

Aula 5 - Software para gerenciamento de projetos de tecnologia

Jayme Anchante

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Software para gerenciamento de projetos de
tecnologia

Tipos

- ▶ SaaS - Software as a Service
- ▶ Código aberto
- ▶ Bibliotecas e outros materiais

SaaS - Software as a Service

Softwares

- ▶ Atlassian (Jira, Trello)
- ▶ Monday
- ▶ Asana
- ▶ Pivotaltracker
- ▶ **E uma série de outros...**

Atlassian

É uma empresa australiana que desenvolve produtos para desenvolvimento de software, gerenciamento de projetos e gerenciamento de conteúdo

Ecosistema de produtos proprietários para todas as fases do ciclo do desenvolvimento de software: versionamento de código, documentação, projeto, help desk etc

Atlassian - Jira

Ferramenta de gerenciamento de desenvolvimento de software para times ágeis

Possui características na parte de planejamento, controle, rastreamento, lançamento

Atlassian - Jira - kanban

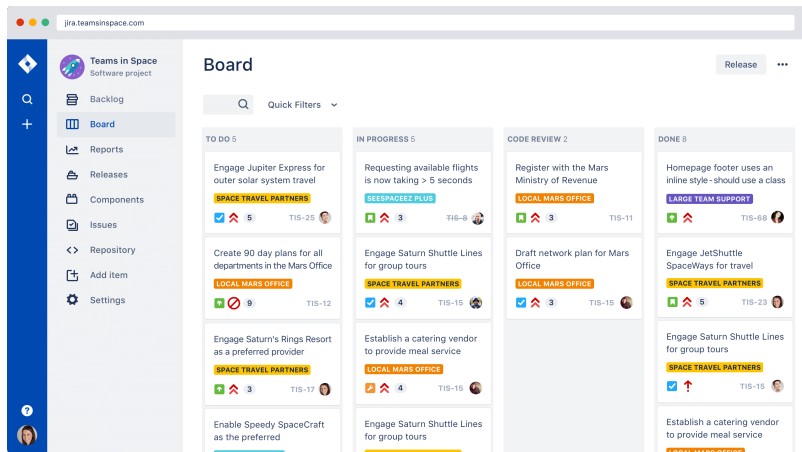


Figure 1: Quadro Kanban

Atlassian - Jira - lançamentos

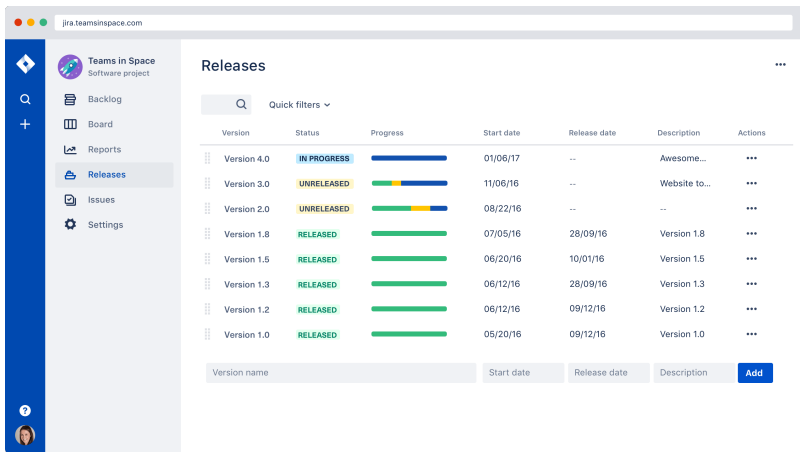


Figure 2: Lançamentos

Atlassian - Jira - tags e fluxos

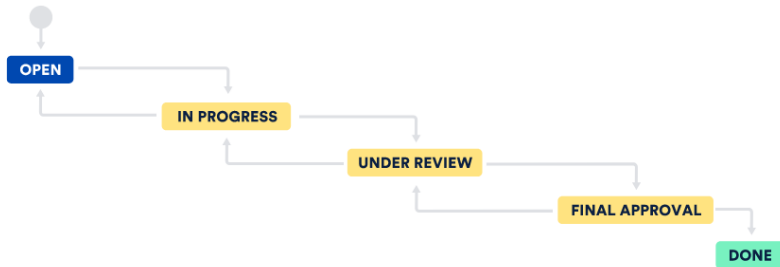










Figure 3: Tags, fluxos e processos

Atlassian - Jira - ecosistema




PLAN, TRACK, & SUPPORT

-  **Jira Software**
Project and issue tracking
-  **Jira Align**
Enterprise agile planning
-  **Jira Core**
Essential business management
-  **Jira Service Desk**
Collaborative IT service management
-  **Opsgenie**
Modern incident management
-  **Statuspage**
Incident communication



COLLABORATE

-  **Confluence**
Document collaboration
-  **Trello**
Collaborate visually on any project

CODE, BUILD, & SHIP

-  **Bitbucket**
Git code management
-  **Sourcetree**
Git and Mercurial desktop client
-  **Bamboo**
Integration and release management

SECURITY & IDENTITY

-  **Atlassian Access**
Security and control for cloud
-  **Crowd**
User management for self-managed environments

Marketplace

Apps that enhance Atlassian products

Developers

Docs and resources to build Atlassian apps

Work Life Blog

Stories on culture, tech, teams, and tips

Trust & Security

Compliance, privacy, platform roadmap, and more

Figure 4: Ecosistema Atlassian

Atlassian - BitBucket

Versionamento de código via git, colaboração em código, testes e implantação

The screenshot displays the BitBucket Pipelines interface for a repository named 'Alpha-team-app'. The left sidebar contains navigation links: Source, Commits, Branches, Pull requests, Pipelines (selected), Deployments, Downloads, Boards, and Settings. The main area shows 'Pipeline #14' with a 'Successful' status and a 'Rerun' button. It indicates the pipeline was pushed by 'Jonathon Lowe' and took '26 sec • 20 hours ago'. Below this, a list of pipeline steps is shown: 'build' (6s), 'test' (6s), 'Deploy to staging' (6s), and 'Deploy to production' (6s). The 'Deploy to staging' step is currently selected. To the right, the 'Logs' panel for the 'Build' step is visible, showing the execution of 'npm test'. The logs indicate that most tests passed, but one test, 'two high priority ops', failed. The failure message states: 'expect(received).toBe(expected)' with 'Expected value to be (using ===): 5.75' and 'Received: 4.25'. The logs also show the duration of various tests, such as 'single addition (4ms)', 'multiple addition (1ms)', and 'two high priority ops (3ms)'. At the bottom of the logs, a summary shows 'Test Suites: 1 failed, 1 total' and 'Tests: 1 failed, 9 passed, 10 total'.

Alpha-team-app

Jonathon Lowe / alpha-team-app / Pipelines

Pipeline #14

Successful Rerun

26 sec • 20 hours ago

Push by Jonathon Lowe

Commit: #deecb

Pipeline: View configuration

- build 6s
- test 6s
- Deploy to staging 6s
- Deploy to production 6s

Logs

Build + Add a service or database

```
npm test
npm info it worked if it ends with ok
npm info using npm@3.10.10
npm info using node@v6.9.4
npm info lifecycle @atlassian/calculator@1.0.0-0-pretest: @atlassian/calculator
npm info lifecycle @atlassian/calculator@1.0.0-0-test: @atlassian/calculator

> @atlassian/calculator@1.0.0 test /opt/atlassian/pipelines/agent/build
> jest

FAIL ./calculator.test.js
  ✖ two high priority ops

    expect(received).toBe(expected)

    Expected value to be (using ===):
      5.75
    Received:
      4.25

      at Object.<anonymous>.test (calculator.test.js:10:38)
      at Promise.resolve.then.el (node_modules/p-map/index.js:46:16)
      at process._tickCallback (internal/process/next_tick.js:183:7)

✓ single addition (4ms)
✓ multiple addition (1ms)
✓ dangling addition (1ms)
✓ subtraction
✓ addition and subtraction (1ms)
✓ multiplication
✓ division (1ms)
✓ order of operations (1ms)
✓ multiple order of operations (1ms)
✖ two high priority ops (3ms)

Test Suites: 1 failed, 1 total
Tests: 1 failed, 9 passed, 10 total
Snapshots: 0 total
Time: 0.652s
```

Figure 5: Versionamento, pipeline CI/CD

Atlassian - Confluence

Ferramenta para conhecimento, documentação, colaboração, organização

AWS architecture diagram template

BY LUCIDCHART

Visualize your AWS network with this guide from Lucidchart

Use template

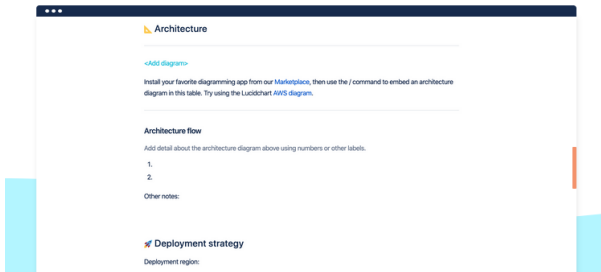


Figure 6: Documentação

Atlassian - Trello

Ferramenta web que cria listas em estilo Kanban, foi adquirida pela Atlassian em 2017 por US\$ 425 milhões

Possui aplicativos móveis, automações (gatilhos customizáveis, calendário, data de entrega), integrações (com mensagerias, aplicativos de notas, arquivos em nuvem)

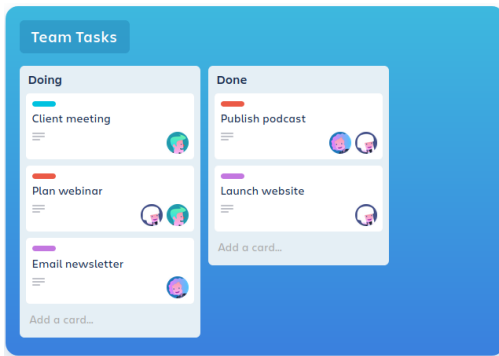


Figure 7: Quadro de Kanban




Monday

Software para equipes rodarem processos, projetos e trabalhos cotidianos




Possui casos de uso para trabalho remoto, gestão de projetos, marketing, rh, vendas, desenvolvimento de software e outros

Sprint planning

Iteration 94


Advanced filter bugs		Cheese
collapse discoverability		Bug
Tech plan		Prep

Iteration 95


XSS Files		Increment
Dropdown issues for specific user		Bug
Fix parent D&D visual		Cheese


×


Advanced filter bugs

 Ofir Monsigo


@Aviram Gabay can you see what's wrong with the advanced filter, and let me know when it's fixed?


 Like


 Reply

 Aviram Gabay


Sure. I'll start looking into it now.


 Like

 Reply

 Galit Avior

Thanks @Aviram Gabay! Our customers will be so happy!

 Like

 Reply

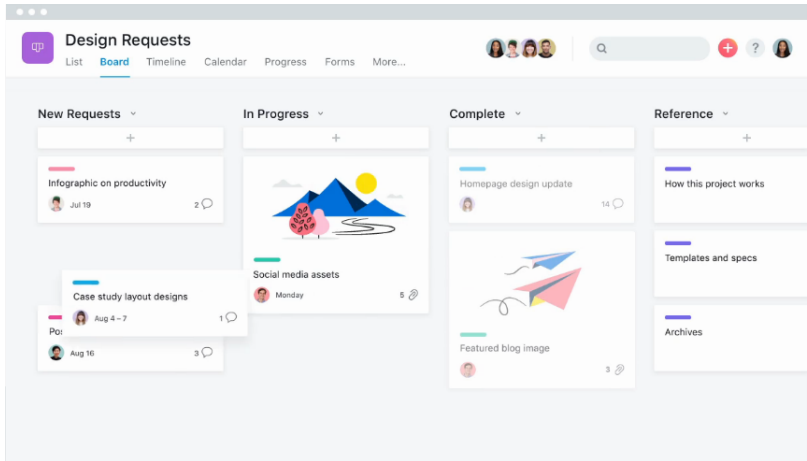


Figure 9: Asana

Pivotaltracker

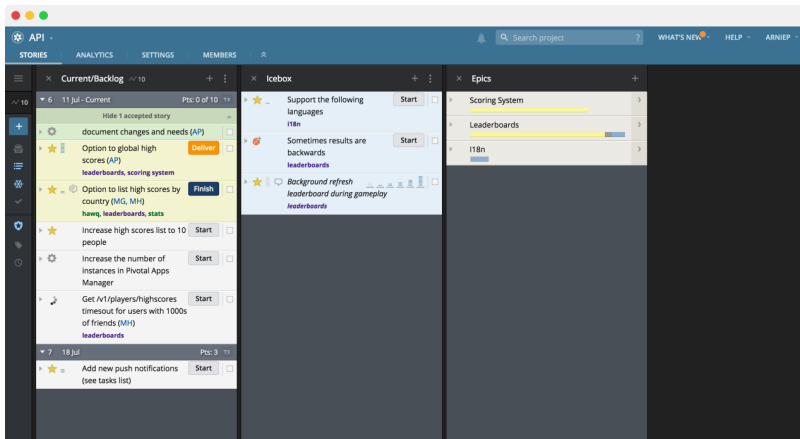


Figure 10: Pivotaltracker

Código aberto

Git

Sistema de versionamento de código distribuído para rastrear mudanças no código fonte durante o desenvolvimento de software

Muito utilizado para coordenar o trabalho de programadores, mas pode ser utilizado para qualquer propósito desde que sejam rastreadas mudanças em arquivos: hoje existem programas para designers (como o programa Abstract, o plugin Plant para Sketch), para arquitetos (para versionar arquivos CAD) e outros

Git - história

Linus Torvalds havia criado o kernel do Linux nos anos 1990

Todas as discussões, lançamentos, melhorias de código, revisão de código, dúvidas eram feitas através de listas de emails

Em 2002, o código foi colocado em um sistema proprietário de versionamento de código chamado BitKeeper. Ao longo do tempo, a empresa começou a cobrar pelo uso do sistema, e também foi aumentando o tempo de processamento das mudanças do versionamento

Git - características

- ▶ Suporte ao desenvolvimento não linear
- ▶ Sistema distribuído: cada cópia local do código contém todo histórico de desenvolvimento
- ▶ Compatibilidade com outros sistemas: interações podem ser feitas via HTTP (“hypertext transfer protocol”), FTP (“file transfer protocol”) ou SSH (“secure shell”)
- ▶ Eficiência: rápido e escalável (funciona tão bem em pequenos quanto em grandes projetos)

Git - estruturas e nomenclaturas

- ▶ **Árvore:** equivalente a um diretório, é uma lista de arquivos com uma referência a um objeto
- ▶ **Commit:** objeto que une objetos da árvore em um histórico de mudanças
- ▶ **Heads:** refere-se a objetos locais (na máquina do desenvolvedor)
- ▶ **Remotes:** refere-se a objetos remotos (em uma máquina externa, um servidor)
- ▶ **Stash:** objetos que ainda não foram “commitados”

Git - imagem

```
$ git init
Initialized empty Git repository in /tmp/tmp.IMBYSY7R8Y/.git/
$ cat > README << 'EOF'
> Git is a distributed revision control system.
> EOF
$ git add README
$ git commit
[master (root-commit) e4dcc69] You can edit locally and push
to any remote.
 1 file changed, 1 insertion(+)
 create mode 100644 README
$ git remote add origin git@github.com:cdown/thats.git
$ git push -u origin master
```

Figure 11: Git flow

GitLab is a complete DevOps platform

With GitLab, you get a complete CI/CD toolchain in a single application. One interface. One conversation. One permission model. Thousands of features. You'll be amazed at everything GitLab can do today. And we're just getting started.



Manage



Plan



Create



Verify



Package



Secure



Release



Configure



Monitor



Defend

Figure 12: Posicionamento do GitLab

GitLab - casos de uso



GitLab Professional Services

Accelerate your software lifecycle with help from GitLab experts

Popular GitLab use cases

Remote Work

Continuous Integration (CI/CD)

Source Code Management (SCM)

Out-of-the-box Pipelines (Auto DevOps)

Security (DevSecOps)

Agile Development

Value Stream Management

Figure 13: Casos de uso

GitLab - características

Free

**Develop with a team of
any size**

\$0

/user/month

[Start now](#)

Includes

Run your continuous integration (CI) pipelines for up to 2,000 minutes (~190 CI builds).

Unlimited private and public repositories.

Unlimited collaborators in public and private repositories.


Organize your issues into Scrum or Kanban boards.

Figure 14: Planos

GitLab - hospedagem

×


GitLab SaaS
(We host)



No technical setup required.
If you don't want to worry about downloading and installing GitLab yourself.

Sign-up for free

GitLab Self-Managed
(You host)



Requires Linux Experience.
Download and install GitLab on your own infrastructure or in our public cloud environment.

Install GitLab for free

Figure 15: Opções de hospedagem

Alternativas ao Jira - “Jira Clone”

Jira Clone é uma versão simplificada do Jira escrita em JavaScript (Node, React, TypeScript etc.) escrita por uma única pessoa no seu tempo livre para ter um produto para seu portfólio

The screenshot displays the Jira Clone web application interface. The top navigation bar shows the project name 'singularity 1.0' and the board type 'Kanban Board'. The main content area is titled 'Kanban board' and includes a search bar and filters for 'Only My Issues' and 'Recently Updated'. A modal window is open for creating a new task, titled 'TASK-25'. The modal contains a description of tasks, a list of issue types (Bug, Story, Task), and a form for assigning the task to 'Pickle Rick' and 'Baby Yoda', with a priority of 'High' and an original estimate of 8 hours. The task is created at 11 minutes ago.

Task-25

This is an issue of type: Task.

Description
Your teams can collaborate in Jira applications by breaking down pieces of work into issues. Issues can represent tasks, software bugs, feature requests or any other type of project work.

Jira Software (software projects) issue types:

- Bug** 🐛
A bug is a problem which impairs or prevents the functions of a product.
- Story** 📖
A user story is the smallest unit of work that needs to be done.
- Task** 📦
A task represents work that needs to be done.

ASSIGNEES
Pickle Rick X + Add more

REPORTER
Baby Yoda

PRIORITY
↑ High

ORIGINAL ESTIMATE (HOURS)
8

TIME TRACKING
🕒 4h logged 8h estimated

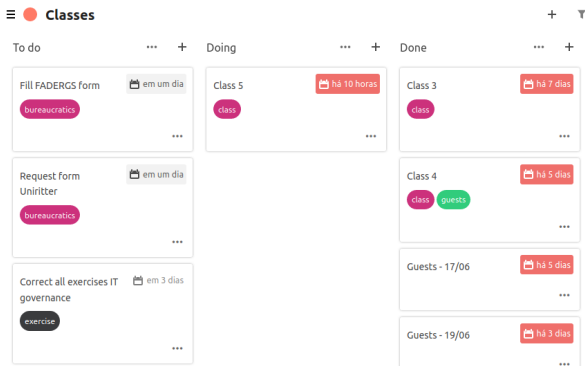
Created at 11 minutes ago

Nextcloud

Plataforma de produtividade para hospedagem própria

Possui serviços email, calendário, contatos, hospedagem de arquivos, ferramenta de busca na web, chat com áudio/vídeo

O aplicativo Deck é uma ferramenta estilo Kanban para organização de projetos com integração com as outras ferramentas da nuvem do Nextcloud



Bibliotecas e outros materiais

Pacote R para Six Sigma

SixSigma: é um pacote para ferramentas de controle de qualidade e melhorias Six Sigma

Demonstrações retiradas do tutorial **Six Sigma DMAIC Series in R**

SigSigma - mapa do processo

```
library("SixSigma")
inputs <- c("Ingredients", "Cook", "Oven")
outputs <- c("temperature", "taste", "tenderness")
steps <- c("DOUGH", "TOPPINGS", "BAKE", "DELIVER")

io <- list()
io[[1]] <- list("X's")
io[[2]] <- list("Dough", "ingredients", "Cooker")
io[[3]] <- list("Raw Pizza", "Cooker", "Oven Plate")
io[[4]] <- list("Baked Pizza", "Plate")
# ...
ss.pMap(steps, inputs, outputs,
        io, param, feat, sub = "Pizza Process")
```


SigSigma - mapa do processo

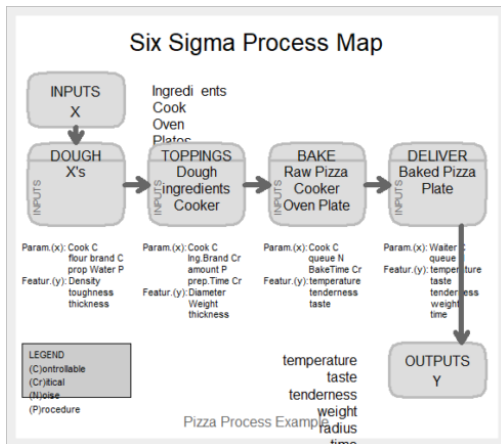
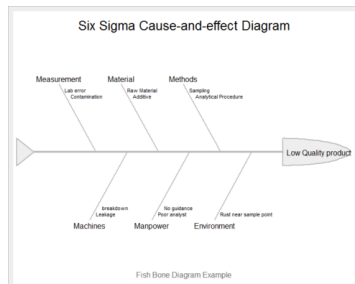


Figure 18: Mapa do processo

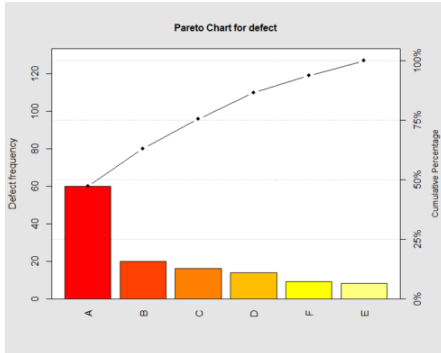
SigSigma - gráfico Ishikawa

```
library("SixSigma")
effect <- "Low Quality product"
causes.gr <- c("Measurement", "Material", "Methods")
causes <- vector(mode="list", length=length(causes.gr))
causes[1] <- list(c("Lab error", "Contamination"))
causes[2] <- list(c("Raw Material", "Additive"))
causes[3] <- list(c("Sampling", "Analytical Procedure"))
ss.ceDiag(effect, causes.gr, causes,
  sub = "Fish Bone Diagram Example")
```



SixSigma - gráfico de Pareto

```
library(qcc)
defect <- c(60,20,16,14,8,9)
names(defect) <- c("A", "B", "C", "D", "E", "F")
pareto.chart(
  defect,
  ylab = "Defect frequency",
  col=heat.colors(length(defect)))
```



SixSigma - controle de produção

```
library(qcc)  
library(SixSigma)  
with(  
  ss.data.pb3,  
  plot(qcc(stockouts, orders, type = "p")))
```

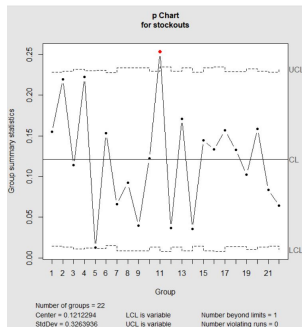


Figure 21: Controle de produção

Controle Estatístico de Qualidade

Cadeira do Departamento de Estatística da UFPR que mostra a abordagem estatística sobre controle de qualidade

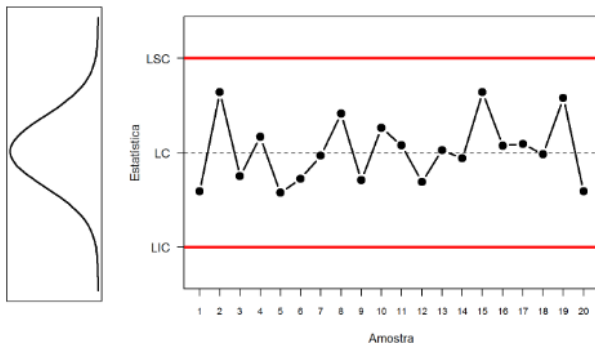


Figure 22: Ilustração de um gráfico de controle