST services which your web pages will call to get and save info.
 - App should use at least Spring Core and Spring Boot.
 - Services should be able to connect to database and get/save data.
 - App should be deployed on a Tomcat web server, running in your local machine. It can either be a Standalone server or embedded in Eclipse.
 - Application Logs should be printed in a separate file, and not stdout, or default log file. Log file name should be "mentorship.log". Log events in this file should be printed for the following:
 - i. Log as Info when a mentor or associate registered
 - ii. Log as Error when email id is already registered
 - iii. Log as Info when Mentor and associate mapping created
 - iv. Log as Info when Mentor adds new task/course to associate
 - v. Log as Info when associate update the tasks



- Remember to use what you've learnt so far, and definitely use the following:
 - i. Collections
 - ii. Generics
 - iii. IO
 - iv. Hibernate, HQL/JPQL
- jUnits
 - Write jUnits.
 - Use Mockito to mock your objects.
 - Find your jUnit coverage and publish the report. Help available [here](#).
- Compile and build artifact (jar/war/ear) using Maven
 - Either use Eclipse's [plugin](#), or configure external maven installation.
- Code Quality
 - This will be measured based on your code's SonarLint reports.

Assessment / Project Delivery

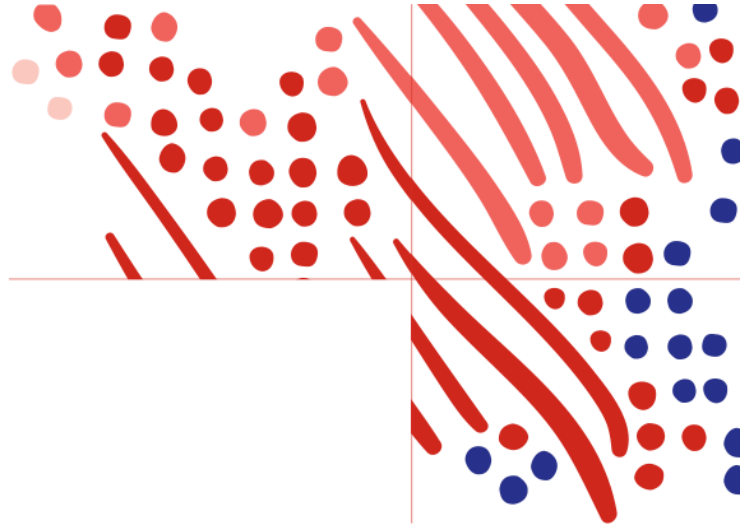
Here is what we expect at the end of this project during the project showcase/demo

1. You should be able to build your application using Maven.
2. You should be able to run your application in Tomcat, and we should be able to play a tournament or a game.
3. Your jUnits should pass.
4. You should be able to showcase your database objects – tables, views etc. with values from above demo.
5. You should be able to showcase a folder where user images were saved.
6. You should've submitted all code (Java, jUnits, HTML, CSS, JS, other web assets like images, DDL, DML etc.) in a zip file to us on or before assessment end date.
7. Assessment team will then evaluate your code with you, or they might do it offline.

Scoring Levels

At the end of this project assessment, you will be scored at these levels and your intent should be to showcase your best and to get in the '**Jumpstart Java Hall of Fame**'

- Level 1 - Rookie



- Level 2 - All-Star
- Level 3 - Hall of Fame

Important Note

1. Please do not download any assets (images/icons/pictures etc.) from web, which are not free. You're OK to use low-quality free assets in your project, but not OK to download and use someone's copyrighted assets. There are tons of free assets available out there, so check. Also, this is not about the quality of assets you use, but your tech skills, so don't get lost in the internet of images and scripts.
2. Same goes for all the software that you use to build this project. All the links provided above are for free/open-source software, and you're free to download and use more as long as you're using free/open source; Or, you are the one paying for it!
3. Please run a virus scan on the code zip file, and any other file(s) that you might be sending to us as part of your final project delivery. Only submit clean files to ADP.