13.Study the features and usage of Bugzilla for bug tracking.

Study Report: Features and Usage of Bugzilla for Bug Tracking

1. Introduction to Bugzilla

Bugzilla is an open-source bug tracking system developed by Mozilla Foundation. It helps software development teams track, manage, and resolve software bugs efficiently throughout the software development lifecycle.

- 🌐 **Website: https://www.bugzilla.org**

- 📦 **Type: Web-based bug/issue tracker**

- 🛠️ **Built With: Perl, MySQL/PostgreSQL**

2. Key Features of Bugzilla

Feature	Description
🔍 Bug Search & Filtering	Advanced query capabilities with custom filters
📂 Product & Component Management	Organizes bugs under modules and functionalities
👫 User Role Management	Assign permissions for reporters, developers, testers, managers
💬 Email Notifications	Notifies stakeholders on bug updates
📊 Bug Reporting & Resolution Workflow	Supports lifecycle: New → Assigned → Resolved → Verified → Closed
📈 Charts & Reports	Graphical representation of bug trends
✅ Custom Fields	Add custom metadata to bugs

🔒 Security	Access control, user authentication, and login management
🌐 Web Interface	Works in any browser; easy to use UI
🧩 Extensibility	Can be integrated with other tools (e.g., Git, CI/CD)

3. Bug Lifecycle in Bugzilla

Here's the typical bug life cycle Bugzilla manages:

NEW → ASSIGNED → RESOLVED → VERIFIED → CLOSED

- **NEW: Bug is reported.**

- **ASSIGNED: Developer accepts the bug.**

- **RESOLVED: Developer fixes the bug (status: Fixed, Invalid, Wontfix).**

- **VERIFIED: Tester confirms the fix.**

- **CLOSED: Bug is considered completed.**

4. Bugzilla Interface Components

Component	Function
🐞 Enter Bug	Submit a new bug report
Search Bug	Search existing bugs by status, component, priority, etc.
Bug List	View list of bugs for a project
Bug Detail Page	See complete bug history, comments, attachments
Administration	Add users, products, manage fields, and roles

5. Step-by-Step Usage Guide (For Students)

A. Log in to Bugzilla

- **Use a hosted Bugzilla demo (https://landfill.bugzilla.org) or local setup.**

- **Enter login credentials.**

B. Report a New Bug

1. **Click "Enter a New Bug"**

2. **Select Product/Component**

3. **Fill out:**

   - **Summary**

   - **Description**

   - **Severity**

   - **Reproducibility**

   - **Platform & OS**

4. **Click Submit Bug**

C. Track and Update Bugs

- **Go to My Bugs or Search tab**

- **View or edit bugs (if permissions allow)**

- **Add comments, update status, assign developers**

D. Verify or Close Bugs

- **Once developer marks bug as RESOLVED, tester verifies**

- **If working, mark as VERIFIED → CLOSED**

6. Bugzilla vs Other Bug Tracking Tools

Feature	Bugzilla	JIRA	MantisBT
Open Source	✅ Yes	❌ No	✅ Yes
Custom Workflows	❌ Limited	✅ Advanced	✅ Basic
Ease of Use	✅ Easy	⚠️ Complex	✅ Easy
Reporting	✅ Good	✅ Excellent	✅ Moderate
Mobile Support	❌ Basic	✅ Full	✅ Basic
Integration	✅ Git, SVN	✅ CI/CD, Git, etc.	✅ GitHub, Slack

7. Pros and Cons

✔️ **Advantages**

- **Free and open-source**

- **Simple and clean UI**

- **Works well for small-to-medium teams**

- **Mature and stable**
  ❌ **Limitations**
- **Outdated UI compared to modern tools**

- **Limited automation and integration**

- **Steeper learning curve for customization**

8. Use Case Example for Students

Case: **Testing a Login Page**

Bug Summary: Login fails when special characters are used
Steps to Reproduce:

1. **Open login page**

2. **Enter username: `test_user@123`**

3. **Enter password: `pass@123!`**

4. **Click Login**

Expected Result: User should log in successfully
Actual Result: Error message: "Invalid input"
Severity: Medium
Status: New → Assigned → Resolved → Verified

9. Conclusion

Bugzilla is a powerful and stable open-source tool for manual bug tracking. While it may lack modern integrations and visuals, it provides a robust backend and efficient bug management for traditional projects.

Suggested Student Activity

Practical Task: Use [Landfill Bugzilla Demo](#) to:

1. **Create a test user.**

2. **Submit a sample bug.**

3. **Track and update the bug status.**

4. **Prepare a bug report document.**