



ADDIS ABABA SCIENCE AND TECHNOLOGY UNIVERSITY

COLLEGE OF ELECTRICAL AND MECHANICAL ENGINEERING

DEPARTMENT OF SOFTWARE ENGINEERING

Course Name: Software Configuration Management

Deliverable 5

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1. Baselines

1.1 Purpose of Baselines

A baseline is a formally reviewed and approved snapshot of selected Configuration Items (CIs) at a specific milestone in the project lifecycle. Once established, any modification to a baselined CI requires formal change control through an approved Change Request (CR) and the defined Change Control Board (CCB) process.

Baselines provide the following benefits:

- Ensure stability of the configuration at key project stages
- Enable traceability of changes across the development lifecycle
- Support configuration audits (Functional and Physical Configuration Audits)
- Define clear, measurable milestones for project progress

For the TO-DO List Manager project (repository: <https://github.com/Gelila-Nebiyu/todo-scm-project>), two baselines have been established in accordance with the approved Software Configuration Management Plan (SCMP):

- Baseline 1 (BL1) – Initial project setup and configuration identification
- Baseline 2 (BL2) – Complete functional prototype with all approved Change Request implementations

Each baseline is:

- Tagged in Git using annotated tags
- Documented with a formal Baseline Record
- Referenced in GitHub Releases where applicable

1.2 Baseline 1 (BL1): Initial Project Baseline

Baseline Description

Baseline 1 captures the approved initial state of the project, including repository creation, foundational folder structure, initial documentation, and the identification of Configuration Items. This baseline places all foundational artifacts under formal configuration control and serves as the reference point for subsequent development.

Baseline Contents

- GitHub repository initialization (todo-scm-project)
- Project structure and core configuration files
- Initial README.md
- Software Configuration Management Plan (SCMP)
- Configuration Item Register
- License and supporting files

Git Tag

- Tag Name: BL1
- Target Commit: Early setup commit (initial structure and configuration files)
- Description: "Baseline BL1: Initial repository setup, documentation, and CI identification"

Baseline Record – BL1

Baseline ID: BL1 Baseline Name: Initial Project Baseline Date Established: December 20, 2025
(tagged December 29, 2025) Approved By: Group Configuration Manager / Team Lead Status:
Approved

Baseline Scope This baseline includes all initial configuration items required to initiate controlled development.

Configuration Items Included

CI ID	CI Name	Version
CI-01	GitHub Repository	v1.0
CI-02	README.md	v1.0
CI-03	SCMP Document	v1.0
CI-04	CI Register	v1.0
CI-05	package.json	v1.0
CI-06	tsconfig.json	v1.0
CI-07	tailwind.config.js	v1.0
CI-08	.gitignore	v1.0
CI-09	LICENSE	v1.0

Table 1: BL-1 Table

Baseline Control

- All items are version-controlled in GitHub
- Modifications require an approved Change Request
- Serves as the reference for all subsequent development and audits

1.3 Baseline 2 (BL2): Functional Prototype Baseline

Baseline Description

Baseline 2 represents the complete, verified functional prototype of the TO-DO List Manager application, incorporating all approved enhancements implemented through formal Change Requests. This baseline reflects the final delivered system meeting all planned requirements.

Baseline Contents

- Fully functional TO-DO application (TaskFlow Pro)
- User authentication and persistent session management
- Task management dashboard with full CRUD operations
- Implementation of all approved Change Requests:
 - Task priority levels with visual indicators
 - Due date selection and overdue highlighting
 - Theme restyling (primary color #880D1E, dark login background, centered card)

Git Tag

- Tag Name: BL2
- Target Commit: Latest HEAD (aligned with release tag v1.1.0)
- Description: "Baseline BL2: Complete functional prototype with all approved CR implementations"

Baseline Record – BL2

Baseline ID: BL2 Baseline Name: Functional Prototype Baseline Date Established: December 29, 2025 Approved By: Group Configuration Manager / Team Lead Status: Approved

Baseline Scope This baseline includes the complete set of source code, configuration files, and documentation for the delivered system.

Configuration Items Included

CI ID	CI Name	Version
CI-01	GitHub Repository	v1.1
CI-02	src/App.tsx	v1.1
CI-03	src/components/Login.tsx	v1.1

CI-04	src/components/Dashboard.tsx	v1.1
CI-05	src/components/*	v1.1
CI-06	src/types.ts	v1.1
CI-07	data/ folder	v1.1
CI-08	README.md (final)	v1.1
CI-09	tailwind.config.js	v1.1
CI-10	package-lock.json	v1.1

Table 2: BL-2 Table

Implemented Change Requests

- CR-001: Task priority levels (High/Medium/Low with color-coded badges)
- CR-002: Due date selection with date picker and overdue highlighting
- CR-003: Theme update (primary #880D1E, dark login page, centered styling)

Baseline Control

- All changes implemented via feature branches and Pull Requests
- Verified through local testing and regression checks
- Serves as the final reference for project evaluation and audits

1.4 Baseline Management Rules

- Baselines are immutable snapshots created via annotated Git tags
- Direct modification of baselined items is prohibited
- Post-baseline changes require:
 - Formal Change Request submission and CCB approval
 - Version increment according to semantic versioning rules

- Potential creation of a new baseline for significant milestones
- Tags and associated GitHub Releases provide permanent traceability

1.5 SCM Compliance

The baseline strategy fully supports:

- Configuration identification and control
- Change traceability from requirements through implementation
- Functional and Physical Configuration Audits (FCA/PCA)
- Controlled, auditable evolution of the TO-DO List Manager system

This deliverable demonstrates adherence to IEEE Std 828-2012 guidelines adapted for academic project scale.