

## SonarQube

### 1. Project Overview:

- Project Summary: Provides a high-level overview of the project, including metrics like lines of code, issues, code smells, bugs, vulnerabilities, and coverage.
- Quality Gate Status: Indicates whether the project meets the defined quality gate conditions.
- Recent Activity: Shows recent code analysis activity, such as scans and issues resolved.

### 2. Code Quality Metrics:

- Technical Debt: Measures the estimated effort required to fix code issues and improve code quality.
- Code Smells: Identifies areas of the code that may indicate design weaknesses or potential problems.
- Bugs: Highlights code defects that could cause runtime errors or unexpected behavior.
- Vulnerabilities: Flags security vulnerabilities in the code that could be exploited by attackers.
- Coverage: Measures the percentage of code covered by automated tests.

### 3. Issues and Code Smells:

- Issues List: Provides a detailed list of code issues, including descriptions, severity levels, and locations in the codebase.
- Code Smells: Lists instances of poor code quality practices, such as duplicated code, complex methods, or unused variables.

### 4. Security Vulnerabilities and Bugs:

- Security Vulnerabilities: Displays security vulnerabilities detected in the code, along with descriptions and remediation recommendations.
- Bugs: Lists code defects that could lead to runtime errors or unexpected behavior, along with details and suggested fixes.

### 5. Code Coverage:

- Coverage Report: Shows the percentage of code covered by automated tests, including line coverage, branch coverage, and overall coverage trends.

### 6. Quality Gate:

- Quality Gate Conditions: Defines criteria for code quality, such as minimum code coverage, maximum number of code issues, and severity levels of issues allowed.

### 7. Activity and Trends:

- History: Tracks changes in code quality metrics, issues, and coverage over time, allowing you to monitor trends and improvements.
  - Activity Graph: Visualizes code analysis activity, including scans, issues resolved, and new issues introduced.
8. Custom Dashboards and Widgets:
- Custom Widgets: Allows users to create custom dashboards with widgets displaying specific metrics, trends, or project information.
9. Administration and Configuration:
- Settings: Provides access to configuration settings for SonarQube, including quality gate conditions, project settings, and user permissions.
  - Users and Groups: Manages user accounts, permissions, and group memberships.
  - Plugins and Extensions: Allows installation and configuration of plugins and extensions to extend SonarQube's functionality.