

HOSPITAL-FORM-TEMPLATE-DRIVEN- FORM

IIHT

Time To Complete: 10 to 12 hr

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1 PROJECT ABSTRACT

Form validation is an essential aspect of building user-friendly and secure web applications. This project emphasizes the implementation of **Template-Driven Forms with Validations in Angular**, using a real-world scenario of a **Hospital Patient Registration Form**. Template-driven forms allow developers to define form logic and validation rules directly in the HTML template using Angular directives, streamlining the development process and providing real-time feedback to users.

The goal of this assignment is to build a fully functional and validated registration form using Angular's template-driven approach. Participants will practice working with form controls, binding, and Angular's built-in validation directives to enforce data integrity and enhance the user experience.

2 PROBLEM STATEMENT

You are required to develop a **Template-Driven Single Page Application (SPA)** using Angular that captures patient information for hospital appointment registration.

The application must:

- Display a **registration form** that collects patient information.
- Apply **built-in validations** using Angular template-driven form directives such as `required`, `minlength`, `pattern`, and `email`.
- Provide **real-time validation feedback** below each field as the user interacts with the form.
- Prevent form submission until **all fields are valid**.

3 PROPOSED HOSPITAL FORM TEMPLATE DRIVEN FORM APPLICATION WIREFRAME

UI needs improvisation and modification as per given use case and to make test cases passed.

3.1 SCREENSHOTS

The screenshot shows a web browser window at localhost:4200/ displaying the 'Hospital Patient Registration Form'. The form includes the following fields: Full Name, Gender (with a 'Select Gender' dropdown), Date of Birth (with a date picker), Email, Contact Number, Symptoms, and Preferred Appointment Date (with a date picker). A blue 'Submit' button is located at the bottom left. A timer in the top right corner indicates 'Time Remaining: 01:57:32' and 'Press Escape to exit full screen'.

Validations with submit button disabled

The screenshot shows the same 'Hospital Patient Registration Form' but with validation messages displayed below each field. The messages are: 'Full name is required and must be at least 3 characters long.' (under Full Name), 'Gender is required.' (under Gender), 'Date of birth is required.' (under Date of Birth), 'Enter a valid email address.' (under Email), 'Enter a valid 10-digit contact number.' (under Contact Number), and 'Please describe symptoms (at least 10 characters).' (under Symptoms). The 'Preferred Appointment Date' field has a message 'Preferred appointment date is required.' below it. The 'Submit' button is now disabled (greyed out). The timer in the top right corner shows 'Time Remaining: 01:56:58'.

localhost:4200/

Hospital Patient Registration Form

Time Remaining:01:53:37
Press Escape to exit full screen

Full Name
ts
Full name is required and must be at least 3 characters long.

Gender
Select Gender
Gender is required.

Date of Birth
mm/dd/yyyy
Date of birth is required.

Email
test
Enter a valid email address.

Contact Number
98765
Enter a valid 10-digit contact number.

Symptoms
test|
Please describe symptoms (at least 10 characters).

Preferred Appointment Date
mm/dd/yyyy
Preferred appointment date is required.

Submit

Valid Entries

localhost:4200/

Hospital Patient Registration Form

Time Remaining:01:55:41
Press Escape to exit full screen

Full Name
Test Name

Gender
Male

Date of Birth
01/01/2000

Email
test@mail.com

Contact Number
9876543210

Symptoms
Test symptoms

Preferred Appointment Date
01/08/2025

Submit

4 BUSINESS-REQUIREMENT:

As an application developer, develop the Hospital-Template driven forms (Single Page App) with below guidelines:

User Story #	User Story Name	User Story
US_01	Welcome Page	<p>As a user I should be able to visit the welcome page as the default page.</p> <h3>Template Driven Form with Validations</h3> <h3>User Story</h3> <p>As a user, I want to fill out a hospital registration form with real-time validation messages using Angular's template-driven form features so that I can provide accurate patient information and schedule an appointment.</p> <h3>Acceptance Criteria</h3> <ol style="list-style-type: none">1. Display a heading: "Hospital Patient Registration Form"2. Form fields required:<ul style="list-style-type: none">• Full Name• Gender• Date of Birth• Email• Contact Number• Symptoms• Preferred Appointment Date3. Apply validation rules:<ul style="list-style-type: none">• Show error messages only when the field is invalid and has been touched• Use <code>required</code>, <code>minlength</code>, <code>email</code>, and <code>pattern</code> directives• Enforce correct formats for email, contact number, and minimum lengths for text inputs4. Submit button must be disabled until the form is fully valid5. On successful submission, log the form values to the console <h3>Component Overview</h3> <p>Selector: <code>app-root</code></p> <p>Template Used: <code>app.component.html</code></p> <p>Form Setup: Template-Driven</p>

- Uses Angular directives such as `ngModel`, `required`, `minlength`, `email`, `pattern`
- Validation states (`invalid`, `touched`) are tracked using local template reference variables (e.g., `#fullName="ngModel"`)

Method - onSubmit()

1. Triggered via (`ngSubmit`) on form submission
2. If `form.valid`:
 - Logs "Form Submitted!" and all form values to the console
3. If `form.invalid`:
 - Logs "Form is not valid" to the console

HTML Structure (app.component.html)

- **Form Container:** `<div class="container">`
- **Heading:** `<h2>` displaying "Hospital Patient Registration Form"
- **Form Element:** `<form>` with template reference `#patientForm="ngForm"` and submit handler
- **Submit Button:** `<button>` labeled "Submit", disabled when the form is invalid

Form Fields

Each input is inside a `<div class="form-group">` and includes:

- A `<label>` for the field
- An `<input>` or `<textarea>` or `<select>` element using `ngModel` with appropriate validation attributes
- A `<div class="text-danger">` that conditionally shows validation messages based on the field's validation state

Field Descriptions

1. **Full Name Field (`fullName`)** with label "Full Name"
 - **Required**
 - **Minimum 3 characters**
 - **Error message:** "Full name is required and must be at least 3 characters long."

		<ol style="list-style-type: none"> Gender Field (gender) with label "Gender" <ul style="list-style-type: none"> Required Provided as a dropdown (<select>) with options: Male, Female, Other Error message: "Gender is required." Date of Birth Field (dob) with label "Date of Birth" <ul style="list-style-type: none"> Required Input type: date Error message: "Date of birth is required." Email Field (email) with label "Email" <ul style="list-style-type: none"> Required Must be in valid email format Error message: "Enter a valid email address." Contact Number Field (contact) with label "Contact Number" <ul style="list-style-type: none"> Required Must be a 10-digit number Validation via pattern="^[0-9]{10}\$" Error message: "Enter a valid 10-digit contact number." Symptoms Field (symptoms) with label "Symptoms" <ul style="list-style-type: none"> Required Minimum 10 characters Uses <textarea> for multi-line input Error message: "Please describe symptoms (at least 10 characters)." Preferred Appointment Date Field (appointmentDate) with label "Preferred Appointment Date" <ul style="list-style-type: none"> Required Input type: date Error message: "Preferred appointment date is required." <p>Submit Button</p> <ul style="list-style-type: none"> Label: Submit Disabled: When any field in the form is invalid Action: Submits and logs the form data when all validations pass <p>Dynamic Behavior</p> <ul style="list-style-type: none"> Angular evaluates field validity in real-time Validation messages appear only after user interacts with the field (touched state) Submit button activates only when the entire form is valid All validations and feedback are handled within the template <p>** Kindly refer to the screenshots for any clarifications. **</p>

5 CONSTRAINTS

1. You should be able to press the “TAB” key and “SHIFT + TAB” to navigate from top field to bottom field and vice-versa.

6 MANDATORY ASSESSMENT GUIDELINES

1. All actions like build, compile, running application, running test cases will be through Command Terminal.
2. To open the command terminal the test takers, need to go to Application menu (Three horizontal lines at left top) -> Terminal -> New Terminal.
3. This editor Auto Saves the code.
4. These are time bound assessments the timer would stop if you logout and while logging in back using the same credentials the timer would resume from the same time it was stopped from the previous logout.
5. This is a web-based application, to run the application on a browser, use the internal browser in the workspace. Click on the second last option on the left panel of IDE, you can find Browser Preview, where you can launch the application.

Note: The application will not run in the local browser

6. You can follow series of command to setup Angular environment once you are in your project-name folder:
 - a. `npm install` -> Will install all dependencies -> takes 10 to 15 min.
 - b. `npm run start` -> To compile and deploy the project in browser. You can press the <Ctrl> key while clicking on localhost:4200 to open the project in the browser -> takes 2 to 3 min.
 - c. `npm run test` -> to run all test cases. **It is mandatory to run this command before submission of workspace** -> takes 5 to 6 min.
7. Once you are done with development and ready with submission, you may navigate to the previous tab and submit the workspace. It is mandatory to click on **“Submit Assessment”** after you are done with code.