

TDD Todo Application - Project Report

Project Overview

This project is a **Todo Application** built with **React** using the **Test-Driven Development (TDD)** approach.

The goal was to practice writing tests first, implementing features iteratively, and ensuring that all functionalities are well-tested before deployment.

The application allows users to:

- Add new tasks
- Mark tasks as completed
- Delete tasks
- Persist tasks in local storage

The project is deployed and accessible at:

Live Demo: <https://startling-biscuit-ebad34.netlify.app/>

GitHub Repository

Repository Link: <https://github.com/PandibotlaNandini/WiproNGA/tree/main/src-w7-d4>

Setup Instructions

Run Locally

1. Clone the repository
 2. `git clone https://github.com/Karthisha/tdd-todo.git`
 3. `cd tdd-todo`
 4. Install dependencies
 5. `npm install`
 6. Run the application locally
 7. `npm start`
 8. The app will be available at:
<http://localhost:3000>
-

Deployment

The application is deployed on **Netlify**.

Deployed Link: <https://startling-biscuit-ebad34.netlify.app/>

Testing Approach

We followed the **TDD (Test-Driven Development)** methodology:

1. **Write a failing test** for the feature.
2. **Implement the minimum code** required to make the test pass.
3. **Refactor** the code while keeping tests green.

Tools & Libraries

- **Jest** → Unit Testing
- **React Testing Library** → Component Testing

Test Cases Implemented

- ✓ Render the Todo component
- ✓ Add a new todo item
- ✓ Mark a todo as completed
- ✓ Delete a todo
- ✓ Persist todos in localStorage

Run tests with:

npm test

Components Created

- **App.js** → Root component
- **TodoList.js** → Displays all tasks
- **TodoItem.js** → Individual task with complete/delete actions
- **AddTodo.js** → Input field and button to add a new task

Screenshots & Key Functionalities

(Replace with actual screenshots in your Word document)

1. **Home Screen**
! [Screenshot Placeholder]
2. **Adding a Todo** ○ Enter task name in input field ○ Click **Add** → Task appears in list
3. **Completing a Todo**
 - Checkbox marks a task as done
 - Task text becomes crossed out

4. **Deleting a Todo** ○ Click **Delete** →

Task is removed

Steps Taken to Achieve the Application

1. **Initialized GitHub repo** with README and setup.
2. **Setup React app** using create-react-app.
3. **Configured testing tools** (Jest & React Testing Library).
4. **Created test cases** before writing components.
5. **Implemented components** step by step (AddTodo, TodoList, TodoItem).
6. **Connected localStorage** for persistence.
7. **Refactored code** to improve readability & maintainability.
8. **Deployed to Netlify** for live access.
9. **Finalized documentation** with README, testing overview, and screenshots.

Submission Requirements Covered

Code submitted via GitHub Repository
README.md included with instructions
Deployment link provided
Testing approach explained
Components documented
Screenshots placeholders included

Final Deliverables

- GitHub Repository → <https://github.com/PandibotlaNandini/WiproNGA/tree/main/src-w7-d4>
- Live Application → <https://startling-biscuit-ebad34.netlify.app/>
- Documentation (this file)

End of Document