[SDLC-STLC-AGILE](#)

What is your Responsibility as an SDET?

- Turn manually executed test scenarios into automatically executed test scenarios via Automation Tools.

- Design and develop test plans that verify user stories and system requirements.

- Detect Defects in the application and document them.

- Involving yourself in the following test types:
Functional Testing, Regression Testing, Smoke Testing

Agile experience in your most recent project? 🏠

- Our sprint is 2 weeks and we have release every 3 sprints as a release cycle. We have 11 people in my team. 5 developers , 3 testers, also 1 SM, 1 BA and 1 PO.

- We start a sprint with Sprint Planning Meeting and we learn the part of the application which we are going to develop. We groom the planned user stories created by the PO.

- After sprint starts, we do Daily Standup Meeting everyday morning and we discuss what did we do yesterday, what will we do today and is there any blocker. It's a daily team sync up to keep us on the same page.

- End of the sprint, we do Sprint Demo/Review Meeting . It is just to show customer what we build throughout the sprint. PO provides feedback. As an SDET in my team, I have presented the features developed by the team. Client or stakeholders or business people can ask questions about the features developed.

- After Sprint Demo, we do Sprint Retrospective Meeting. In Sprint Retro, we talk we should start doing, stop doing and continue doing. We go over them and make sure that we don't make the same mistakes again.

- This sums up what happens in a typical sprint.

- STLC is part of SDLC. It can be said that STLC is a subset of the SDLC set. The complete Verification and Validation of software is done in SDLC, while STLC only does Validation of the system.

SDLC (Software Development Life Cycle)

1. Requirement gathering and analysis
2. Design
3. Coding
4. Testing
5. Deployment
6. Maintenance

STLC (Software Testing Life Cycle)

1. Requirement / Design Analysis
2. Test Planning
   - Test Plan
   - Test Estimation
   - Test Schedule
3. Test Case Development (Designing)
   - Test Cases / Test Scripts / Test Data
   - Requirements Traceability Matrix
4. Test Environment Setup
5. Test Execution
   - Test Results (Incremental)
   - Defect Reports
6. Test Closure Activity (Reporting)
   - Test Results (Final)
   - Test Metrics
   - Test Closure Report

WHERE are your requirement documents? 🏠

- Requirements convey the expectation of users for the software or product. In other words, all the expected functionalities out of the application are documented in terms of "Requirements".
- Currently in my project my requirements are documented as Acceptance Criteria for each User Story.
- User Stories are created by the PO.
- Acceptance Criteria are created by the Business Analyst.
- All Acceptance Criteria will be documented in Confluence.

Where is the requirement coming from? 🏠

- PO provide requirements for the application by Talking to the End-users that will be using this application the most.

- Talking to Partners/Sponsors.

- Talk to Domain Experts – coders and developers that have already build this application similar before or someone that is an expert the type of product being built.

- Industry Analysts and Information about competitors.

Is the requirement is good or bad?

- Requirement must be (SMART Or INVEST)

  Specific, Measurable, Attainable, Realistic, Testable.

- Example:

  Given I am an Authorized user with valid username and password
  When I login by entering my username and password on the login page
  Then I should be logged into the application in 2 seconds or less
  And I should should be able to login Measurable User should able to
  login very fast (in 2 second after clicking login button).

Agile

- Agile is flexible methodology used for Software Development.
- You can change requirements and modify requirements anytime.
- It is dynamic, we are consistently gathering feedback and making adjustments to requirements. .
- Changes are always welcome.

Agile Framework?

- **Role** : PO, SM, Team

- **Ceremonies** : Sprint Planning, Daily Scrum, Sprint Review, Sprint Retro, Grooming Session

- **Artifacts** : Product backlog, Sprint backlog, Burnout chart

<u>Waterfall?</u>

🏠

- Waterfall methodology is the sequential method using for Software Development.

- You can not go back and have to finish the phase before you move on.

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The Waterfall Method

Requirements

Design

Implementation

Verification or Testing

Deployment & Maintenance
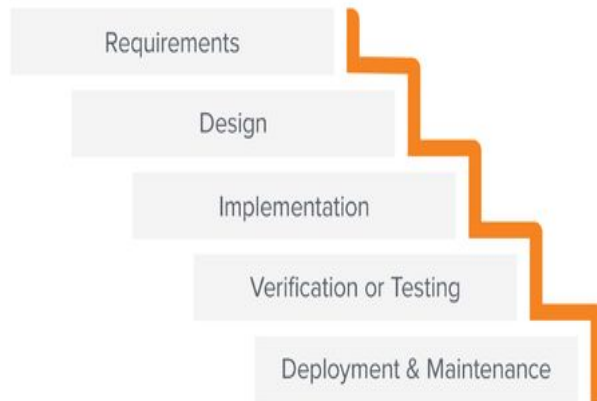
Which Agile framework did you use in your previous projects ?

- I have heard Extreme programming(XP) , Kanban, Feature Driven Development and Scrum.
- But I have only worked with scrum only.

Relation between Agile and Scrum? What is Scrum?

- Agile is the software development methodology that focuses on customer satisfaction by frequent software delivery.

- Scrum is one of the many approaches to implement Agile.

- Scrum is an Agile framework.

- Scrum is suitable for certain type of projects where there are rapidly changing requirements.

- In simple words, Agile is the methodology and scrum is the process/framework to follow this practice.

Why do we need Agile? Waterfall and Agile? ⌂

- Because waterfall methodologies have following disadvantage; Requirement can not be change or hard to change once document is signed.

- In waterfall before completing the one phase you can't move to the next phase. For example, before coding phase is completed testing can not be started.

- Customer can't see what they are going to get until very late stage in development life cycle.
It takes longer time to go to the production. By the time product goes to the market might be outdated already.

- Agile has following advantages:

  The change is welcomed. For example after the sprint demo if client does not like something we can take their feedback and improve the product. Requirement change is OK.

  Since it is iterative development process, the development team can developed piece of functionality, get feedback and improve next iteration. So the product will be continuously improve.

What are Different roles in Scrum?

- **Product owner** He is responsible to have a vision of what to build and convey his detailed vision to the team. He is the starting point of an agile scrum software development project. PO creates the user stories and prioritizes the product/sprint backlog.

- **Scrum team** is formed by the collective contribution of individuals who perform for the accomplishment of a particular project. The team is bound to work for the timely delivery of the requested product.

- **Scrum master** – Scrum master is the leader and the coach for the scrum team who tracks whether the scrum team is executing committed tasks properly. He is also responsible to increase the efficiency and productivity of the team so that they can achieve the sprint goal effectively.

Describe your scrum team? 🏠

- Currently in my project we have 11 members in our scrum team.
- PO - Stephen.
  Dev - Linda, Raj, John, James, Ryan, and Karan.
  Test - Myself, Arjun, and Shelly.
  SM - Roger.

Have you heard of scrum of scrums?

- In case, there are multiple teams involved in the project, scrum of scrums is used to focus on projects that collaborate with multiple teams.

- It supports agile teams to collaborate and coordinate their work with other teams.

- It helps focus the meeting towards specific agenda items.

Burn-down and burn-up charts

- To track the progress of an ongoing project, these charts are used.
- **Burn-up charts** indicate the work that has been completed while
- **Burn-down chart** shows the amount of remaining work in a project.

Sprint?

- In Scrum, the project is divided into Sprints.
- Each Sprint has a specified timeline (2 weeks to 1 month).
- This timeline will be set for the duration of the project.
- Here, User Stories are split into different modules.
- The end result of every Sprint should be a potentially shippable product.

How long is your Sprint?

- My current sprint duration is 2 weeks.

Product backlog & Sprint Backlog?

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- **Product backlog** is maintained by the project owner which contains every feature and requirement of the product.

- **Sprint backlog** can be treated as subset of product backlog which contains features and requirements related to that particular sprint only.

Velocity of a sprint and how it is measured? 🏠

- **Velocity** is one of the planning tool used to estimate the speed of the work and time of completion of the project.

- The calculation of velocity is done by reviewing the work team has successfully completed during earlier sprints;

- for example, if the team completed 5 stories during a two-week sprint and each story was worth 3 story points, then the team's velocity is 15 story points per sprint.

How often do you release?

- Our Release Cycle is dependent on the Roadmap created by the product owner.

- Typically we release features every 3 months.

- However when a critical defect has been reported in production we may do Hotfix releases which are emergency releases to resolve customer issues in our production environment.

- As part of being in an Agile project we expect requirements to change.

- When a requirement changes in the middle of a sprint I will analyze the changes.

- Based on the changes I will determine the impact and how it affects the work that has been completed. (Does it add more scope or reduces scope ?)

- Based on the impact analysis we will need to re-estimate the user story to ensure the Level of Effort is updated.