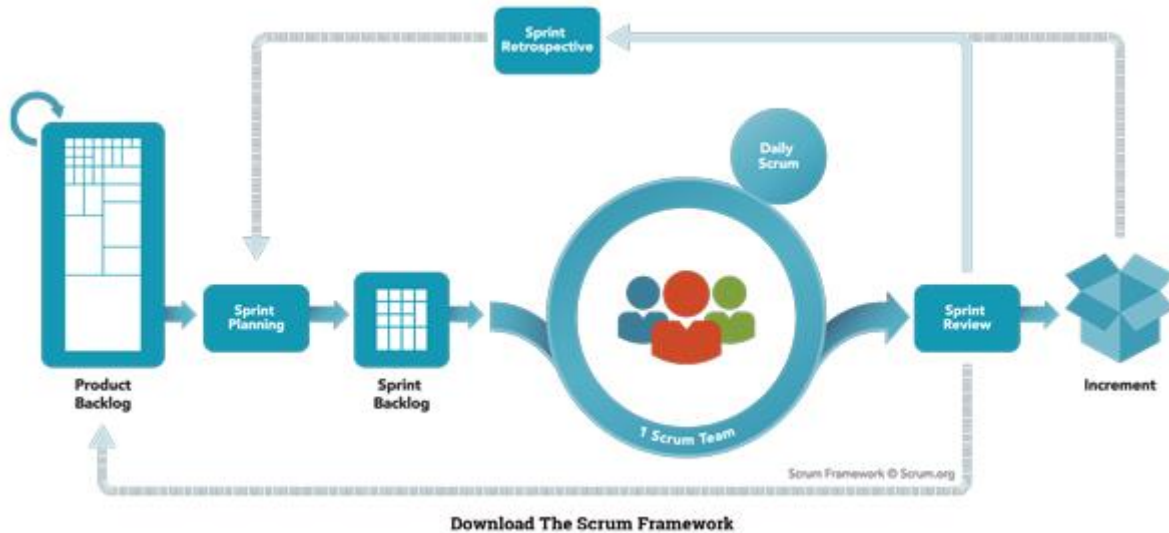# Scrum

Scrum is the type of **Agile framework**. It is a framework within which people can address complex adaptive problem while productivity and creativity of delivering product is at highest possible values. Scrum uses **Iterative process**.

Download The Scrum Framework

There are three main roles in scrum,

1. Product Owner
2. Scrum Master
3. Scrum Team

Product Owner:

Think of a product owner as manager, who holds responsibility to make sure that the application is deployed as committed. At the same time the application is built exactly as the way it has to be. Product owner might not necessarily a technical person. The Product Owner is the sole person responsible for managing the Product Backlog. Product Backlog management includes,

- Clearly expressing Product Backlog items.
- Ordering the items in the Product Backlog to best achieve goals and missions.
- Optimizing the value of the work the Development Team performs.
- Ensuring that the Product Backlog is visible, transparent, and clear to all, and shows what the Scrum Team will work on next.
- Ensuring the Development Team understands items in the Product Backlog to the level needed.

Scrum Master:

Think of a scrum master, of project leader. the Scrum Master is responsible for promoting and supporting Scrum. Scrum Masters do this by helping everyone understand Scrum theory, practices, rules, and values. The Scrum Master is a servant-leader for the Scrum Team. The Scrum Master helps those outside the Scrum Team understand which of their interactions with the Scrum Team are helpful and which aren't. The Scrum Master helps everyone change these interactions to maximize the value created by the Scrum Team.

The Scrum Master serves the Product Owner in several ways, including,

- Ensuring that goals, scope, and product domain are understood by everyone on the Scrum Team as well as possible.
- Finding techniques for effective Product Backlog management.
- Helping the Scrum Team understand the need for clear and concise Product Backlog items.

- Ensuring the Product Owner knows how to arrange the Product Backlog to maximize value. Clearing obstacles

- Establishing an environment where the team can be effective

- Addressing team dynamics

- Ensuring a good relationship between the team and product owner as well as others outside the team

- Protecting the team from outside interruptions and distractions.
- Understanding and practicing agility.
- Facilitating Scrum events as requested or needed.

Scrum Team:

A Scrum Development Team consists of professionals who do the work of delivering a potentially releasable Increment of "Done" product at the end of each Sprint. A "Done" increment is required at the Sprint Review. Only members of the Development Team create the Increment.

Development Teams have the following characteristics:

- They are self-organizing. No one (not even the Scrum Master) tells the Development Team how to turn Product Backlog into Increments of potentially releasable functionality.
- Development Teams are cross-functional, with all the skills as a team necessary to create a product Increment.
- Scrum recognizes no sub-teams in the Development Team, regardless of domains that need to be addressed like testing, architecture, operations or business analysis.

- Individual Development Team members may have specialized skills and areas of focus, but accountability belongs to the Development Team as a whole.

Product Backlog:

- Product backlog is basically an ordered list of task and requirements the final product actually needs.
- It is constantly evolving and never complete. The Product Backlog is dynamic; it constantly changes to identify what the product needs to be appropriate, competitive, and useful. If a product exists, its Product Backlog also exists.
- The product owner overseas the product backlog Including how it is made available to team, it is content in how it's ordered.
- It is the single source of requirements for any changes to be made to the product.
- The Product Owner is responsible for the Product Backlog, including its content, availability, and ordering.

Sprint Planning:

- The work to be performed in the Sprint is planned at the Sprint Planning.
- This plan is created by the collaborative work of the entire Scrum Team.
- Sprint Planning is time-boxed to a maximum of eight hours for a one-month Sprint. For shorter Sprints, the event is usually shorter.
- The Scrum Master ensures that the event takes place and that attendants understand its purpose.
- The Scrum Master teaches the Scrum Team to keep it within the time-box.

Sprint Planning answers the following:

- What can be delivered in the Increment resulting from the upcoming Sprint?
- How will the work needed to deliver the Increment be achieved?

Work is selected from the Product Backlog and pulled into the Sprint Backlog. Now remember that the work in the Sprint Backlog is not a commitment, it is a forecast. The only container of a Sprint is its time box, not the work planned for the Sprint.

Sprint Backlog:

- List of all items from the product backlog that need to be worked on during a Sprint.
- The Sprint Backlog is a forecast(predict/estimate) by the Development Team about what functionality will be in the next Increment and the work needed to deliver that functionality into a "Done" Increment.
- The Sprint Backlog makes visible all the work that the Development Team identifies as necessary to meet the Sprint Goal.
- The Sprint Backlog is a plan with enough detail that changes in progress can be understood in the Daily Scrum.
- The Development Team modifies the Sprint Backlog throughout the Sprint.

- Only the Development Team can change its Sprint Backlog during a Sprint.
- The Sprint Backlog is a highly visible, real-time picture of the work that the Development Team plans to accomplish during the Sprint, and it belongs solely to the Development Team.

The Sprint:

A Sprint, a time-box of one month or less during which a "Done", useable, and potentially releasable product Increment is created.

Sprints have consistent durations throughout a development effort.

A new Sprint starts immediately after the conclusion of the previous Sprint.

Sprints are used to accomplish something.

Each Sprint has a goal of what is to be built, a design and flexible plan that will guide building it, the work, and the resultant product increment.

Sprints are limited to one calendar month. When a Sprint's horizon is too long the definition of what is being built may change, complexity may rise, and risk may increase.

Sprints enable predictability by ensuring inspection and adaptation(modify) of progress toward a Sprint Goal at least every calendar month.

During the Sprint:

- No changes are made that would endanger the Sprint Goal.
- Quality goals do not decrease; and,
- Scope may be clarified and re-negotiated(change the original agreed terms.) between the Product Owner and Development Team as more is learned.

Daily Scrum:

- The Daily Scrum is a 15-minute time-boxed event for the Development Team to synchronize activities and create a plan for the next 24 hours.
- The Daily Scrum is held every day of the Sprint.

- In Daily Scrum, the Development Team plans work for the next 24 hours.

- This optimizes team collaboration and performance by inspecting the work since the last Daily Scrum and forecasting(estimate) upcoming Sprint work

- The Daily Scrum is held at the same time and place each day to reduce complexity.

- The Scrum Master ensures that the Development Team has the meeting, but the Development Team is responsible for conducting the Daily Scrum. The Scrum Master teaches the Development Team to keep the Daily Scrum within the 15-minute time-box.

- The Daily Scrum is an internal meeting for the Development Team. If others are present, the Scrum Master ensures that they do not disrupt the meeting.

Sprint Review:

A Sprint Review is held at the end of the Sprint to inspect the Increment and adapt the Product Backlog if needed.

There could have been a single deployment or many deployments during a Sprint which lead up to that Increment to be inspected.

During the Sprint Review, the Scrum Team and stakeholders collaborate about what was done in the Sprint.

Based on that and any changes to the Product Backlog during the Sprint, attendees collaborate on the next things that could be done to optimize value.

This is an informal meeting, not a status meeting, and the presentation of the Increment is intended to elicit(obtain) feedback and foster(encourage) collaboration.

This is at most a four-hour meeting for one-month Sprints. For shorter Sprints, the event is usually shorter.

The Scrum Master ensures that the event takes place and that attendees understand its purpose.

The Sprint Review includes the following elements:

- Attendees include the Scrum Team and key stakeholders invited by the Product Owner.
- The Product Owner explains what Product Backlog items have been "Done" and what has not been "Done".
- The Development Team discusses what went well during the Sprint, what problems it ran into, and how those problems were solved.
- The Development Team demonstrates the work that it has "Done" and answers questions about the Increment.
- The Product Owner discusses the Product Backlog as it stands. He or she projects likely target and delivery dates based on progress to date (if needed).
- The entire group collaborates on what to do next, so that the Sprint Review provides valuable input to subsequent Sprint Planning.

Increment:

- The Increment is the sum of all the Product Backlog items completed during a Sprint and the value of the increments of all previous Sprints.
- At the end of a Sprint, the new Increment must be "Done," which means it must be in useable condition and meet the Scrum Team's definition of "Done.

- The increment is a step toward a vision or goal.
- The increment must be in useable condition regardless of whether the Product Owner decides to release it.

Sprint Retrospective:

The Sprint Retrospective is an opportunity for the Scrum Team to inspect itself and create a plan for improvements to be enacted(implement) during the next Sprint.

The Sprint Retrospective occurs after the Sprint Review and prior to the next Sprint Planning.

This is at most a three-hour meeting for one-month Sprints.For shorter Sprints, the event is usually shorter.

The Scrum Master ensures that the event takes place and that attendants understand its purpose.

This is the opportunity for the Scrum Team to improve and all member should be in attendance.

During the Sprint Retrospective, the team discusses:

- What went well in the Sprint
- What could be improved
- What will we commit to improve in the next Sprint

The Scrum Master encourages the Scrum Team to improve its development process and practices to make it more effective and enjoyable for the next Sprint.

During each Sprint Retrospective, the Scrum Team plans ways to increase product quality by improving work processes or adapting the definition of "Done" if appropriate and not in conflict with product or organizational standards.

By the end of the Sprint Retrospective, the Scrum Team should have identified improvements that it will implement in the next Sprint.

Implementing these improvements in the next Sprint is the adaptation to the inspection of the Scrum Team itself.

Although improvements may be implemented at any time, the Sprint Retrospective provides a formal opportunity to focus on inspection and adaptation.

Definition of Done (DoD):

In short, DoD is a shared understanding within the Scrum Team on what it takes to make your Product Increment releasable.

Done = Releasable

Sprint Goal:

The Sprint Goal is an objective set for the Sprint that can be met through the implementation of Product Backlog.

Sprint goals are the result of a negotiation between the Product Owner and the Development Team.

Sprint Goals should be specific and measurable.

The selected work for the Sprint Backlog represents a forecast, the Development Team gives their commitment to achieving the Sprint Goal.

Scrum Values:

Scrum values are those values upon which the framework(scrum) is based.

There are five scrum values,

- Courage
- Commitment
- Focus
- Openness
- Respect

- **Courage:**

  - The Scrum value of courage is critical to an agile team's success.
  - Scrum teams must feel safe enough to say no, to ask for help, and to try new things.
  - Scrum Masters help foster(encourage) team courage by creating safety for team members to have difficult conversations with one another, with the product owner, and with stakeholders.
  - Scrum Masters are fearless about removing obstacle that slow the team down.
  - Scrum Masters also stand up to stakeholders to prevent changes or side projects during the sprint while also helping teams adapt when priorities shift between sprints.

- **Commitment:**

  - The Scrum value of commitment is essential for building an agile culture.
  - Scrum teams work together as a unit. This means that Scrum and agile teams trust each other to follow through on what they say they are going to do.
  - When team members aren't sure how work is going, they ask.
  - Agile teams only agree to take on tasks they believe they can complete, so they are careful not to overcommit.
  - Great Scrum Masters reinforce a team's commitment when they facilitate sprint planning, protect teams from mid-sprint changes, and deflect excessive pressure from product owners.

- **Openness:**

  - Scrum teams consistently seek out new ideas and opportunities to learn.

  - Agile teams are also honest when they need help.

  - Great Scrum Masters facilitate openness in daily scrums, so the team is always aware of exactly how the sprint is going.
  - Scrum Masters encourage openness in sprint reviews by ensuring that stakeholder feedback is constructive and that team members can hear it.
  - Scrum Masters remind teams that learning about product shortcomings early is much less expensive and much more helpful than hearing about them late in the project.

- **Focus:**
  - Focus means that whatever Scrum teams start they finish--so agile teams are relentless about limiting the amount of work in process.

  - Great Scrum Masters encourage team focus by holding the team to their own definition of done, by encouraging full team participation at each daily scrum, and by ensuring that team members only present work that is complete at the sprint review.

- **Respect:**

  - Scrum team members demonstrate respect to one another, to the product owner, to
  - stakeholders, and to the Scrum Master.
  - Agile teams know that their strength lies in how well they collaborate, and that everyone has a distinct contribution to make toward completing the work of the sprint.
  - They respect each other's ideas, give each other permission to have a bad day once in
  - a while and recognize each other's accomplishments.

  - Great Scrum Masters develop respect in their teams.

  - They help teams listen to each other during daily scrums.

  - They encourage teams to share their struggles and their successes.

- Scrum Masters also point out times of strong collaboration and facilitate conversations around new ideas.