Agile development model

Agile Methodology





Sunitha C S Joint Director STDC, Kochi



The Agile model was primarily designed to help a project to adapt to change requests quickly. So, the main aim of the Agile model is to facilitate quick project completion. Also, anything that is wastage of time and effort is avoided.

A few Agile SDLC models are given below:

- Crystal
- Atern
- Feature-driven development
- Scrum
- Extreme programming (XP)
- Lean development
- Unified process

In the Agile model, the requirements are decomposed into many small parts that can be incrementally developed. The Agile model adopts Iterative development. Each incremental part is developed over an iteration. Each iteration is intended to be small and easily manageable and that can be completed within a couple of weeks only. At a time one iteration

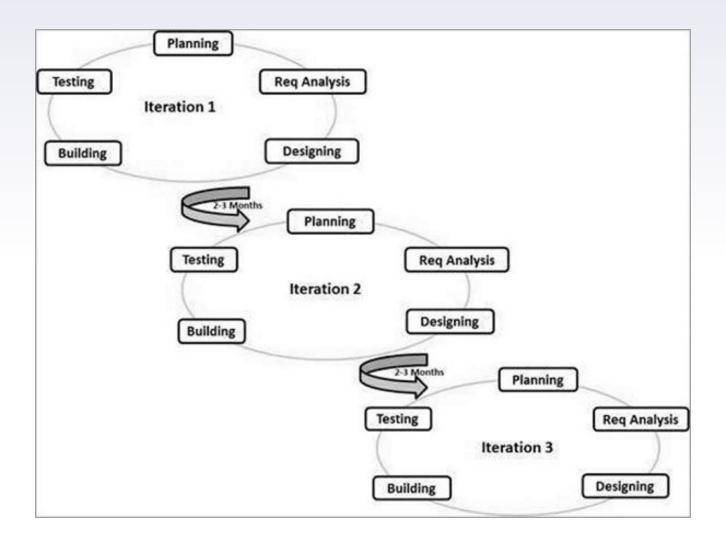
Every iteration involves cross functional teams working simultaneously on various areas like –

is planned, developed and deployed to the customers. Long-term plans are not made.

- Planning
- Requirements Analysis
- Design
- Coding
- Unit Testing and
- Acceptance Testing.

At the end of the iteration, a working product is displayed to the customer and important stakeholders.





The most popular Agile methods include Rational Unified Process (1994), Scrum (1995), Crystal Clear, Extreme Programming (1996), Adaptive Software Development, Feature Driven Development, and Dynamic Systems Development Method (DSDM) (1995). These are now collectively referred to as **Agile Methodologies**, after the Agile Manifesto was published in 2001.

Following are the Agile Manifesto principles –

- Individuals and interactions over processes and tools In Agile development, selforganization and motivation are important, as are interactions like co-location and pair programming.
- Working software over comprehensive documentation Demo working software is considered the best means of communication with the customers to understand their requirements, instead of just depending on documentation.
- ► **Customer collaboration** *over contract negotiation* As the requirements cannot be gathered completely in the beginning of the project due to various factors, continuous customer interaction is very important to get proper product requirements.
- ► **Responding to change** *over following a plan* Agile Development is focused on quick responses to change and continuous development.

Agile vs Traditional SDLC Models



- Agile is based on the **adaptive software development methods**, whereas the traditional SDLC models like the waterfall model is based on a predictive approach. Predictive teams in the traditional SDLC models usually work with detailed planning and have a complete forecast of the exact tasks and features to be delivered in the next few months or during the product life cycle.
- Predictive methods entirely depend on the requirement analysis and planning done in the beginning of cycle. Any changes to be incorporated go through a strict change control management and prioritization.

Agile vs Traditional SDLC Models



- Agile uses an **adaptive approach** where there is no detailed planning and there is clarity on future tasks only in respect of what features need to be developed. There is feature driven development and the team adapts to the changing product requirements dynamically. The product is tested very frequently, through the release iterations, minimizing the risk of any major failures in future.
- Customer Interaction is the backbone of this Agile methodology, and open communication with minimum documentation are the typical features of Agile development environment. The agile teams work in close collaboration with each other and are most often located in the same geographical location.

Agile Model - Pros and Cons



The **advantages** of the Agile Model are as follows –

- Is a very realistic approach to software development.
- Promotes teamwork and cross training.
- Functionality can be developed rapidly and demonstrated.
- Resource requirements are minimum.
- Suitable for fixed or changing requirements
- Delivers early partial working solutions.
- Good model for environments that change steadily.
- Minimal rules, documentation easily employed.
- Enables concurrent development and delivery within an overall planned context.
- Little or no planning required.
- Easy to manage.
- Gives flexibility to developers.

The **disadvantages** of the Agile Model are as follows –

- Not suitable for handling complex dependencies.
- More risk of sustainability, maintainability and extensibility.
- An overall plan, an agile leader and agile PM practice is a must without which it will not work.
- Strict delivery management dictates the scope, functionality to be delivered, and adjustments to meet the deadlines.
- Depends heavily on customer interaction, so if customer is not clear, team can be driven in the wrong direction.
- There is a very high individual dependency, since there is minimum documentation generated.
- Transfer of technology to new team members may be quite challenging due to lack of documentation.

Agile Scrum Methodology





- Scrum is a framework that allows for more effective collaborations among teams working on complex projects.
- Agile and scrum are two similar project management systems with a few key differences.
- Agile is more flexible and promotes leadership teams, while scrum is more rigid and promotes cross-functional teams.
- Agile scrum methodology is a project management system that relies on **incremental** development. Each **iteration** consists of **two- to four-week sprints**, where each **sprint's goal** is to build the most important features first and come out with a potentially deliverable product. More features are built into the product in subsequent sprints and are adjusted based on stakeholder and customer feedback between sprints.

What is scrum?



In short, scrum refers to a framework that makes for effective collaborations among teams that are working on complex products. Although it is most often used by software development teams, scrum can essentially be beneficial to any team that is working toward a common goal. In particular, scrum is a collection of meetings, roles and tools that work together to help teams to better structure and manage their workload.





- While scrum can benefit a wide variety of businesses and projects, these are the most likely beneficiaries:
- Complicated projects: Scrum methodology is ideal for projects that require teams to complete a backlog.
- Companies that value results: Scrum is also beneficial to companies that value results over the documented progress of the process.
- Companies that cater to customers: Scrum can help companies that develop products in accordance with customer preferences and specifications.



What are the different roles in agile scrum methodology?

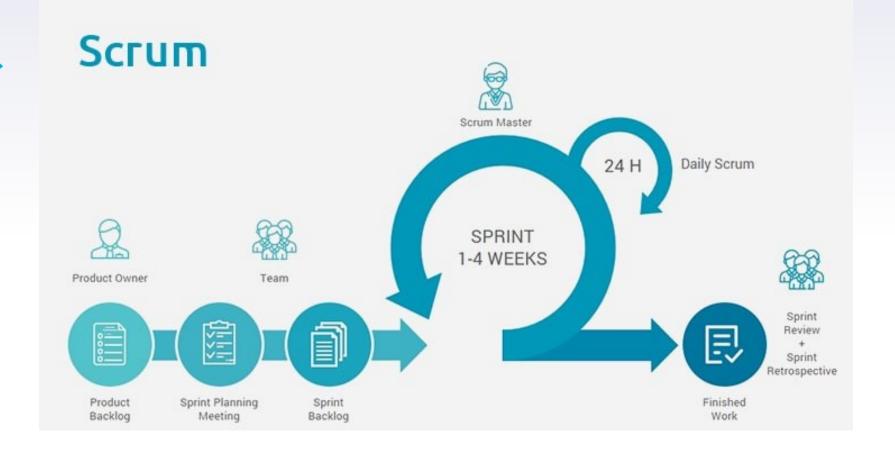
- Agile scrum methodology consists of two sets of roles: core roles, known as "pigs," and ancillary roles, known as "chickens."
- There are three core roles: scrum master, product owner and scrum team. All of these people are committed to the scrum project.

Scrum master. The scrum master is the facilitator of the scrum development process. In addition to holding daily meetings with the scrum team, the scrum master makes certain that scrum rules are being enforced and applied as intended. The scrum master's responsibilities also include coaching and motivating the team, removing impediments to sprints, and ensuring that the team has the best possible conditions to meet its goals and produce deliverable products.

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Product owner. The product owner represents stakeholders, which are typically customers. To ensure the scrum team is always delivering value to stakeholders and the business, the product owner determines product expectations, records changes to the product and administers a scrum backlog, a detailed and constantly updated to-do list for the scrum project. The product owner is also responsible for prioritizing goals for each sprint, based on their value to stakeholders, such that the most important and deliverable features are built in each iteration.

Scrum team. The scrum team is a self-organized group of three to nine individuals who have the business, design, analytical and development skills to carry out the actual work, solve problems and produce deliverable products. Members of the scrum team self-administer tasks and are jointly responsible for meeting each sprint's goals.





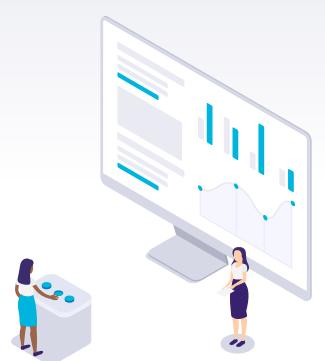


Although scrum and agile are similar, here are some of the key differences:

- Scrum values rigidity, whereas agile is more flexible.
- Agile leaders play a vital role, while scrum promotes a cross-functional team that is self-functioning.
- Agile involves face-to-face interactions between cross-functional team members, while scrum involves daily stand-up meetings.
- Agile is meant to be kept simple, while scrum can be innovative and experimental



Introduction to Atlassian Jira



What is Jira?



Jira is a software application used for **issue tracking and project management**. The tool, developed by the Australian software company Atlassian, has become widely used by agile development teams to **track bugs**, **stories**, **epics**, and other **tasks**.

What types of Teams Use Jira?



- Jira Core This is the platform's basic project-management tool, designed for non-technical teams. Departments such as HR, marketing, finance, and operations use the Core tool for change requests, workflow approvals, and general task management.
- Jira Software This is the version designed for software development teams. Jira Software offers all of Core's features but also includes agile functionality. Software teams use this tool for bug tracking, managing basic software-development tasks, and product management.
- Jira Service Desk This is an add-on developed for IT teams. Call center managers, helpdesk agents, and other support professionals use Jira Service Desk for issue ticketing, incident management, and change management.

How to start with Jira?



- Use Jira Software + Confluence
- Use Google account/ Atlassian Account
- Give Site Name
- Invite teammates or do it later
- Select project type (Team Managed/Company Managed)
- Select the project template (SCRUM/Kanban/Bug Tracking)







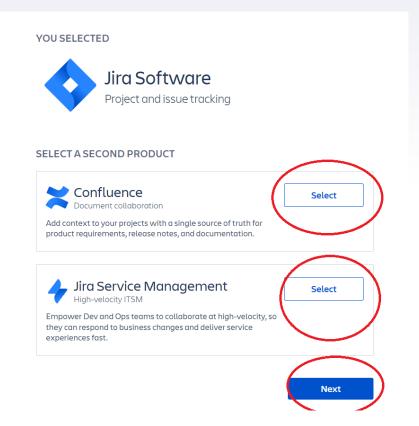
Our cloud products work even better together

Get another one for free

EACH PRODUCT ON A FREE PLAN:

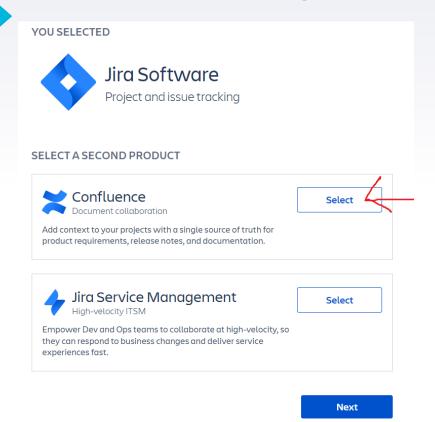
- ✓ Supports up to 10 users or 3 agents
- ✓ Includes 2 GB of storage
- ✓ Offers Community support
- ✓ Is always free, no credit card needed

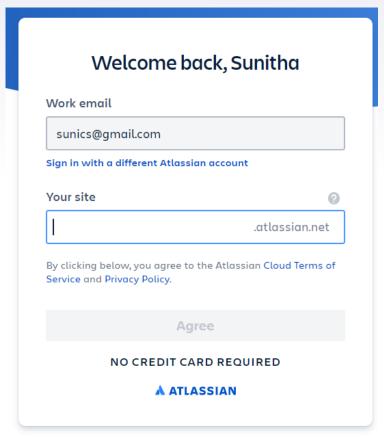




Create Project – Jira Software







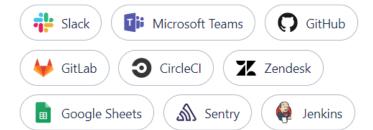




Jira connects to the tools you use everyday making it easier for you to get more done.

Select some tools now and we'll help you connect them later





Skip

Next

Add Team



Invite your teammates

Bring your team along for the ride!

Add email address

@example.com

Add email address

@example.com

Add email address

@example.com

Let my teammates invite other people to our site

You can change these settings at any time.

Continue

Create user stories or tasks in the backlog



- Once you've created your project, you will land on the empty backlog. The backlog is also known as the product backlog and contains an ongoing list of your team's potential work items for the project.
- In Jira Software, we call work items like user stories, tasks, and bugs **"issues**". Create a few user stories with the quick create option on the backlog. If you don't have user stories in mind, just create sample stories to get started and see how the process works.
- WHAT ARE USER STORIES? User stories are used to describe work items in a non-technical language an from a user's perspective. .

As a {type of user}, I want {goal} so that I {receive benefit}.

User Stories

Let's use a website as a simple example to create a user story.

"As a customer, I want to be able to create an account so that I can see my previous purchases."

User stories are usually sketched out and prioritized by the product owner, and then the development team determines detailed tasks necessary to complete the story in an upcoming sprint. The development team is also responsible for estimating the relative effort required to complete the work of the story.

User Stories

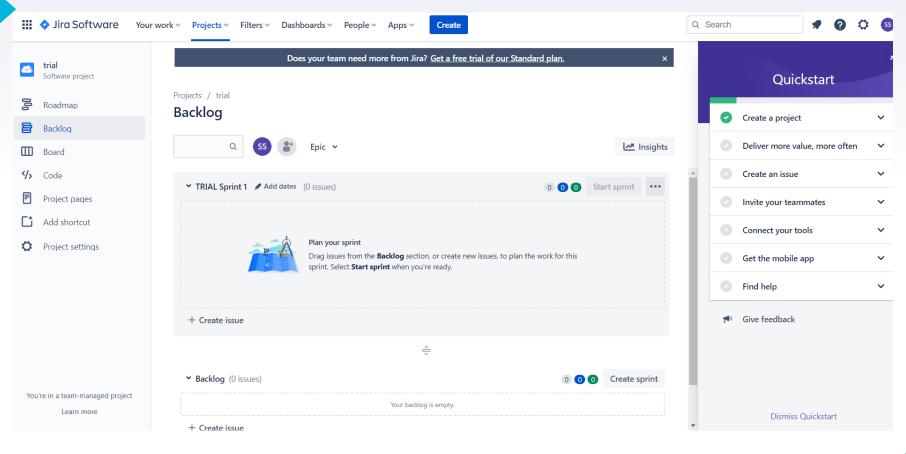
- Once you've created a few user stories, you can start prioritizing them in the backlog. In Jira Software, you rank or prioritize your stories by dragging and dropping them in the order that they should be worked on.
- These are just the starting stories for your project. You will continue to create stories for the project's lifetime. This is because agility involves continuously learning and adapting.

Create a sprint

In Scrum, teams forecast to complete a set of user stories or other work items during a fixed time duration, known as a sprint. Generally speaking, sprints are one, two, or four weeks long. It's up to the team to determine the length of a sprint — we recommend starting with two weeks.

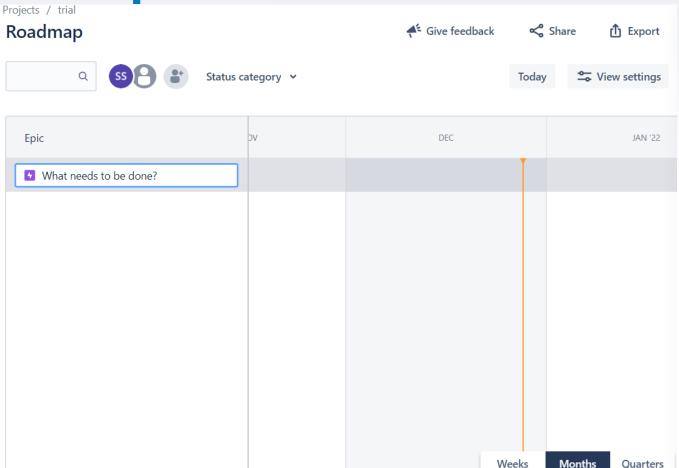
Backlog





Roadmap







Question????