

ANGULAR - CAPSTONE PROJECT

VIRTUAL LEARNING SYSTEM

You are required to write a software solution for a system like LinkedIn Learning, Coursera that allows managing various courses, authors, learners, registrations and reviews. This also administrator to manage courses, authors and other relevant details. The learners can register for the courses and perform reviews.

The application has to be implemented using Angular as the frontend & the backend to be RESTful API services with Spring Boot / JSON server or other alternative options. This application stores details of courses, authors, learners, registrations, reviews.

This software needs to address the following requirements:

Software Requirements:

The project is for administrators and learners who use the system to perform the following operations.

The Administrator module should allow administrators perform:

- A. Login and authentication.
- B. Saving details of courses and authors.
- C. Viewing and disabling/deleting the details of courses and authors.
- D. Viewing registrations and reviews.
- E. Updating various details periodically.
- F. Search for the required details based on the id and key fields.

The Learner module should allow learners perform:

- A. Login and authentication.
- B. Registering for courses and creating reviews.
- C. Viewing the details of registered courses
- D. Search for the required details based on the id and key fields.
- E. New learners to register.

User Stories:

US01: Login

As an Administrator or learner,

I want to login to the application; so that I can get access to the welcome screen and application menu.

The following conditions and validations are to be performed during login

- The login id will be a valid email address.
- Password should be a combination of at least an uppercase alphabet, lowercase alphabets, a digit, and a special character.
- The email id and password cannot be blank.
- The account should get disabled for 30 minutes on three invalid login attempts.
- Proper messages should be displayed in case of errors and exceptions.

Acceptance criteria

Given that I am an administrator or learner,

When I enter correct User Id with Password in the Login screen

Then I should be able access the application menu

And navigate the menu to view the required details

Given that I am an administrator or learner,

When I enter incorrect User Id with Password in the Login screen

Then I should be able prompted for a maximum of three times to reenter the credentials.

Given that I am an administrator or learner,

When I enter incorrect User Id with Password in the Login screen consecutively for three times

Then my account should get disabled for 30 minutes.

US02: Creating courses, authors, learners, registrations and reviews

As an Administrator, I want to create courses, authors.

- The courses, authors and reviews should be created with a unique id.
- The id should be 5 characters in the format "CNNNN" where the first character is an alphabet and last 4 characters are running numbers
- The id should be autogenerated.
- The id once generated cannot be modified.
- The required fields should be accepted and validated.

Acceptance criteria

Given that I am an administrator,

When I select the option to "Create by clicking the appropriate buttons or links"

And enter the required details

Then I should be able to autogenerated the id

And I should be able to save courses with author details.

As a learner, I want to register for courses and create reviews.

US03: Viewing courses, authors, learners, registrations and reviews

As an Administrator, I want to view courses, authors, learners, registrations and reviews.

Acceptance criteria

Given that I am an administrator,

When I select the option to "View by clicking the appropriate buttons or links"

I should be able to view courses, authors, learners, registrations and reviews

As an Learner, I want to view courses, authors, registrations and reviews.

US04: Searching courses, authors, learners, registrations and reviews

As an Administrator, I want to view courses, authors, learners, registrations and reviews.

Acceptance criteria

Given that I am an administrator,

When I select the option to "Search by clicking the appropriate buttons or links"

And enter the id or key fields

I should be able to view courses, authors.

As a learner, I want to view my registered courses and reviews

US05: Deleting/Disabling courses, authors, learners, registrations and reviews

As an Administrator, I want to delete/disable courses, authors, learners.

Acceptance criteria

Given that I am an administrator,

When I select the option to "Delete by clicking the appropriate buttons or links"

I should be able to delete/disable courses, authors, learners.

US06: New Learner Registration

As a New Learner, I should be able to register myself to register for courses and keep track of my learning.

The following conditions and validations are to be performed when the new learner is registered

- An error message is displayed if the email id is already in use by some other user
- An error message is displayed if all the details are not filled
- An error message is displayed if the name contains numbers or special characters
- Password should be a combination of at least an uppercase alphabet, lowercase alphabets, a digit, and a special character.
- An error message is displayed if the password entered by the customer is not in the expected format
- An error message is displayed if the phone number is already in use by some other user
- The user should be able to login with his/her emailId and password

Acceptance criteria

Given that I am a learner,

When I select the option to register

And enter all the required details

Then I should be able to successfully register and access the courses.

Requirements Backend:

- A. The backend should be implemented with RESTful API services with Spring Boot / JSON server or other alternative options.

Requirements Frontend:

- A. The Application should be implemented using Angular and Twitter Bootstrap.
- B. The application should have a separate routing module.
- C. The URL fragments in the application should be guarded using Route Guards.
- D. The service layer should connect to the backend RESTful API.

Best Practices Frontend

- A. Follow proper naming conventions and ensure code quality
- B. Validate Parameter Preconditions
- C. The code should have modularity.
- D. The routes should be placed in its own module.

Submission & Presentations Requirements:

- A. The scope and goal of the project is practically applying the learning during training to ensure effectiveness and does not require submission and formal presentation.