# TESTING PROCESS & STRATEGIES


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**Puducherry.**

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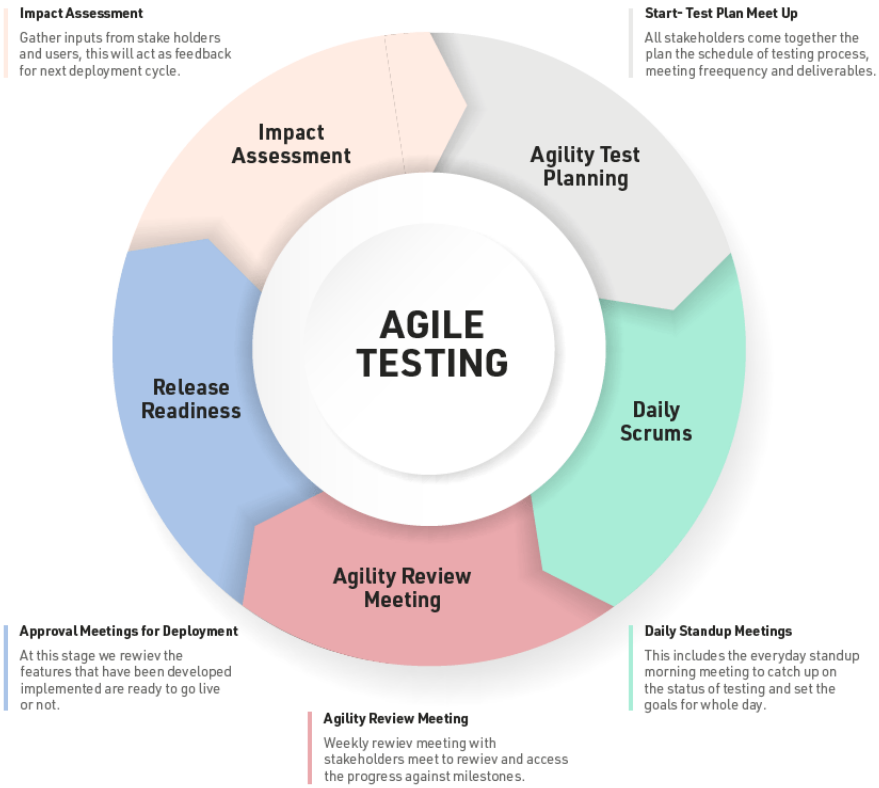
# Introduction

Testing Process is a plan that acts as a point of reference and only based on that testing is carried out within the QA Team.

It’s a document to be shared with Business Analysts, Project Managers, Development Team and the other teams. This helps to enhance the level of transparency of the QA team’s work to the other external teams.

# Testing Methodology



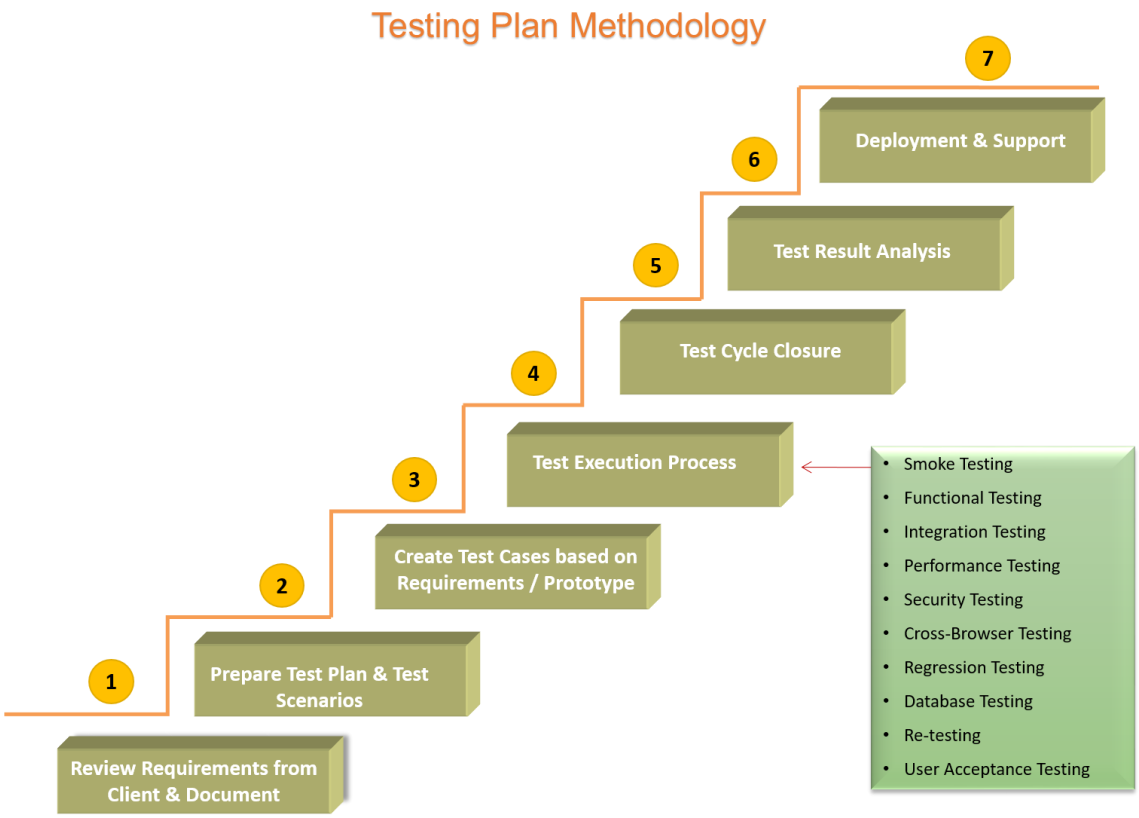

# Test plan & its Process:

Test plan is applicable for both Functional and UAT Phases.

Describes mainly about testing process, test specifications and test summary.

It’s a guideline for testing to be carried during our execution phase.

## Flow- Chart:




## Key Points for better Understanding:

## Documents to be prepared:

1. Review all the requirements from client and prepare the necessary documents
2. Prepare **Functional Requirement Specification** (FRS)
3. Prepare **Test Plan** & Process Document
4. Prepare **Test Scenarios & Test Case** Document based on the requirements gathered.
5. Once the development part has been completed by developers, it comes to testing.

## Brief Introduction of different types of testing to be done:

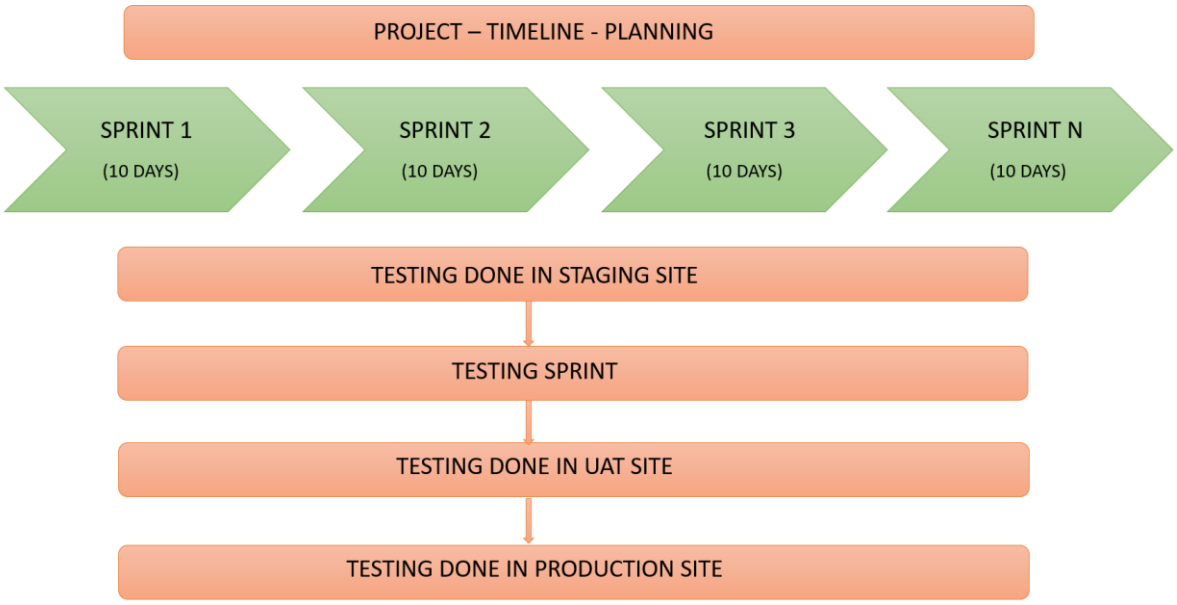
1. As a part of testing we have to follow various types and stages in testing your application.
2. ***Smoke Testing***- Comes first. QA Engineers perform a check on all modules and functionalities. When passed, further testing begins.

3. ***Functional Testing***- Based on the requirements, check all the functions, logic, features and User Interface are satisfied.
4. ***Integration Testing*** – Individual units are combined and tested as groups
5. ***Performance Testing*** – Testing carried out to find the speed, responsiveness and stability of a computer, network, software program or device under a workload. Includes
    a. Stress Testing – determine critical load after which the system breaks down.
    b. Load Testing - check system behavior for normal and expected peak load
6. ***Security Testing*** – To ensure that the software has a full protection level
7. ***Cross-Browser / Cross- Platform Testing*** - check that the software works smoothly on different browsers (Chrome, Mozilla, Safari) or platforms (Android, iOS, Windows Phone). This is especially important for web and hybrid apps.
8. ***Regression Testing*** -Detect bugs in the code that was tested previously. Usually needed when adding new features or making any updates to an existing system.
9. ***Database Testing*** - type of software testing that checks the schema, tables, triggers, etc. of the database under test. It also checks data integrity and consistency. It may involve creating complex queries to load/stress test the database and check its responsiveness. (future plan)
10. ***Retesting*** – Once all the issues are fixed, retesting done on the entire system and moved to UAT.
11. ***User Acceptance Testing*** - type of testing performed by the end user or the client to verify/accept the software system before moving the software application to the production environment. UAT is done in the final phase of testing after functional, integration and system testing is done.

## Reports to be prepared as a result of testing:

1. Test Case Execution Report
2. Test Results
3. Test Closure Report
4. Traceability Matrix Report.

# 3-Server -Testing & its process:




Note: 10 days-> 8 days for Dev & 2 days for Testing

## Three server setup

### Three environments to be established and maintained

1. Staging Server Setup
2. UAT Server Setup
3. Production Server Setup (Live).

**Priority Devices:**

- iPhone 8 - Chrome, Firefox
- Samsung S9 - Samsung Browser
- Windows 10 laptop - IE 11 - screen resolution 1366x768
- Mac laptop - Safari - screen resolution 1366x768

### Testing Process under Staging & UAT Site

- Access to developers, testers and Mindwave
- Access to clients if and when required

List of tests:

- Smoke Test
- Functional Testing

- Integration Testing
- Non-Functionality Testing / Cross-Browsers Testing / Cross-Platform Testing
- Regression Testing / Sanity Testing

**Testing Process under Production Site**

- Access to testers, Mindwave
- Access to clients if and when required
- Testing team to do the following tests

List of testing to be carried out:

- Smoke Test
- Functional Testing
- Integration Testing
- Non-Functionality Testing / Cross-Browsers Testing / Cross-Platform Testing

The following testing also to be carried to ensure Software Quality:

- Regression Testing / Sanity Testing
- User Acceptance Testing
- Security Testing

# Testing process for already deployed Projects:

1. QA Team should monitor, whether client has raised or requested for any new changes or any issue has occurred.
2. QA Team should perform end- to – end testing everyday as per the timeline plan.
3. In Case of any issues, it will be verified by QA Team and forwarded to Development Team to fix the issue.
4. QA Team sorts out the issue and update to client or if not in scope, postpone.

# Testing with Tools & Devices:

Testing during Sprint:

- Smoke test
- Cross browser testing-Test report
- Functionality testing-Bug report

    - Regression testing
- **Wrike as Bug Tracker Tool**
    - Security testing
- **OWASP ZAP on local machine, cloud and/or Jenkins CI/CD**
    - Performance testing
        - **Jmeter**
        - **DB performance**
    - DB testing
        - **DB credentials**
        - **Test read/write/delete**
    - Unit testing (Developer required)
        - Test database calls (API)
        - The Developers who write the code need to design unit tests as they write code. Minimum unit test needed.
        - If we cannot do this then:-
        - Write small tests for the most important parts of the code: API calls, DB calls, user login, secure/encrypt data/credentials
    - Monitoring
        - DB, CPU, Memory and possible properties

# Testing Teams Task-Planning &upcoming plans:

Task Details:

- Weekly Testing Plan from Project-coordinators.
- QA Teams assigned tasks among themselves based on priority and resources available on current planned date.

Upcoming Plans:

- Bug Tracker Tool need to be implemented.
- QA Team should post the bugs using Wrike tool.
- Agenda or MoM should be prepared by QA team members for all the meetings held with Mindwave team and Dev team. This helps to keep track of project features discussed and timeline planned.

- QA Team after attending the sprint planning meetings- should handover the estimated testing timeline for testing each and every sprint. This could help project coordinators to plan without any interruption.
- QA team should have a requirements documents ready before start testing each sprint.
- Catch-up with team after completing every sprint and review the bug identified and loop holes behind. Might help Dev team to have more attention on specified area (design, functional, UI, DB, etc.)
- Release Notes / small demo could be helpful from Development to QA Team on every sprint.
- Unit testing -Code structure needed for every project and need to share the results of unit testing provided with a developer with code knowledge.
- Automation Testing using Selenium Tool.

Feedback & Opinions:

Any changes or feedback please feel free to email to sathya@mindwaveventures.com