

Popular SDLC/PDLC models in software industry

a) Water fall model b) V model c) Spiral m model d) Agile model (best)

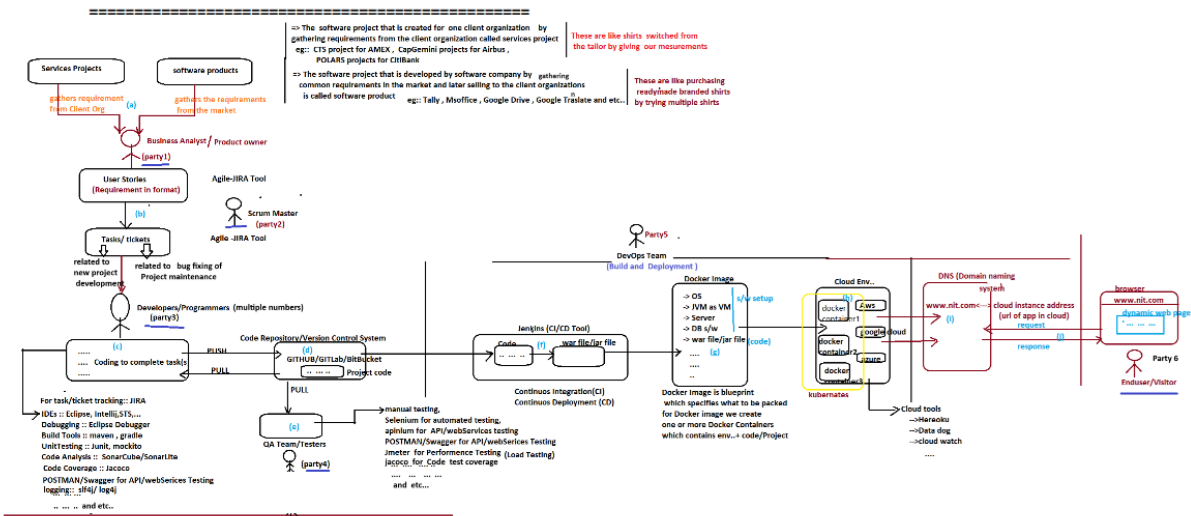
=> Agile SDLC is sprint(15-20 days) based model that allows phase by phase release of project to Client Organizations

=> Agile SDLC can be implemented in 3 popular ways/designs

- Scrum design (Best)
- Kanban
- XP

note:: Agile SDLC with DevOps/DevSecTools is the great combination to implement projects

The flow of tools utilization in Java Realtime Projects



- => The Business Analyst gathers requirements from client org or market and creates the User-stories using the support of Agile-JIRA tool
- => The Scrum master who leads the team creates the tasks/tickets based on the user-stories to assign to different team members/developers using Agile-JIRA tool
- => Programmer's testing on his own piece of code is called Unit Testing
- => Except unit testing, the remaining all testings will be done by QA Team/Testers
- => Cloud env.. offers Software, hardware and network infrastructure on rental for both software companies and client organizations

Parties Involved Realtime Project Flow

Party 1: Business Analyst
 Party 2: Scrum master
 Party 3: Developer
 Party 4: Test /QA person
 Party 5: DevOps Person
 Party 6: End user (visitor)

W.r.t diagram

- Business analyst gathers the requirements and prepares user-stories in english using JIRA tool
- Scrum Master creates the tickets/tasks from userstories to assign to different team members / developers using JIRA tool
- Developers use JIRA tool in the development code related to his task and also completes unit testing on it
- Developers will keep the code in Code Repository like GIT/GitHub
- Testers/QA Team collect the code from GIT hub will complete all kinds of testing
- Jenkins tool collects code from GIT hub and packs the code for every major change in the code
- Jenkins tool uses the Docker tool to create Docker container through Docker image having env.. code
- This code will be given Cloud env.. for deployment
 (set of Docker containers are managed by the Kubernetes with Load Balancing)
- DNS will map app's URL with domain name/website name
- Enduser send request and gets response from the App through DNS

note: Programmers testing on the code of the Project is called white box testing becoz he can see and modify the code while doing the testing

note: Tester testing on the code of the Project is called black box testing becoz he can not see and modify the code while doing the testing

note: Programmers testing is always on the task/unit of the code that he has developed

note: Tester testing is always on the Whole project

Sample user-story of Login Page in Agile-JIRA Format

✓ User Story 1: Basic Login Functionality

Title: As a user, I want to log in using my email and password so that I can access my account.

Acceptance Criteria:

User can enter email and password.

Login button is enabled only when fields are filled.

User is authenticated and redirected to the dashboard upon successful login.

Show error message for incorrect credentials.

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d) Agile model (best)

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b) Kanban

c) Xp

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The flow of tools utilization in Java Realtime Projects

Services Projects

gathers requirement

from Client Org

(a)

software products

gathers the requirements from the market

Business Analyst/Product owner (party1)

User Stories (Requirement in format)

Agile-JIRA Tool

=> The software project that is created for one client organization by gathering requirements from the client organization called services project eg:: CTS project for AMEX, CapGemini projects for Airbus,

POLARS projects for CitiBank

These are like shirts switched from

the tailor by giving our measurements

=> The software project that is developed by software company by gathering common requirements in the market and later selling to the client organizations is called software product

These are like purchasing readymade branded shirts

eg:: Tally, Msoffice, Google Drive, Google Traslate and etc.. by trying multiple shirts

(b)

Scrum Master (party2)

Tasks/tickets

Agile -JIRA Tool

related to

related to bug fixing of

new project

development

Project maintenance

Developers/Programmers (multiple numbers) (party3)

Code Repository/Version Control System (d)

GITHUB/GITLab/BitBucket

(c)

PUSH

Coding to complete task(s)

PULL

PULL

Project code

Code

Part Party5

.

DevOps Team (Build and Deployment)

Docker Image

DNS (Domain naming

Cloud Env..

system

-> OS

s/w setup

-> JVM as VM

-> Server

docker container1

Aws

(i)

www.nit.com<--- cloud instance address

browser

www.nit.com dynamic web page

Jenkins (CI/CD Tool)

-> DB s/w

google Cloud

(f)

war file/jar file

-> war file/jar file (code) (g)

docker container2 docker Toutainer3

izure

(url of app in cloud)

request

(i)

response

Ä

Party 6

Enduser/Visitor

Continuous Integration(CI)

For task/ticket tracking:: JIRA IDEs :: Eclipse, IntelliJ,STS,...

Debugging :: Eclipse Debugger

Build Tools:: maven, gradle

UnitTesting :: Junit, mockito

Code Analysis :: SonarCube/SonarLite

Code Coverage :: Jacoco

POSTMAN/Swagger for API/webServices Testing

logging:: slf4j/log4j

and etc..

(e)

QA Team/Testers

(party4)

Continuous Deployment (CD)

manual testing,

Selenium for automated testing,

apinium for API/webServices testing POSTMAN/Swagger for API/webServices Testing Jmeter for Performance Testing (Load Testing) jacoco for Code test coverage

....

and etc...

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Docker Image is blueprint

which specifies what to be packed for Docker image we create one or more Docker Containers which contains env..+code/Project

kubernetes

→Cloud tools

-->Hereoku

-->Data dog

-->cloud watch