

12. Programs

Experiment-1

Aim: Start DevOps with a workflow that includes four phases: to do, in progress, code review, and done.

Require Software & Tools: JIRA, KANBAN.

Procedure:

Phase 1: To Do

- **Objective:** Identify and prioritize tasks or features to be developed.
- **Key Actions:**
 - Define tasks clearly in a backlog.
 - Prioritize tasks based on impact, urgency, and dependencies.
 - Assign owners or teams to each task.

Tools:

Jira, Trello, GitHub Issues, or Asana.

Phase 2: In Progress

- **Objective:** Actively work on tasks selected from the "To Do" phase.
- **Key Actions:**
 - Begin coding or configuring based on task requirements.
 - Update the task status to reflect ongoing work.
 - Ensure team members collaborate effectively (e.g., stand-ups, pair programming).

Best Practices:

- Use branches in version control systems for individual tasks (e.g., Git feature branches).
- Write unit tests alongside development.

Phase 3: Code Review

- **Objective:** Validate the quality, functionality, and security of the code.
- **Key Actions:**
 - Submit pull requests for peer review.
 - Review code for adherence to standards, logic, and potential issues.
 - Approve or request changes.

Tools:

GitHub Pull Requests, GitLab Merge Requests, Bitbucket.

Automation:

Integrate CI/CD pipelines to run tests automatically during reviews.

Phase 4: Done

- **Objective:** Mark tasks as completed and deploy changes if necessary.
- **Key Actions:**
 - Merge the approved code into the main branch.
 - Deploy to staging or production environments.
 - Monitor deployment and validate functionality.

Post-Completion:

- Add documentation for the changes.
 - Gather feedback from stakeholders or users.
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Workflow Visualization

A Kanban board or similar visual representation can help track the status of tasks across these phases. For example:

1. **To Do:** Contains all pending tasks.
2. **In Progress:** Tasks currently being worked on.
3. **Code Review:** Tasks awaiting review or approval.
4. **Done:** Completed and deployed tasks.

Tools:

Trello, Jira, Azure.

Output:-

