Automation Testing

Agile Approach for Quality Assurance

A Day in the Life of an Automation Test Engineer

Now as John has learned Agile methodologies and has decided to choose Agile approaches for quality assurance for his projects.

To complete his project he has to analyze, apply and classify how Agile helps in software testing for the quality of the project.

To achieve the above, he will learn a few concepts in this lesson that can help him to find a solution for the scenario.

Learning Objectives

By the end of this lesson, you will be able to:

- ◉ Analyze how Agile helps in software testing

- ◉ Comprehend things to remember for QA

- ◉ Apply testing life cycle in Agile projects

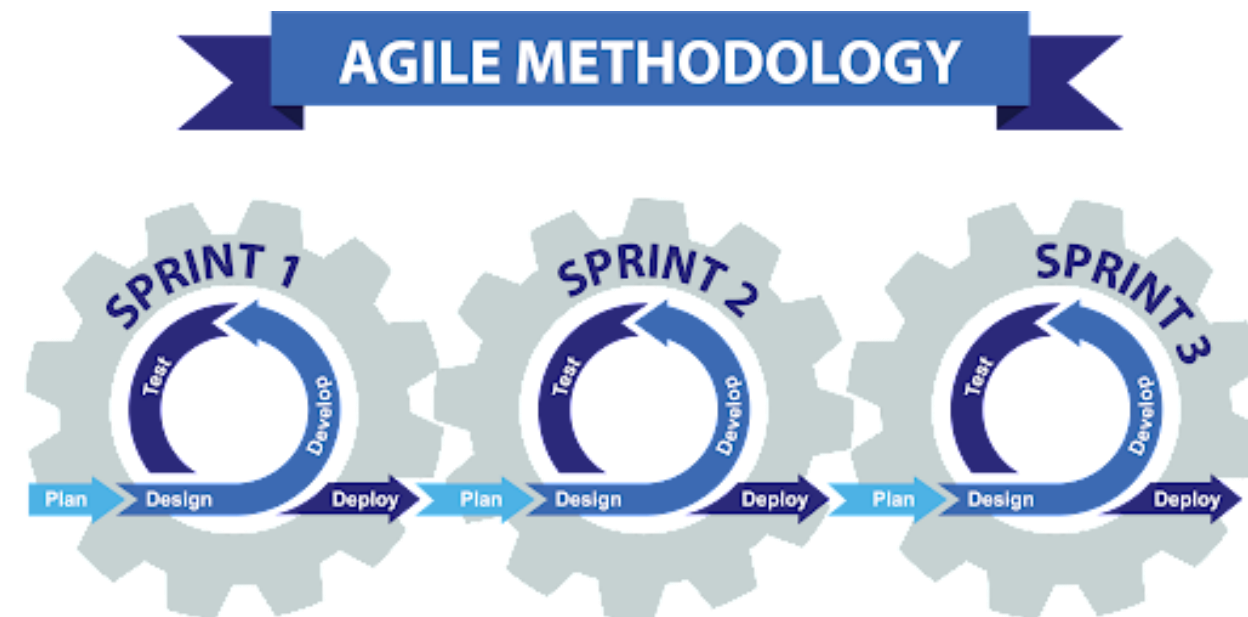- ◉ Classify how Agile fits in the testing ecosystem

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Agile in Software Testing
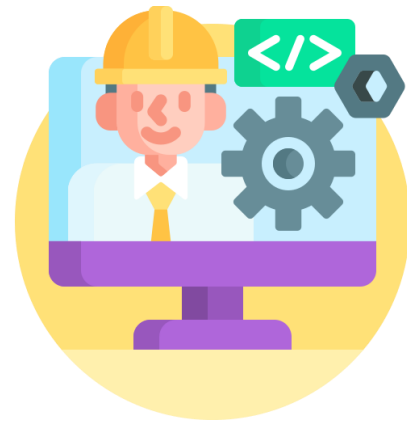
Agile in Software Testing

This methodology is a project management methodology meant to assist software development teams in effectively dealing with the dynamics and uncertainties that come with creating new software.

Agile is recognized for using incremental, iterative work sequences known as **sprints**.

Agile in Software Testing

Developers, analysts, QA testers, the product owner, and the project management (also known as the Scrum master) form up the team.

Agile Software Development and Testing

The reasons for choosing Agile software development and testing are:

1   It reduces technical debt.

2   It is easy and adaptable to the changes required.

3   It creates total alignment and transparency while developing and testing.

Agile Software Development and Testing

4   Agile software development and test minimize risk

5   Higher quality product

6   Predictable delivery dates

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Reasons for Choosing Agile Software Development and Testing

7 — Better stakeholder engagement

8 — User-focused testing

9 — Greater customer satisfaction

10 — Better project control and coordination

FULL STACK

Things to Remember for QA
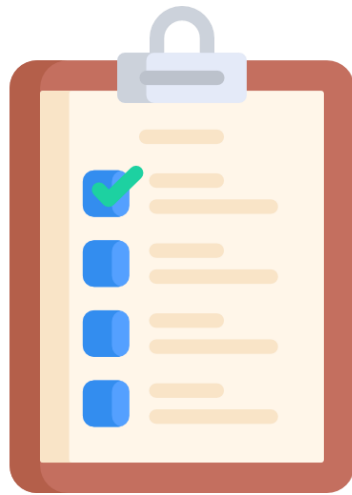
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Agile Quality Assurance

The main aspects of Agile QA to remember are that the QA team is cross-functional and self-organized, and testing is ongoing throughout the project development.

Agile Quality Assurance

Agile testing principles include:

- Quality assurance team provides continuous input to the development team.

- Developers and business analyst can conduct testing.

- QA team typically resolves issues and errors within the same iteration.

- Small amount of documentation is required.

- Testing is done throughout the implementation process.

Testing Life Cycle in Agile Projects

Agile Testing Life Cycle

Traditional techniques demand that the user give a clear plan of the predetermined requirements for the planned software. Agile development iterative approach provides flexibility.

Agile Testing Life Cycle

The Agile testing life cycle is illustrated below:

1. Sprint planning
2. Test case design
3. Verification and validation
4. Review
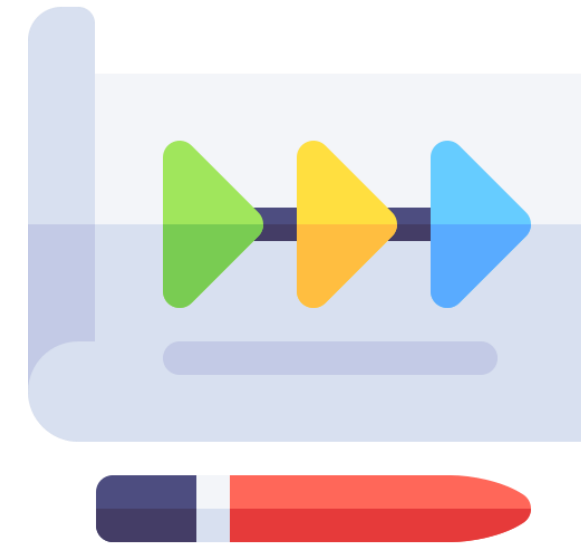5. Iteration and development

Sprint Planning

Sprint planning is the foundation of Agile techniques that break down huge, complex projects into smaller, more achievable steps.

It is the agreed-upon time frame during which the team must work on the set of requirements and complete them within that time frame.

Sprint Planning

The product owner, developers, and testers attend the Sprint kickoff meeting to discuss the targets that must be met in each sprint.

The daily scrum must be maintained, when the team gathers to discuss the tasks, they are working on, what they have completed, and any challenges that are impeding their progress.

Test Case Design

For the testing team, it is essential to keep up with the development team's pace.

The test cases are created by the testing team according to the functional requirements document and project design documents.

Sprint Planning

A test case design specifies how the team will set up the complete testing procedure. These designs support quality checks to ensure that the process is followed.

The documented test cases are then reviewed by the QA manager and developers, which aids in defect prevention.

Verification and Validation

This procedure is used to ensure that the developed software is of high quality.

The testing process begins as soon as the development is finished and made available for QA.

Review

QA specialists can leverage input from stakeholders and users to inform the next iteration by collecting it.
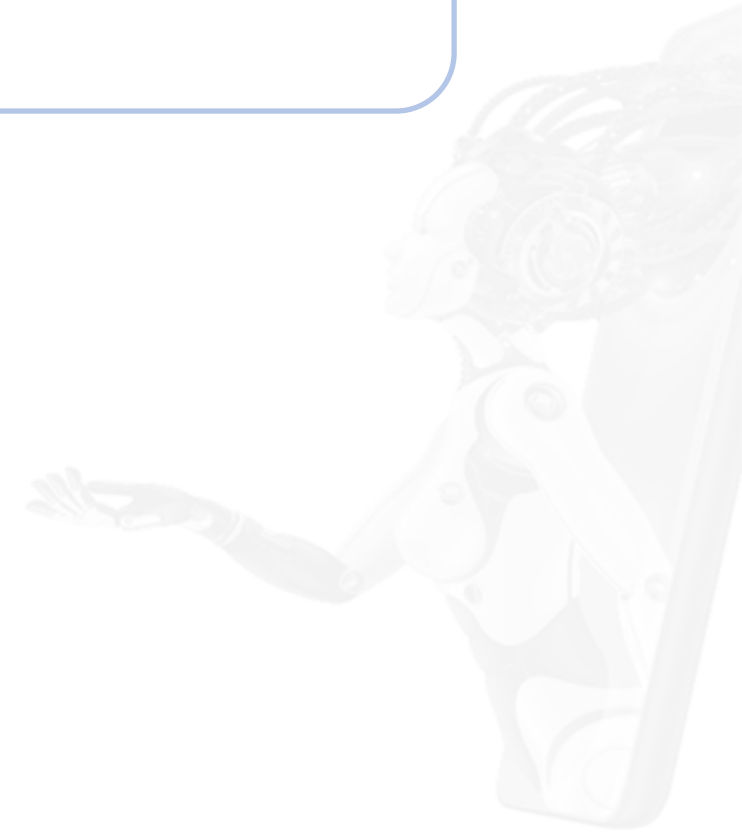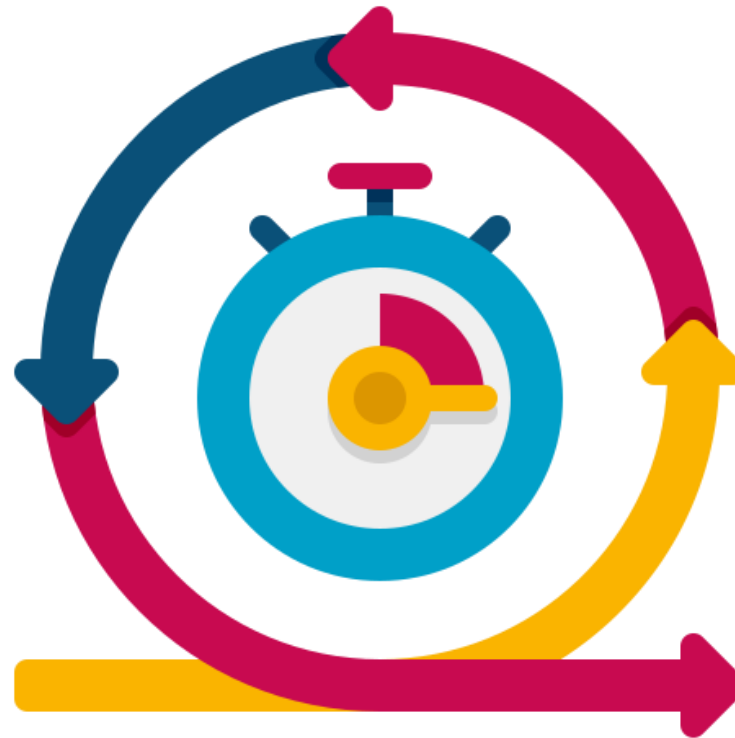
The weekly meeting with stakeholders assists in determining whether the requirements and deadlines have been reached.

Iteration and Deployment

In order to deploy a quality product, manual and automated test cases are conducted after new user stories are added to the agile development process to check the impact on current functionality.
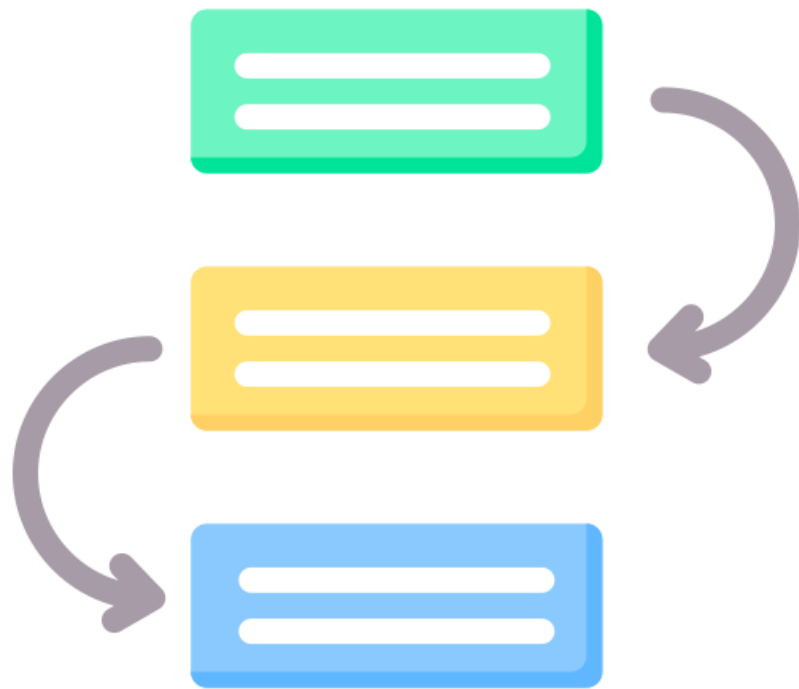
Test Planning in Iterations

Iteration Planning

Iteration Planning is a meeting where all team members decide how much of the Team Backlog they can deliver in the next Iteration. The work is summarized as a series of committed **Iteration Goals** by the team.

Iteration Planning

The output of iteration planning are:

The iteration backlog, which includes all of the iteration stories with clearly defined acceptance criteria

A declaration of iteration goals, usually a phrase or two long, describing the iteration strategic goals
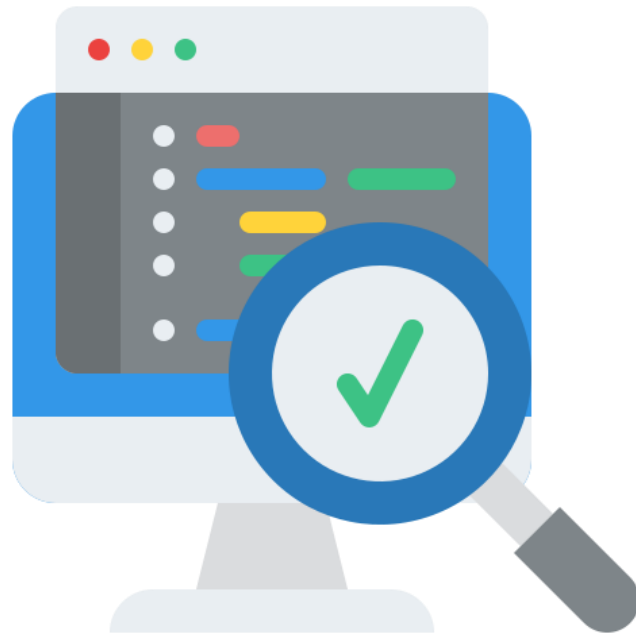
The team's commitment to the work required to meet the objectives

Agile in Testing Ecosystem

Agile in Testing Ecosystem

Agile testing raises product quality and allows development teams to release software in shorter time frames. Agile testers benefit from effective test case management.

Agile in Testing Ecosystem

The advantages of Agile testing for an organization:

1. Defects are identified early.

2. End products are in excellent quality.

3. It adapts to changes.

4. It reduces risk.

5. It is simple to use.

Problem Statement:

You are required to install requirements and test management app in Jira.

Assisted Practice: Guidelines

Steps to install requirements and test management app in Jira are:

1. Install requirements and test management app in Jira

Problem Statement:

You are asked to create an Agile test plan.

Assisted Practice: Guidelines

Steps to create an Agile test plan are:

1. Create an Agile test plan

Key Takeaways

- Agile is recognized for using incremental, iterative work sequences known as sprints.

- Agile development iterative approach provides flexibility.

- The work is summarized as a series of committed Iteration Goals by the team.

- Agile testers benefit from effective test case management.