



# Capstone Project

Nurdauletov Islambek

# About Creator



**Nurdauletov Islambek**

Student in AITU masters degree  
Currently working in non IT field  
AITU 2023 bachelors alumni

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**Armoured with all needed stack to Java Junior trainee**

## **Education History**

**Bachelor of Science in Software Engineering | Astana IT University**  
*2020-2023*

Little more about myself:

Really eager to learn do my job and be needed expert.

I want to grow till Senior Java developer in 3-5 years. So I will do my best.

Since childhood loved math and logical operations and connection of ideas.

In high school was winner in Chemistry National olympiads.

Due to lack of opportunities in my country in this field and flexibility that IT gives changed my carrier path.

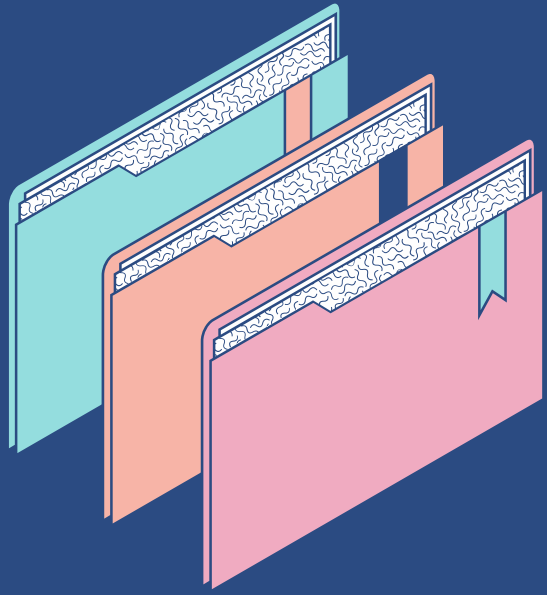
Since really liked java I want to become senior Java Developer.

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# About Capstone Fofum

- Project purpose
  - "Capstone Forum" is created for the exchange of ideas and opinions between users.
  - The platform provides the ability to create posts, comment and delete them.
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- Target audience
  - Our application is intended for a wide range of users interested in discussing various topics and issues.
  - Includes both regular users and administrators who manage platform content
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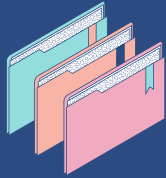


# Main functions

- View Post List: Users can view a list of all available posts.
- Creating and deleting posts: the ability to create new posts and delete your own posts.
- Commenting on posts: the ability to add comments to existing posts.
- Authentication and Authorization: Secure Access
- User management: Administrators can delete posts that do not comply with the forum policy.

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**How:** Highlight text, click on the link symbol on the toolbar, and select the page in your presentation you want to connect.



### Use Case 1: User Registration

**Actor:** User

**Description:** A user registers for a new account.

**Steps:**

1. User navigates to the registration page.
2. User fills out the registration form with username, email, and password.
3. User submits the registration form.
4. System validates the input.
5. System creates a new user account and stores it in the database.
6. System sends a confirmation email to the user.
7. User confirms their email.

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### Use Case 2: Create a Post

**Actor:** Authenticated User

**Description:** A user creates a new post.

**Steps:**

1. **User logs in.**
2. **User navigates to the create post page.**
3. **User enters the text for the post .**
4. **User submits the post.**
5. **System validates the input.**
6. **System saves the post to the database.**
7. **System displays the post in the user's feed.**

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### Use Case 3: Comment on a Post

**Actor:** Authenticated User

**Description:** A user comments on an existing post.

**Steps:**

1. **User logs in.**
2. **User navigates to the post they want to comment on.**
3. **User enters a comment.**
4. **User submits the comment.**
5. **System validates the input.**
6. **System saves the comment to the database.**
7. **System displays the comment under the post.**

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### Use Case 4: Delete a Post with its' Comments

**Actor:** Authenticated User, Admin

**Description:** A user comments on an existing post and deletes with comments.

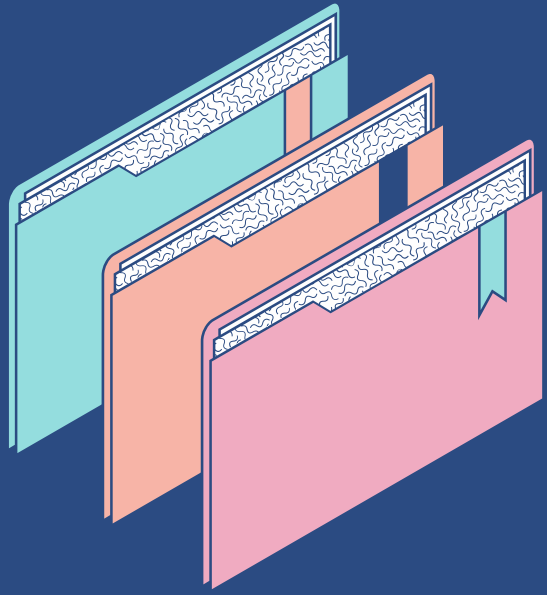
**Steps:**

1. User logs in.
2. User navigates to the post they want to delete .
3. User enters a comment.
4. User submits the comment.
5. System validates the input.
6. System saves the comment to the database.
7. System displays the comment under the post.
8. Deletes post with its' comments via button

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# Application Architecture

Application Components:

Controllers: process HTTP requests and manage interaction with services.

Services: they contain business logic and work with data.

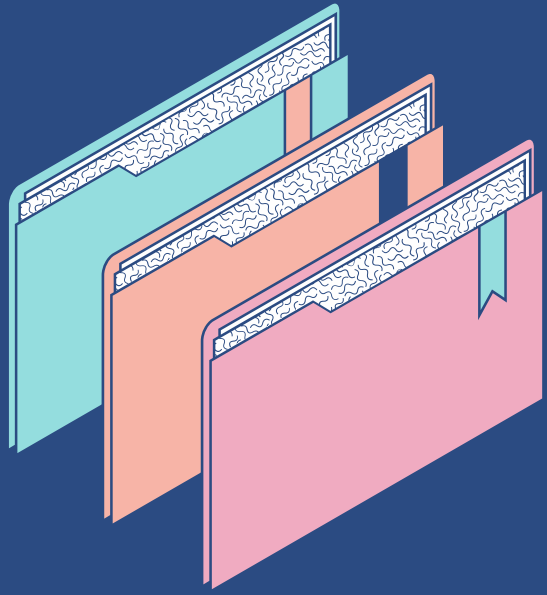
Repositories: provide access to data in the database.

Models: represent data objects.

Configurations: configuring Spring Security, database, and other settings.

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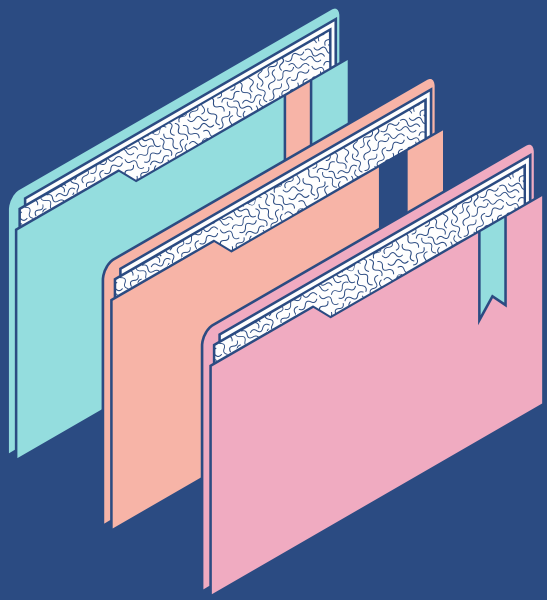
# Technologies used

- Java, Spring Boot, Spring Security.
- Thymeleaf technologies used for server-side HTML generation.
- PostgreSQL for data persistence.
- HTML/CSS/JavaScript for the client side.
- MVC API for server-client communication.

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# Testing and code quality

```
verify(postRepository, times(wantedNumberOfInvocations: 1)).findAllByAuthorId(1);
}

@real_issa *
@Test
void testFindById() {
    //given
    Post post = new Post();
    post.setText("Test title");

    //when
    when(postRepository.findById(1L)).thenReturn(Optional.of(post));
    Optional<Post> foundPost = postServiceImpl.findById(1);

    //then
    assertTrue(foundPost.isPresent());
    assertEquals(expected: "Test title", foundPost.get().getText());
    verify(postRepository, times(wantedNumberOfInvocations: 1)).findById(1);
}
```

Optional<Post> foundPost = postServiceImpl.findById(1)

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# Conclusion

- In conclusion, the successful implementation of the "Capstone Forum" project demonstrates its robust functionality for message exchange and topic discussion. Moving forward, there is potential to enhance its features further, improving usability and expanding capabilities. The process of architecting and planning the project has paved the way for leveraging Spring as a foundational framework in future endeavors. This journey has dispelled any apprehensions regarding Java, Maven dependencies, Spring systems, and development practices, paving the way for confident exploration and growth in software development.