



**NANYANG
TECHNOLOGICAL
UNIVERSITY**
SINGAPORE

SCTP Software Engineering Coaching

Module 1
Week 2

Lesson Plan

Duration	Activity
30 min	Vision Board activity
1 hour	Module 1 Review
30 min	Introduction - Edric Gan (co-trainer)
1 hour	Creating your first React application

Timings are estimates and can vary according to current class size and student profiles.

Vision Board

<https://bit.ly/45F6QQM>



1.1 Introduction to Software Development

- Development environment:
 - NVM, Node, VSCode
- Terminal CLI (command line interface)
 - PowerShell/Command Prompt (Windows)
 - zsh/bash (macOS)
- Terminal commands:
 - `cd`
 - `ls -l`
 - `mkdir`
 - `pwd`
 - `touch`



1.2 Source Code Version Control with Git

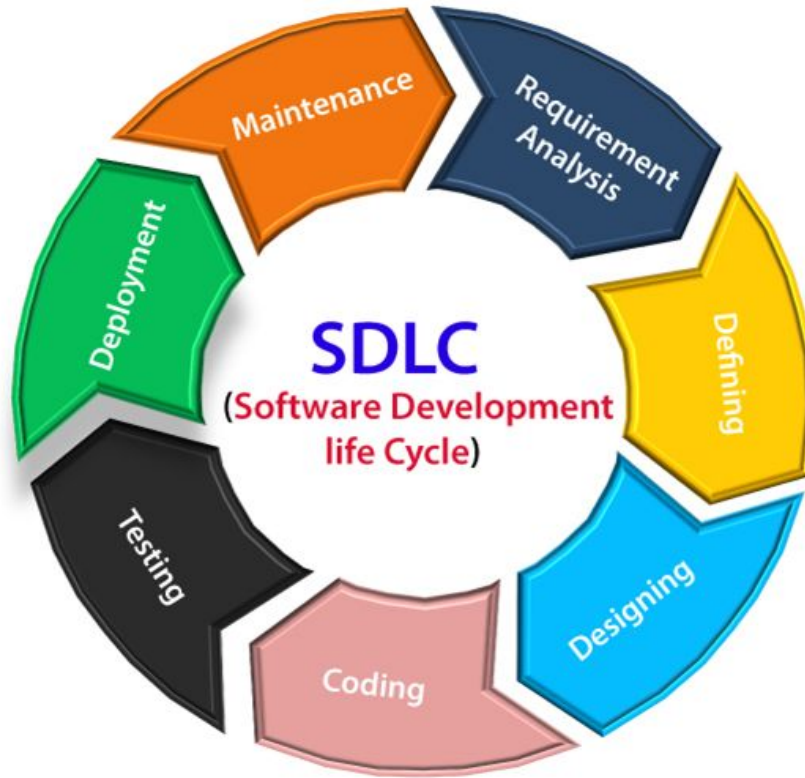
- What is Git?
- Git vs Github.com
- How to `fork` and `clone` from Github repositories
- Git commands:
 - `git add`
 - `git commit -m "description of changes"`
 - `git push origin main`
 - `git pull`
- What



1.3 Test Methodologies

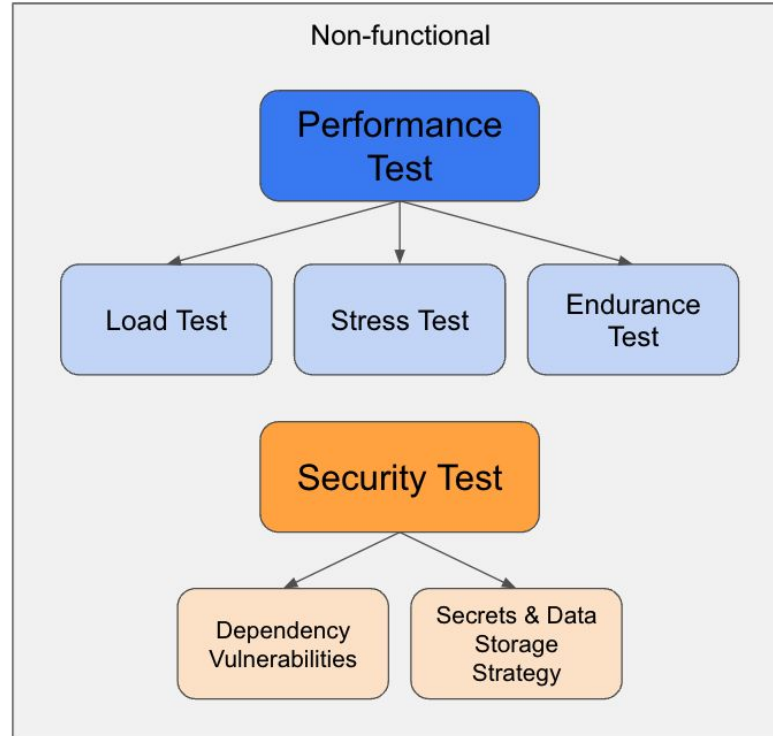
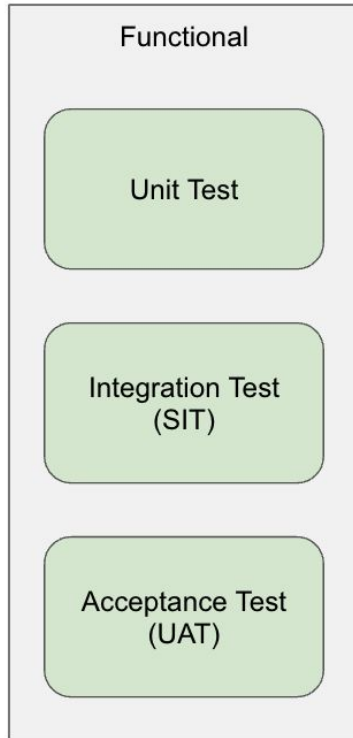
- Software Development Life Cycle (SDLC)
- Functional vs Non-functional testing
- JEST



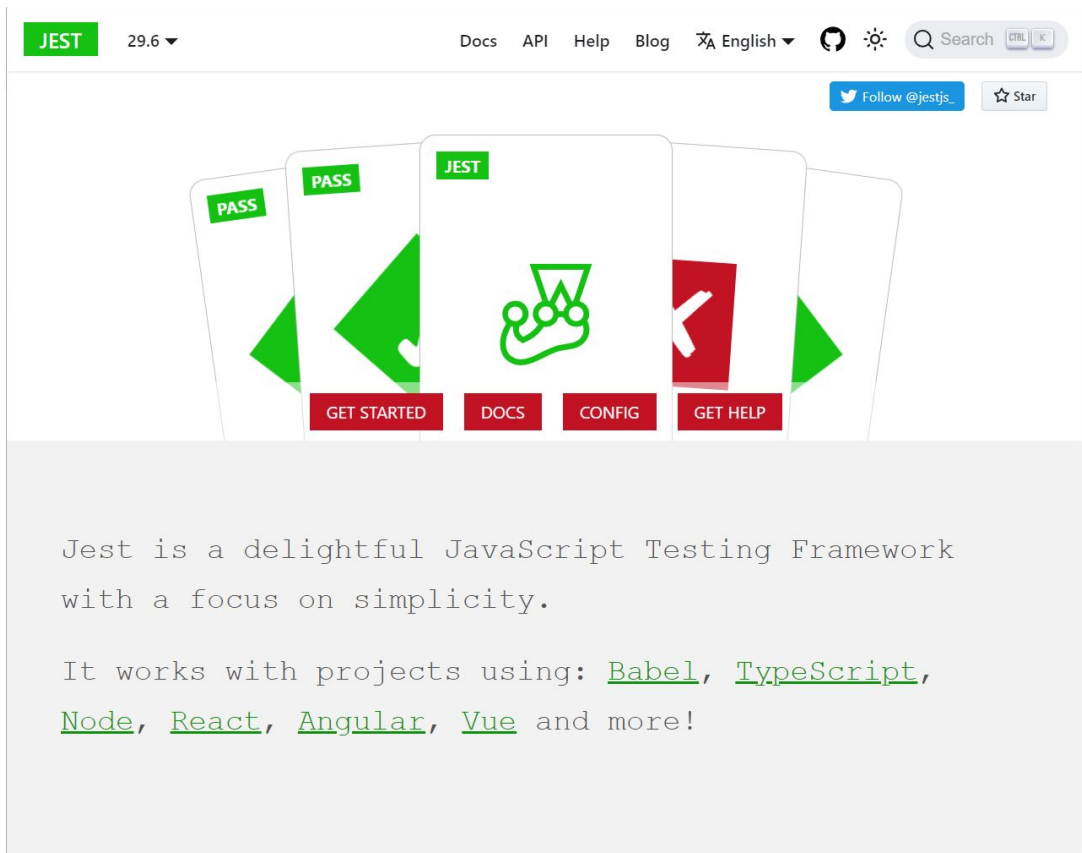


Source:
<https://www.javatpoint.com/software-engineering-software-development-life-cycle>

Functional vs Non-Functional Testing



<https://jestjs.io/>



1.4 Agile SCRUM

- Waterfall vs Agile models
- Agile Manifesto
- 12 Principles of Agile
- SCRUM Sprint



Agile Manifesto (<https://agilemanifesto.org/>)

“ We are uncovering better ways of developing software by doing it and helping others do it. Through this work we have come to value: ”



Agile Manifesto (<https://agilemanifesto.org/>)

01	Individuals and Interactions	Process and Tools
02	Working Software	Comprehensive Documentation
03	Customer Collaboration	Contract Negotiation
04	Responding to Change	Following a Plan

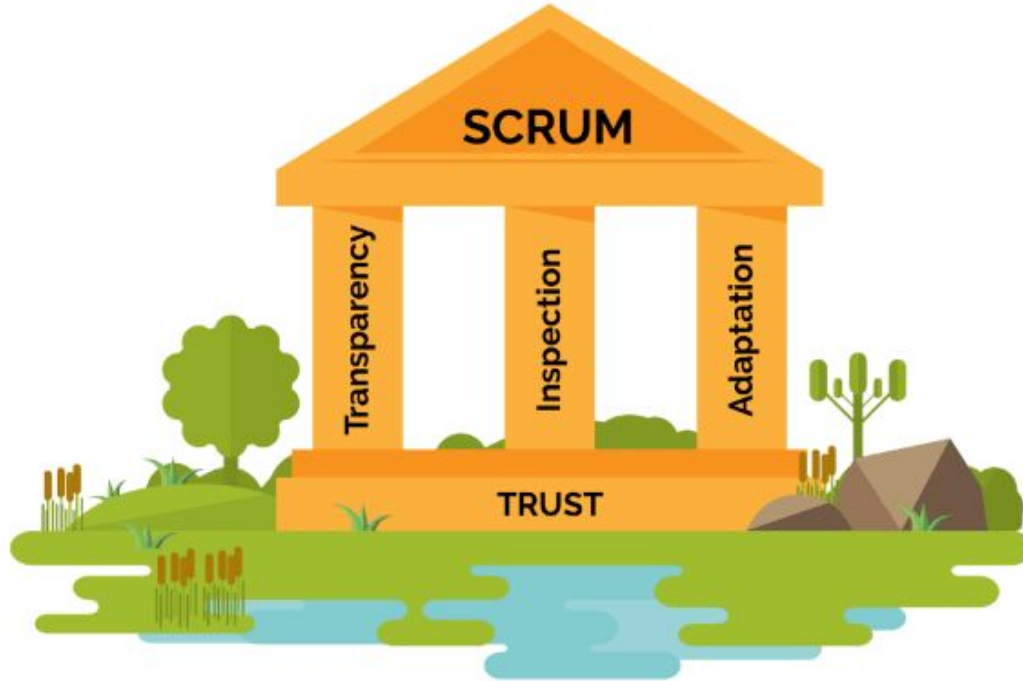
“That is, while there is value in the items on the right, we value the items on the left more”

12 Principles of Agile Software Development

12 Principles of Agile Software Development

- 1 Early Delivery of the Product
- 2 Adapt to Change
- 3 Frequent Delivery
- 4 Business and Developers Cooperation
- 5 Motivated Individuals
- 6 Face-to-Face Interaction
- 7 Working Software
- 8 Maintain a Constant Pace
- 9 Technical Brilliance
- 10 Simplicity
- 11 Teams Self-Organization
- 12 Regular Reflection and Adjustment

SCRUM Values



COURAGE

Scrum Team members have courage to do the right thing and work on tough problems



FOCUS

Everyone focuses on the work of the Sprint and the goals of the Scrum Team



COMMITMENT

People personally commit to achieving the goals of the Scrum Team



RESPECT

Scrum Team members respect each other to be capable, independent people

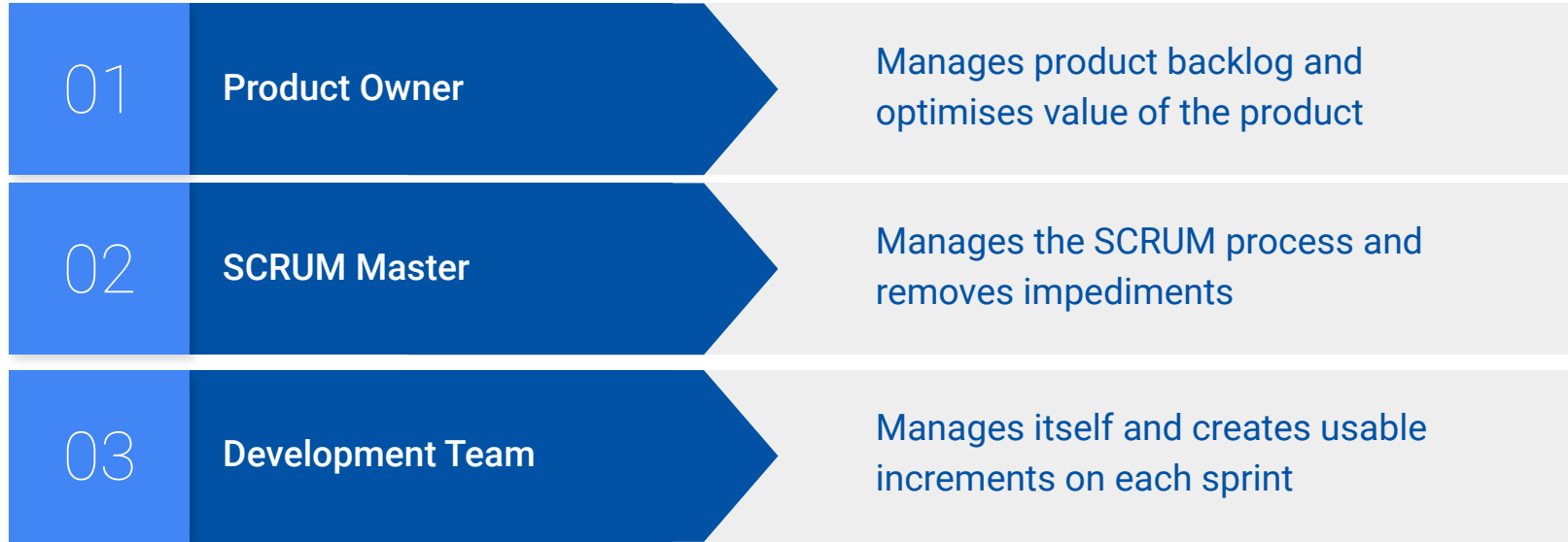


OPENNESS

The Scrum Team and its stakeholders agree to be open about all the work and the challenges with performing the work

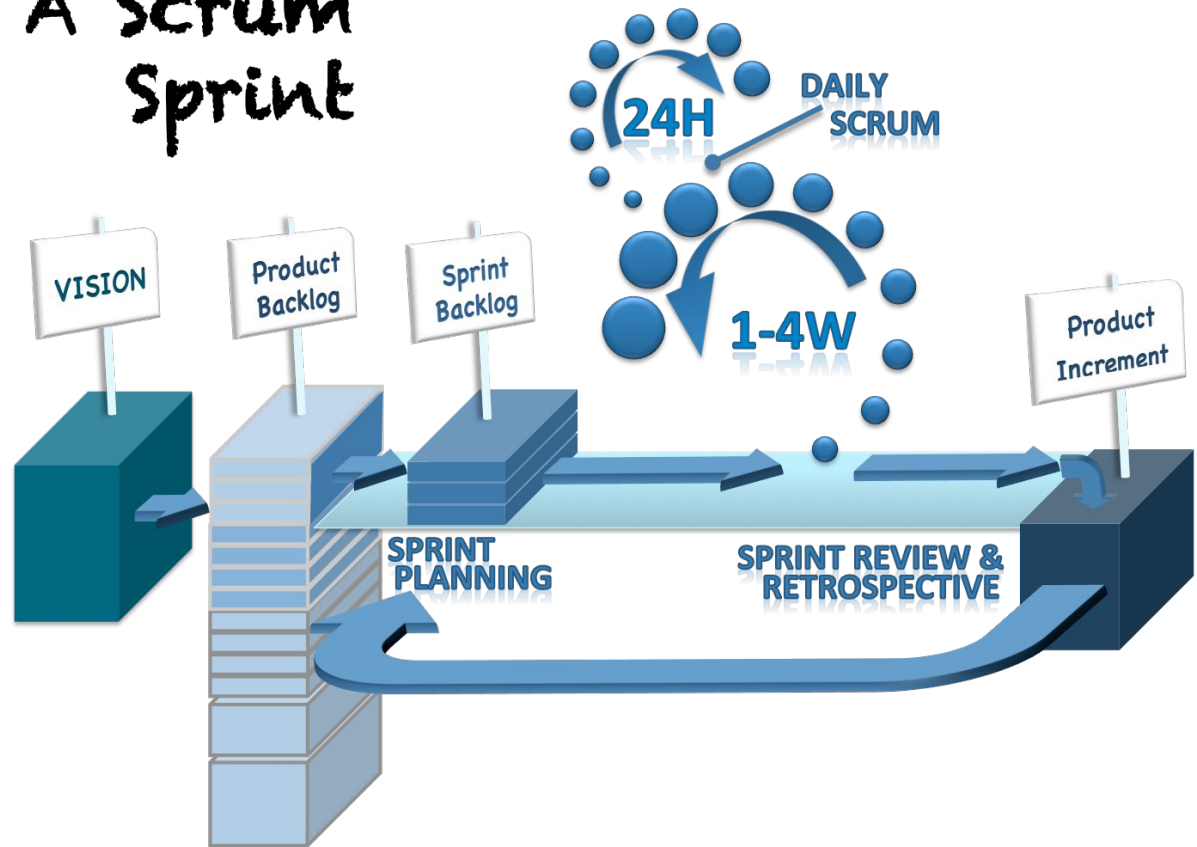
Credit: ABN AMRO Bank N.V.

SCRUM Team



SCRUM Sprint

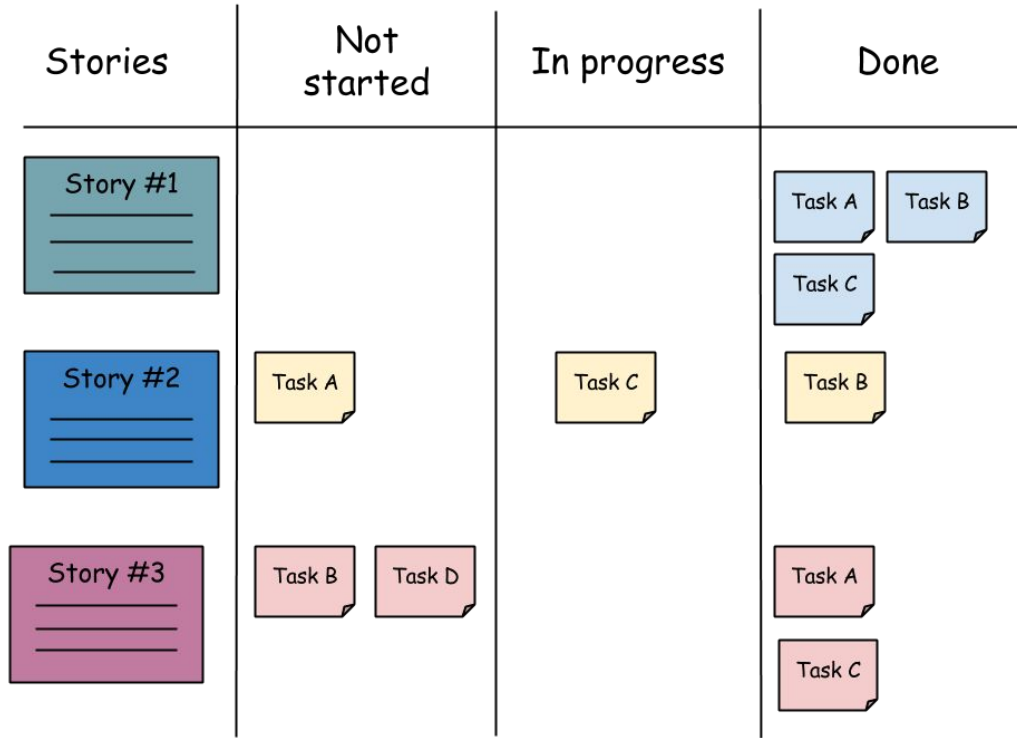
A Scrum Sprint



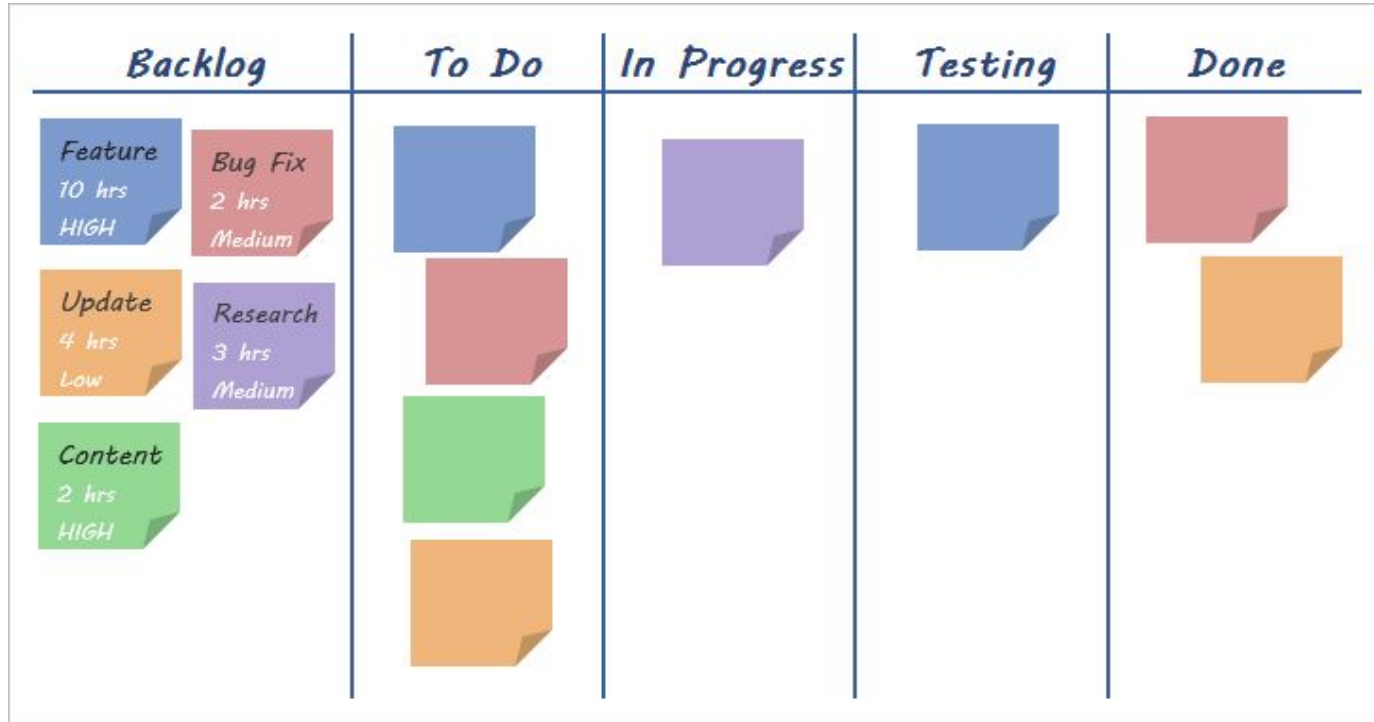
SCRUM Board Examples (Search in Google Images)



SCRUM Board Examples



SCRUM Board Examples



Introduction: Edric Gan

