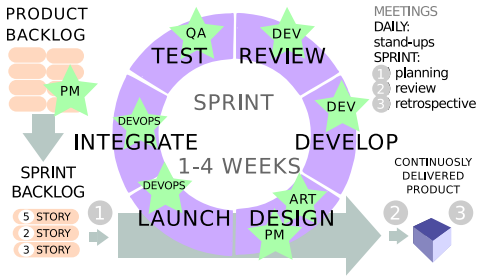
Scrum Sprint Diagram



Agile Terminology

Agile Most popular modern methodology to organize software dev

Story All work is broken down into "stories" which constitute discrete features to be added or defects to be fixed (depending on org, might be *ticket*, *task*, *issue*)

Story points Rough estimates of work involved to perform a task, intentionally left unit-less

Scrum Popular organizational method that focuses on planning cyclic *sprints* of effort, and *velocity* (team effectiveness) is measured based on total *story points* performed each sprint

Kanban board Story completion showed in columns

Kanban Popular organizational method to produce a continuous flow of effort, and *cycle time* is measured based on average time it takes to complete stories

Roles

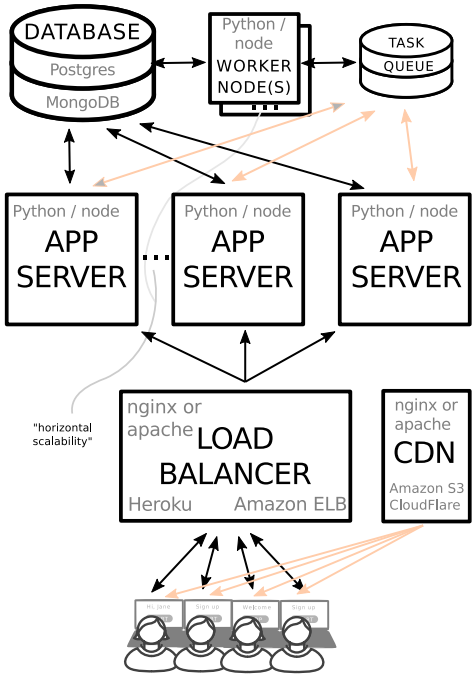
Product Management Role within an engineering team of converting business needs into user stories, doing product research, and producing concrete *stories* with specifications and wireframes

Developer Writes the code that implement a *story* about a new feature or bug fix

QA Engineer Inspect product for defects and regressions, and write tools to automate this process

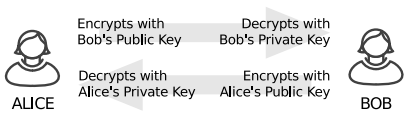
DevOps Sets up servers and DBs, and launches new code to production, automating the process to achieve *"continuous deployment"*

Server Topology



Encryption

Key pair A pair of *private* and *public* key files to used to securely connect a pair of computers online, used by `git`, `ssh`, and more



DevOps tools

Virtual machine Can simulate multiple computers on a single physical computer. Linux VMs can be bought at hosts such as Amazon Web Services or Digital Ocean.

SSH Remotely log into a Bash terminal of a Linux computer or VM

Docker Creates *containers* which isolate software and lock-down versions on a Linux system (e.g. anything `apt installed` on Ubuntu)

Puppet, Chef, Ansible, Salt etc Tools used by DevOps for running and configuring many servers

Automated tests

Unit testing Tests a single function or class in isolation – colloquially sometimes refers to all automated tests

Functional testing Tests that a component performs the function that supposed to do

End-to-end testing Simulates clicking through a browser to ensure the app is fully working from a user standpoint

Jest Cheatsheet

```
x = // result of operation

// Strict equality
expect(x).toBe(42)
expect(x).not.toBe(3)
// Deep equality
expect(x).toEqual([1, 2])
expect(x).toEqual({ b: 2 })

// Anything truthy (true, "test", 123)
expect(x).toBeTruthy()
// Anything falsy (false, 0, "")
expect(x).toBeFalsy()

// Numbers
expect(x).toBeGreaterThan(1)
expect(x).toBeGreaterThanOrEqual(1)
expect(x).toBeLessThan(2)
expect(x).toBeLessThanOrEqual(1)
expect(x).toBeCloseTo(0.3, 5)

// Strings (inclusion)
expect(x).toMatch("tea")
expect(x).not.toMatch("coffee")

// Arrays & Objects
expect(x).toHaveLength(3)
expect(x).toContain("Alice")
expect(a).toHaveProperty("a")
expect(a).toMatchObject({ a: 1 })
```

Nightmare Cheatsheet

```
nightmare
.goto("yahoo.com")
.type("[name=p]", "dog memes")
.click(".SearchButton")
.wait("#main")
.evaluate(() =>
    document.body.textContent)
.end()
.then(text => {
  // Do Jest tests now
  expect(text).toContain("doge");
  done(); // End Jest tests
});
```