DevOps 101 WorkShop

Deployment Simplified…

OSW
OPEN SOURCE WEEKEND

Cloud Captain

ज्ञानेन प्रकाशते जगत्
INDUS UNIVERSITY

Mehul Patel,
@nomadicmehul

About me:

- Open Source Software Consultant
- Mozilla Reps Mentor
- Mozilla Reps Council
- Auth0 Ambassador
- EMS @Auth0 by Okta
- AWS Community Builder - Container
- GDG Nashik - Organizer
- AWS & GCP - Cloud Solution Architect
- Podcast Host @TACOS (Talk About Community & Open Source)

Aim of the Game

Get up to Speed

Give Directions

Cover Fundamentals

Less Than 120 mins

Agenda

- Git
- What is Docker ?
- What is Terraform
- What is Google Cloud Platform?
- Demo
- Q&A

Understanding Version Control

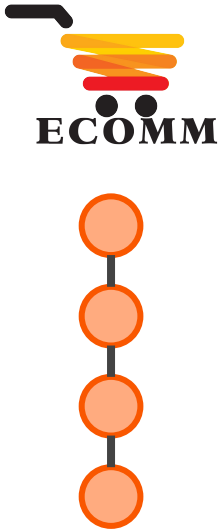
Tracking project’s History

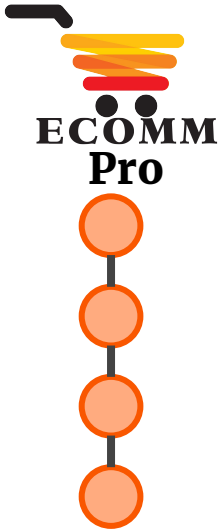
Disclaimer: version control isn’t a backup

Managing Multiple version of a Project

The Ecomm App

The Ecomm App





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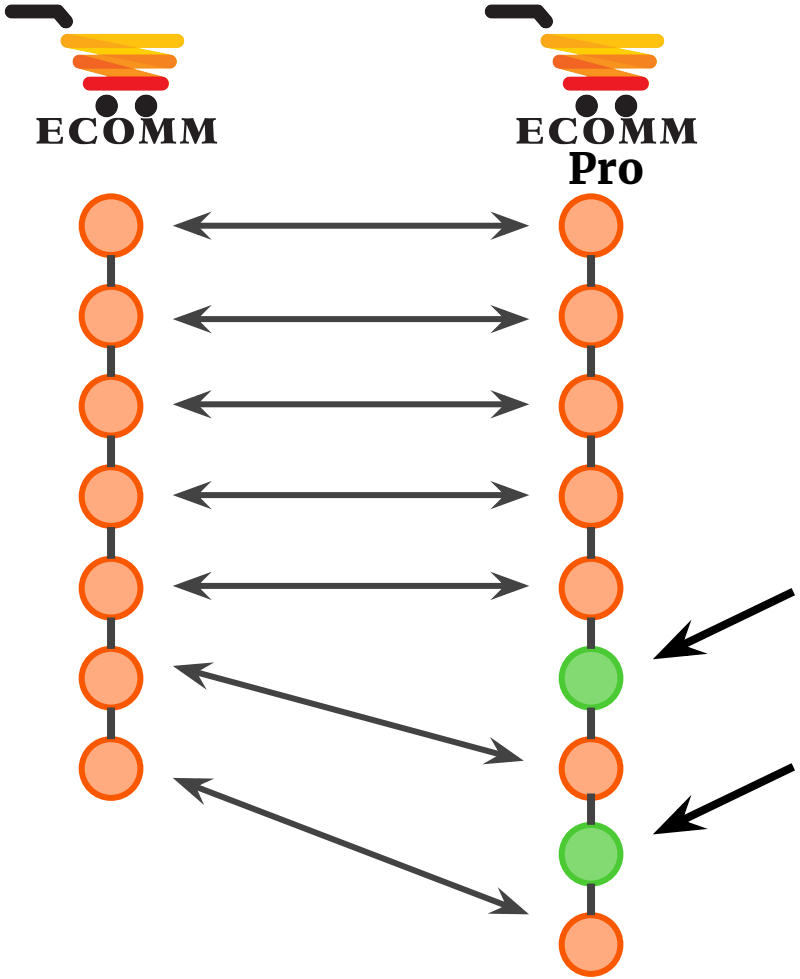
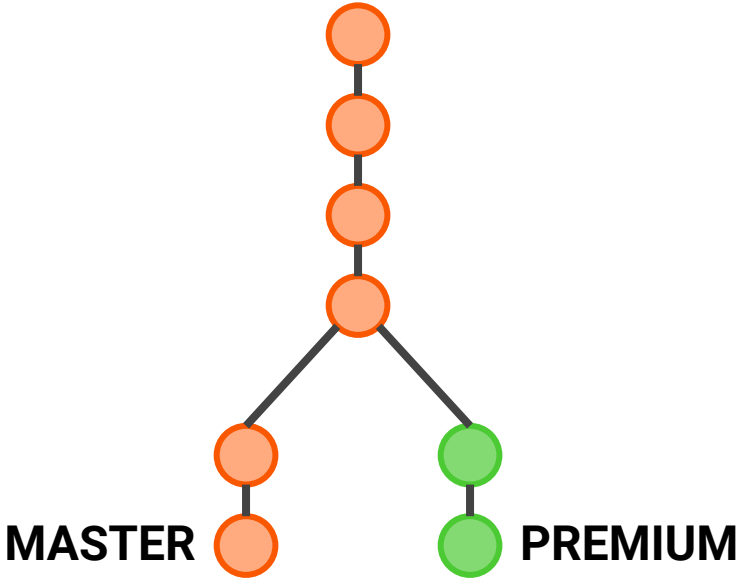


Branching


```
git branch premium
```

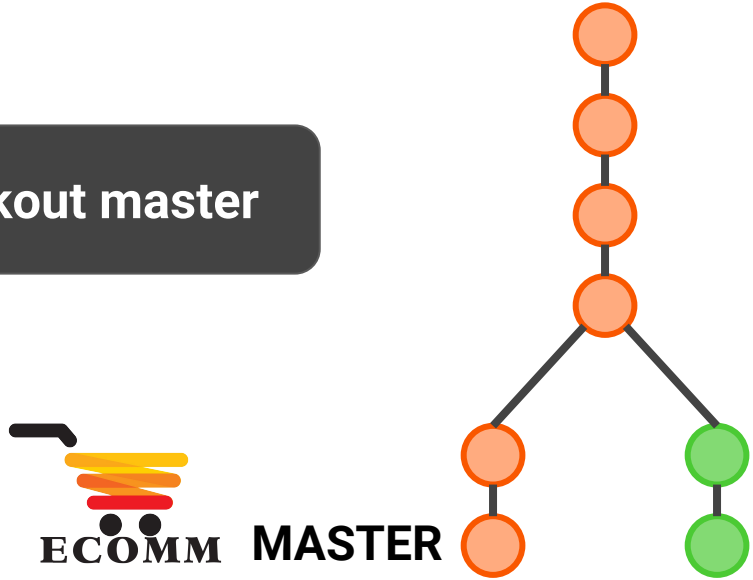
Branching

ECOMM



Branching

git checkout master

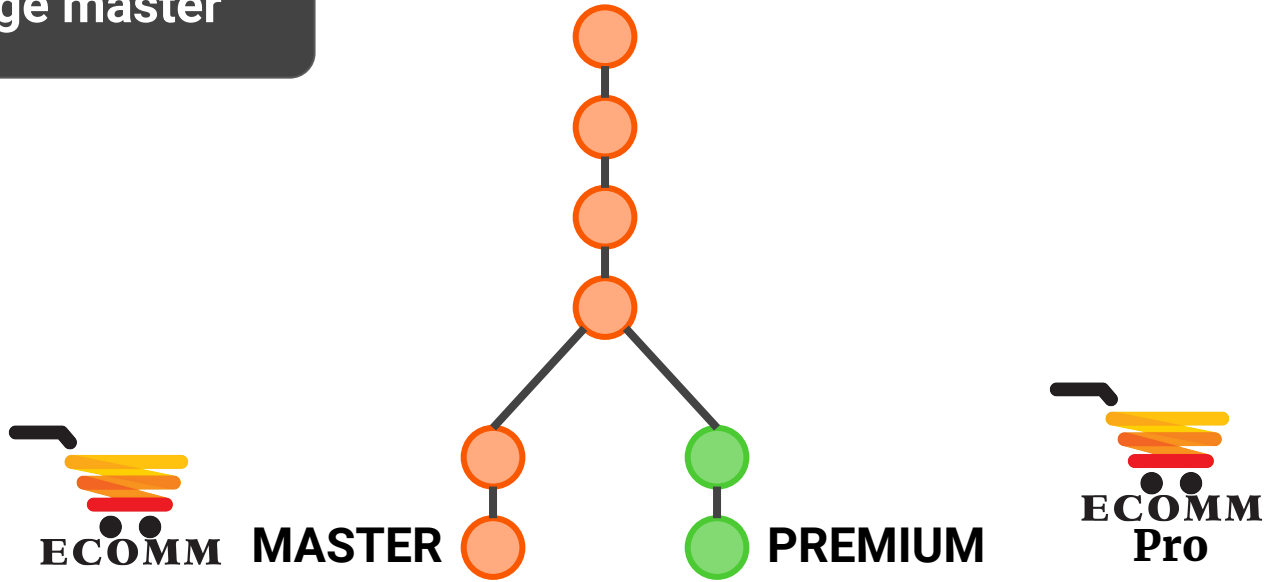


git checkout premium

ECOMM Pro

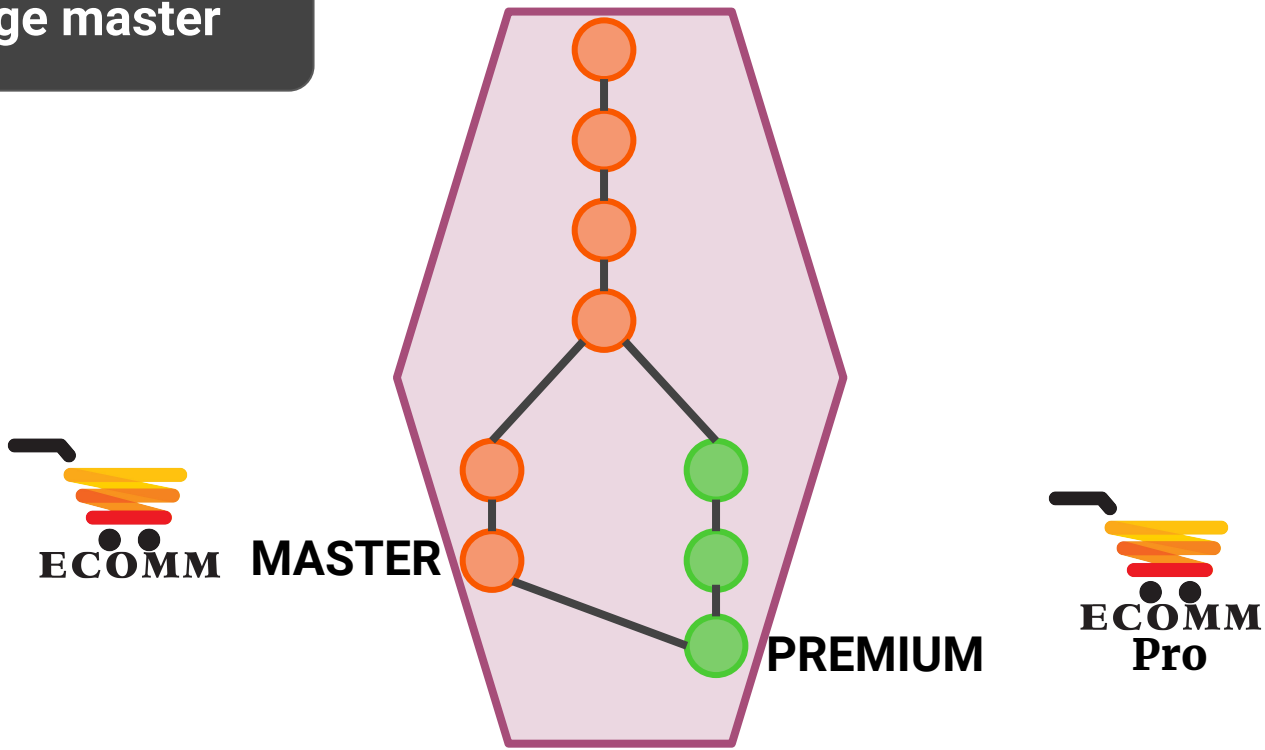
Merging

```
git merge master
```



Merging

git merge master



Merging

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git merge master
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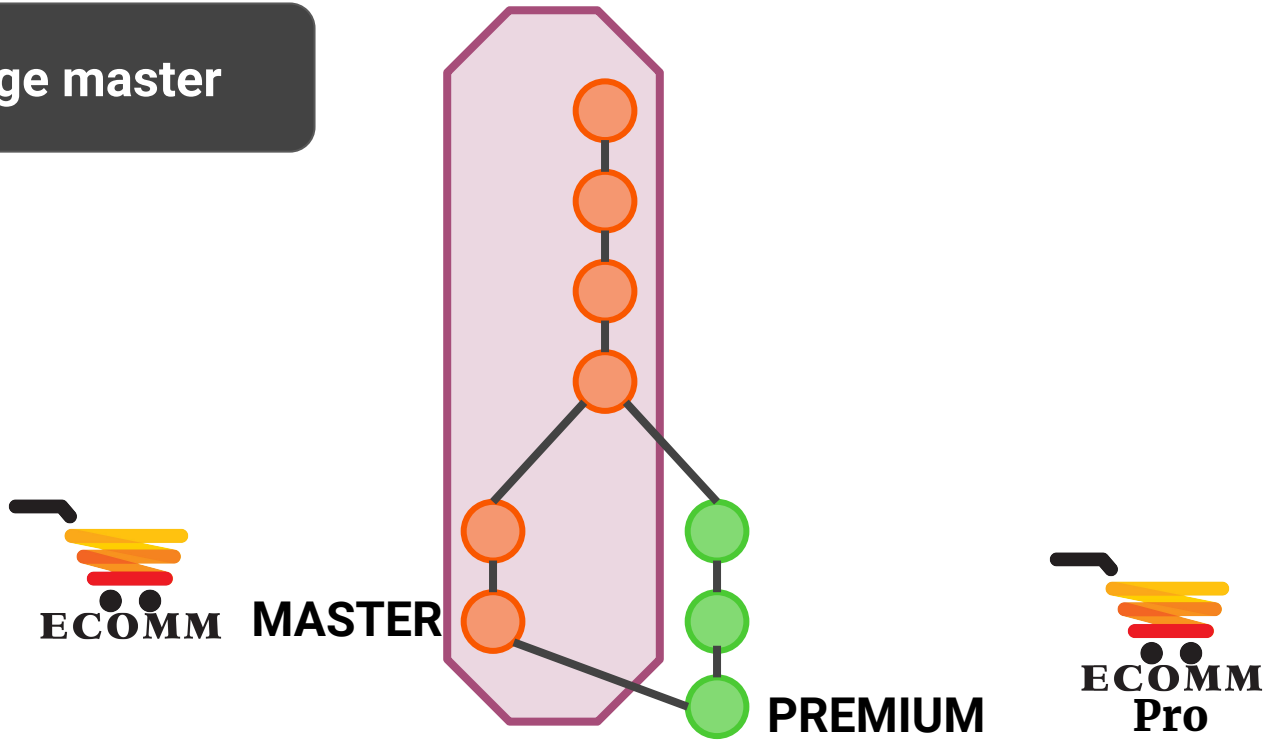
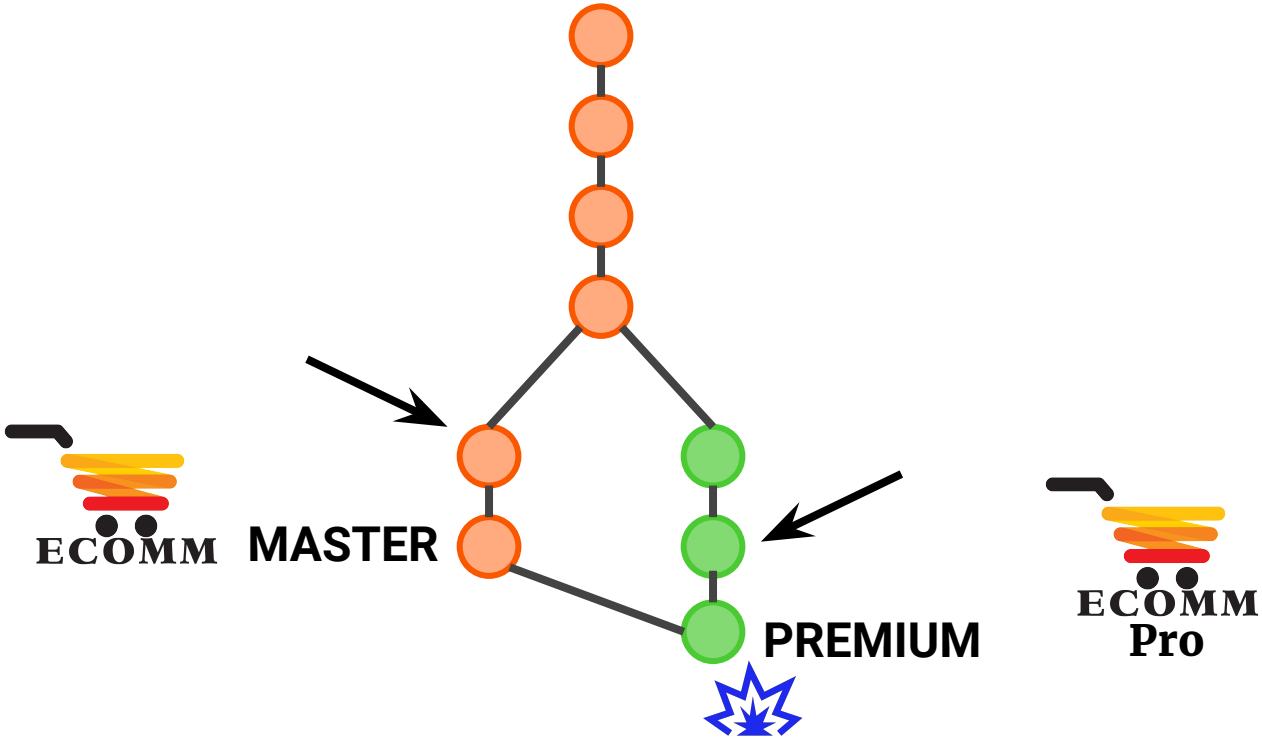


Merging

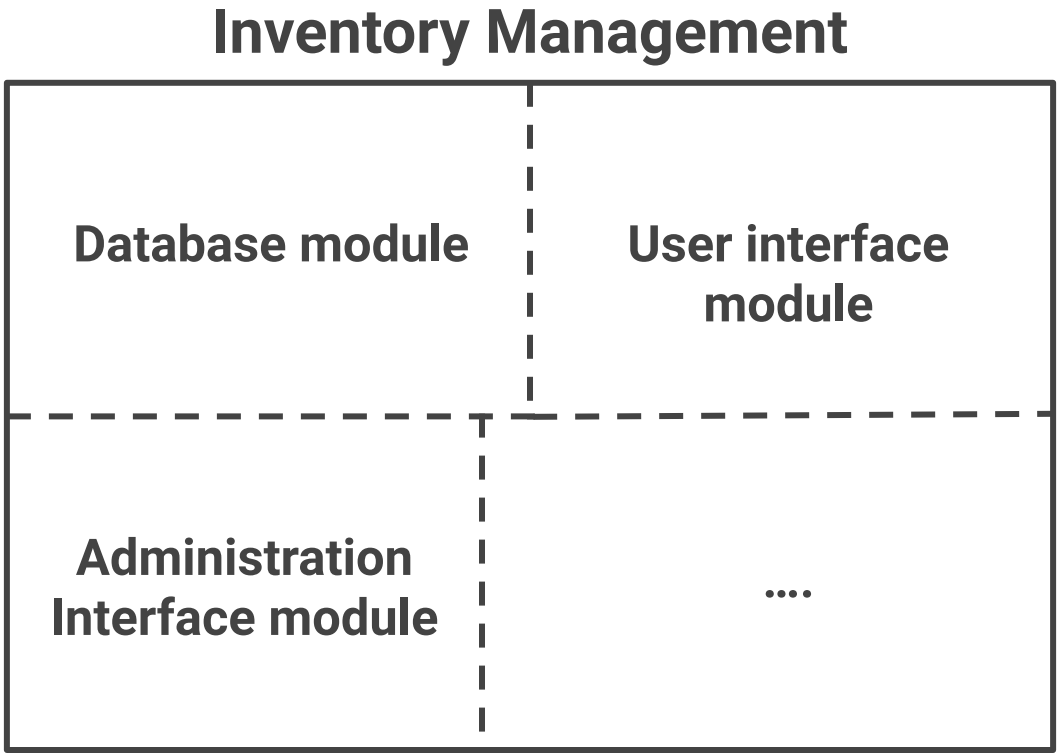


Version Control Is Useful To..

...manage multiple version of a project

Sharing Code Amongst Developers

A project without Version Control



A project without Version Control

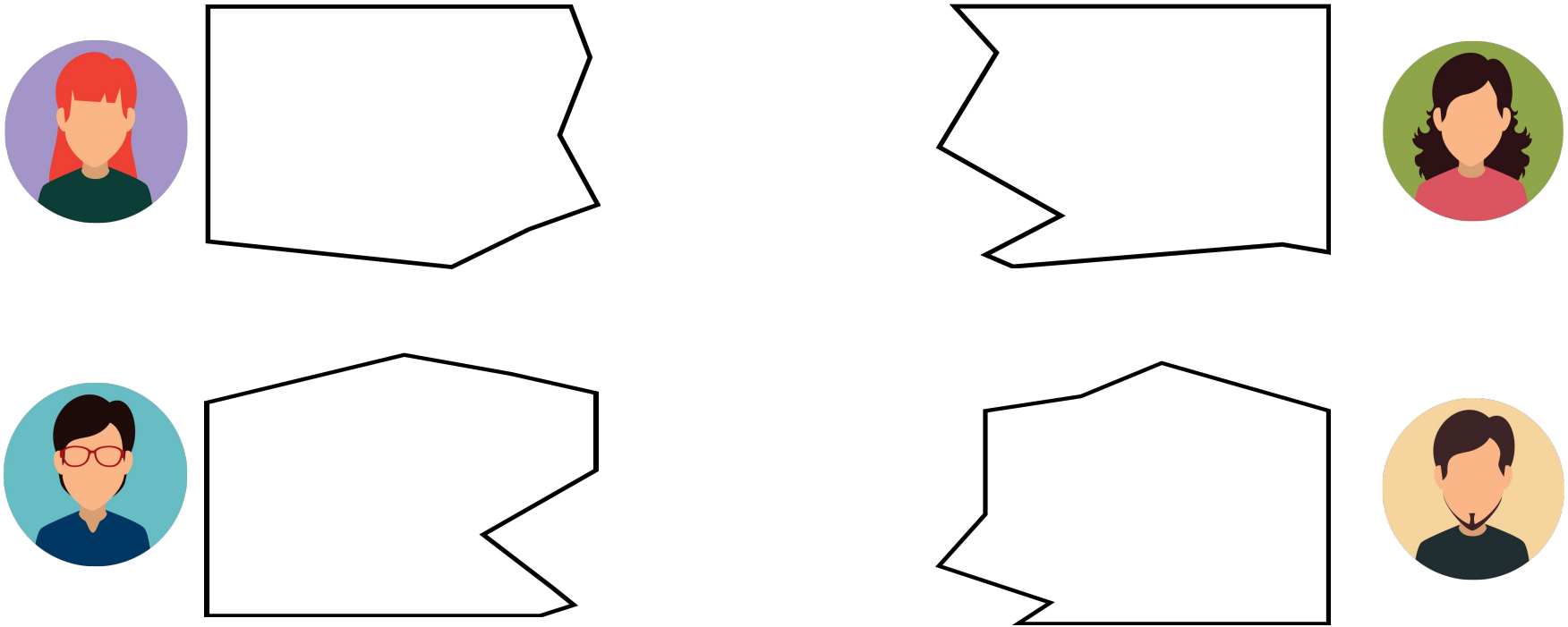
Database module

User interface module

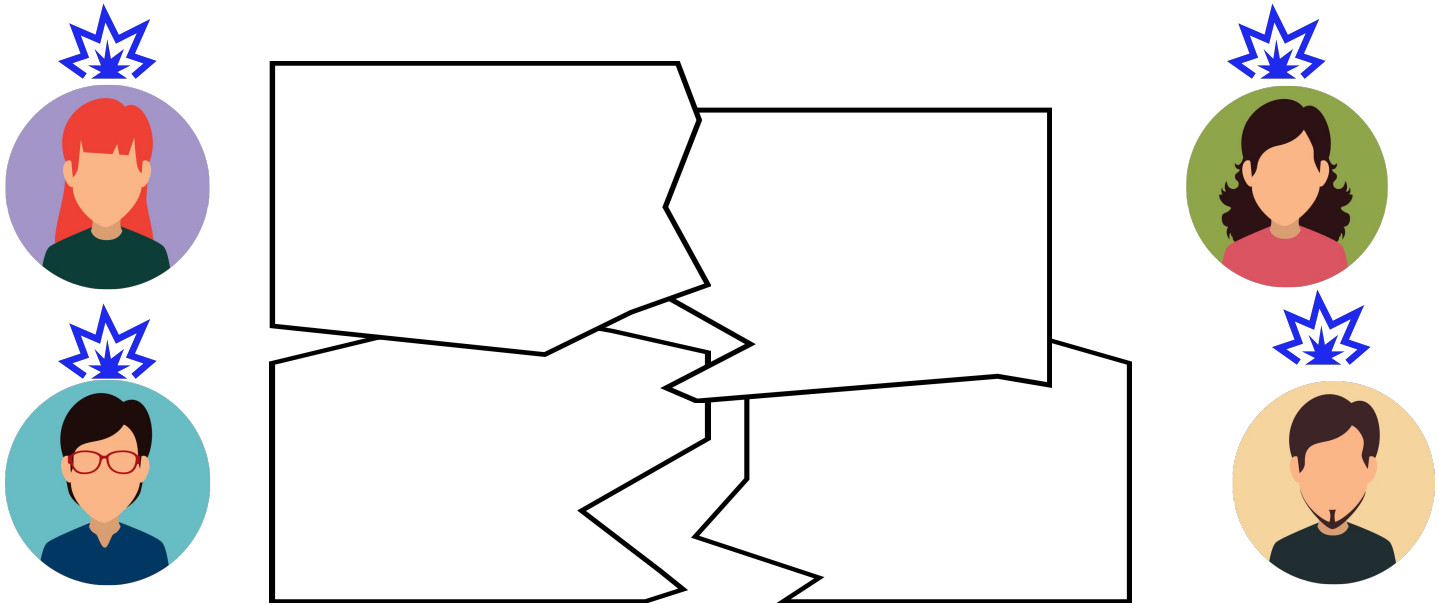
Administration Interface module

....

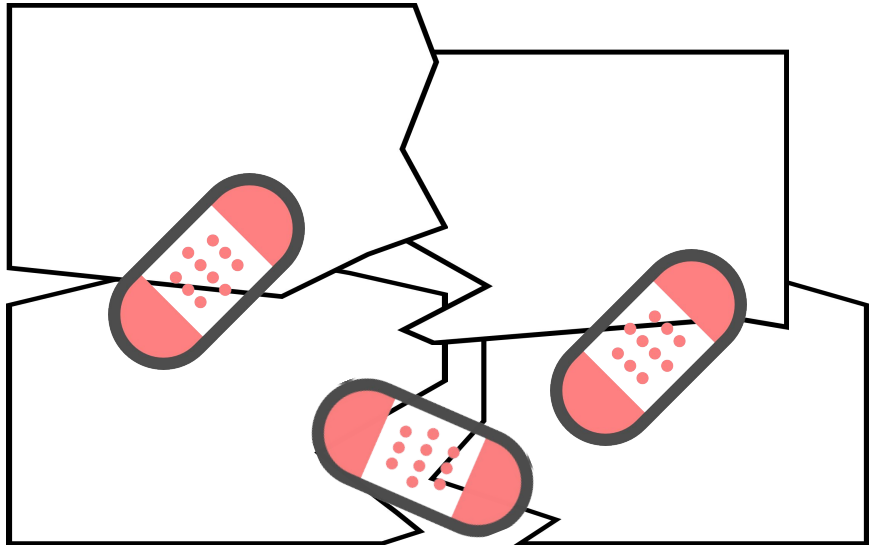
A project without Version Control



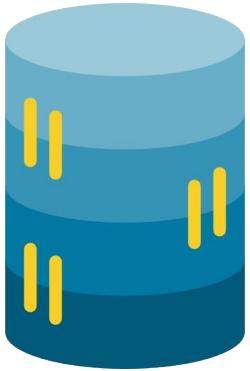
The Integration Phase



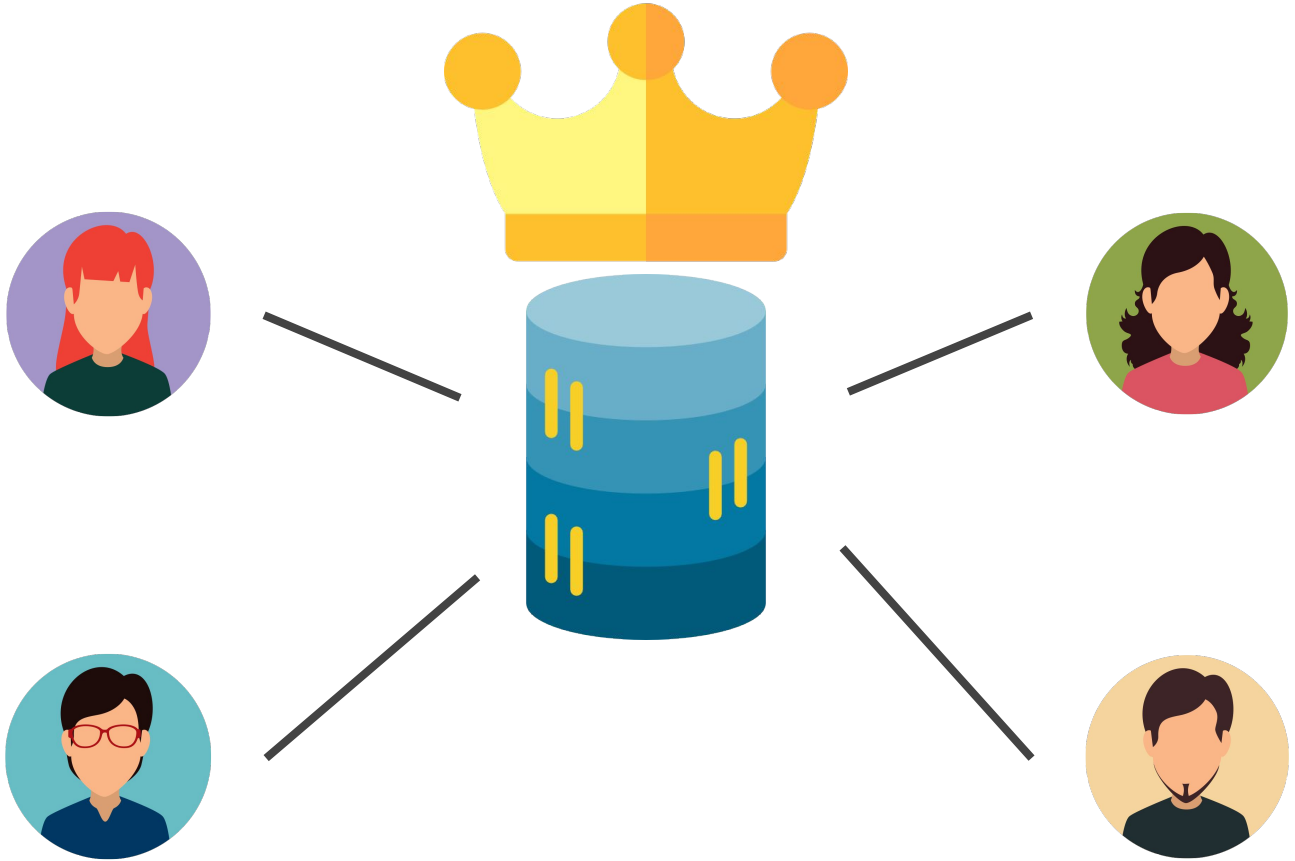
The Integration Phase



A project with Version Control

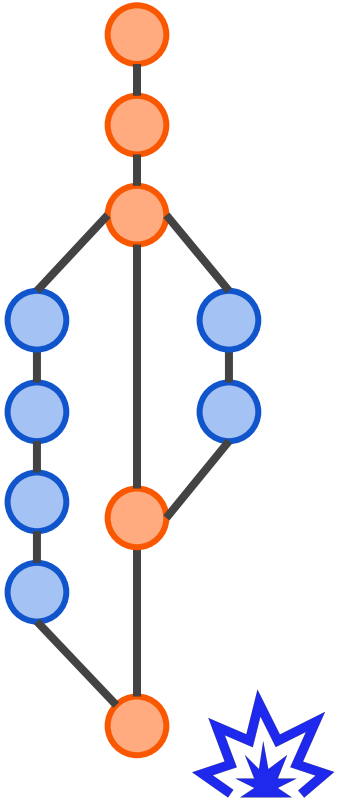


A project with Version Control



A project with Version Control

Jenny



John

"If it hurts, do it more often."

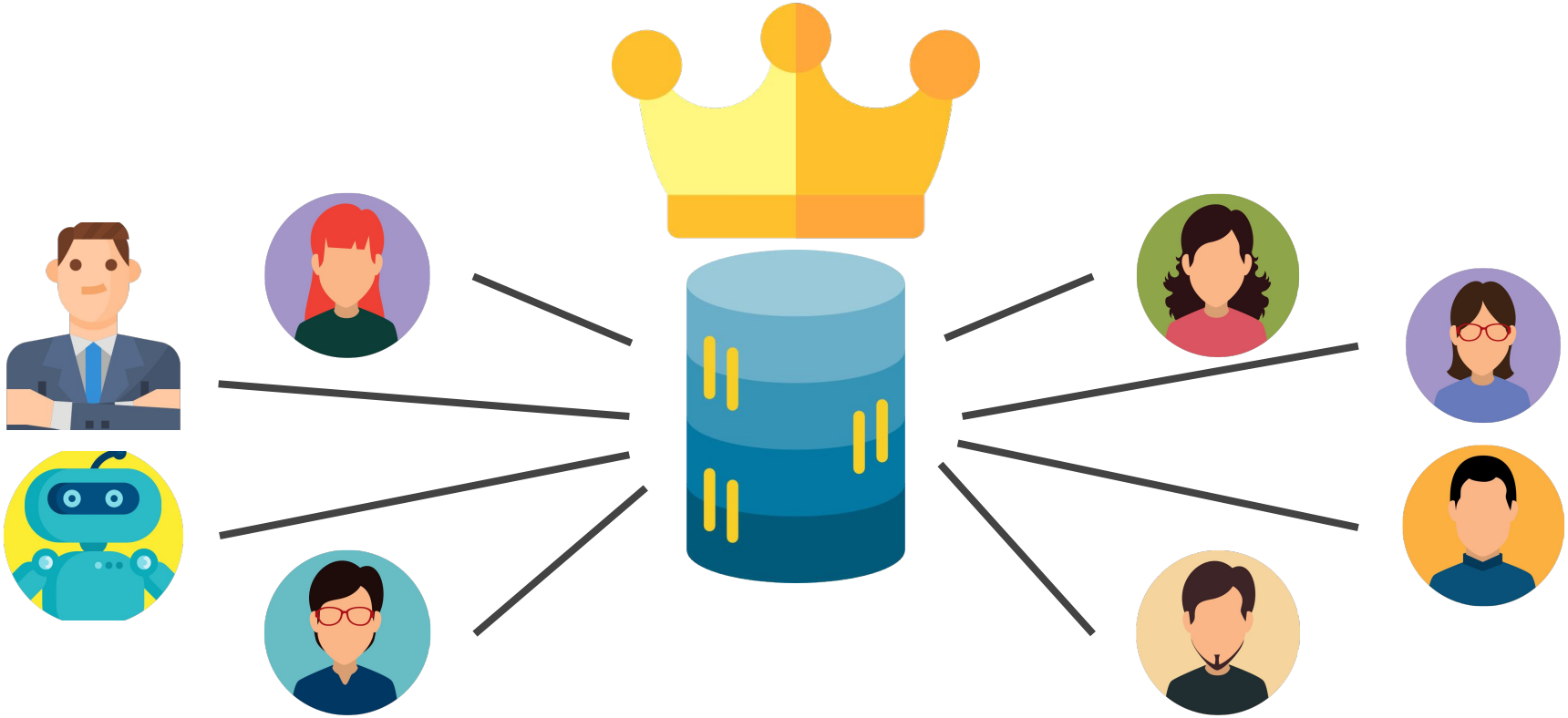
Martin Fowler

Version Control Is Useful To..

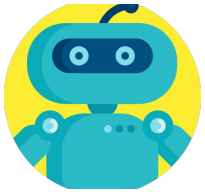
...share code amongst developers

Coordinating Teamwork

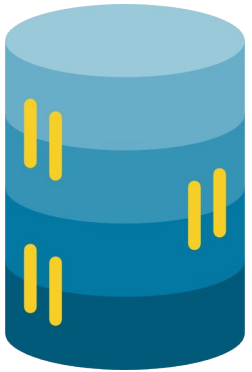
The Source of Truth



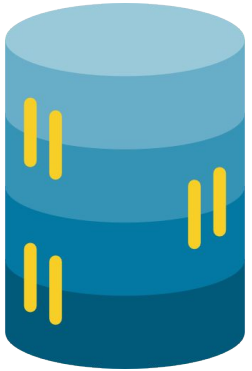
The Bug Trackers

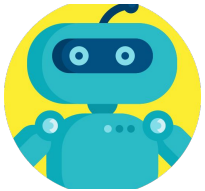


- **Example: Bugzilla, Mantis**
- **Stores Bug reports**



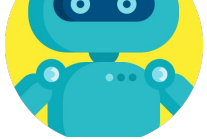
Project Management Tools

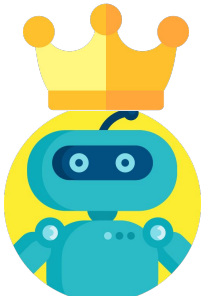


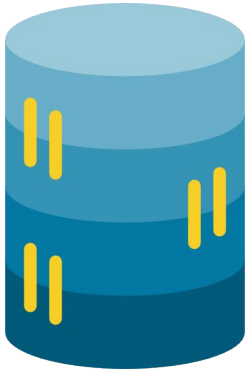


- **Example: Jira**
- **Tracks work**
- **Allocate tasks**

The Build Machine







- **Example: Jenkins**
- **Builds and packages the system**
- **Deploy to testing**
- **Runs code metrics**
- **Runs automated tests**
- **Sometimes even deploys to production!**

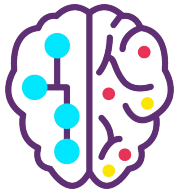
Version Control Is Useful To..

...coordinate teamwork

Making Sense of Git

Gits Strong Points

Fast

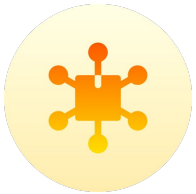


Smart

Flexible

Safe

Gits Strong Points

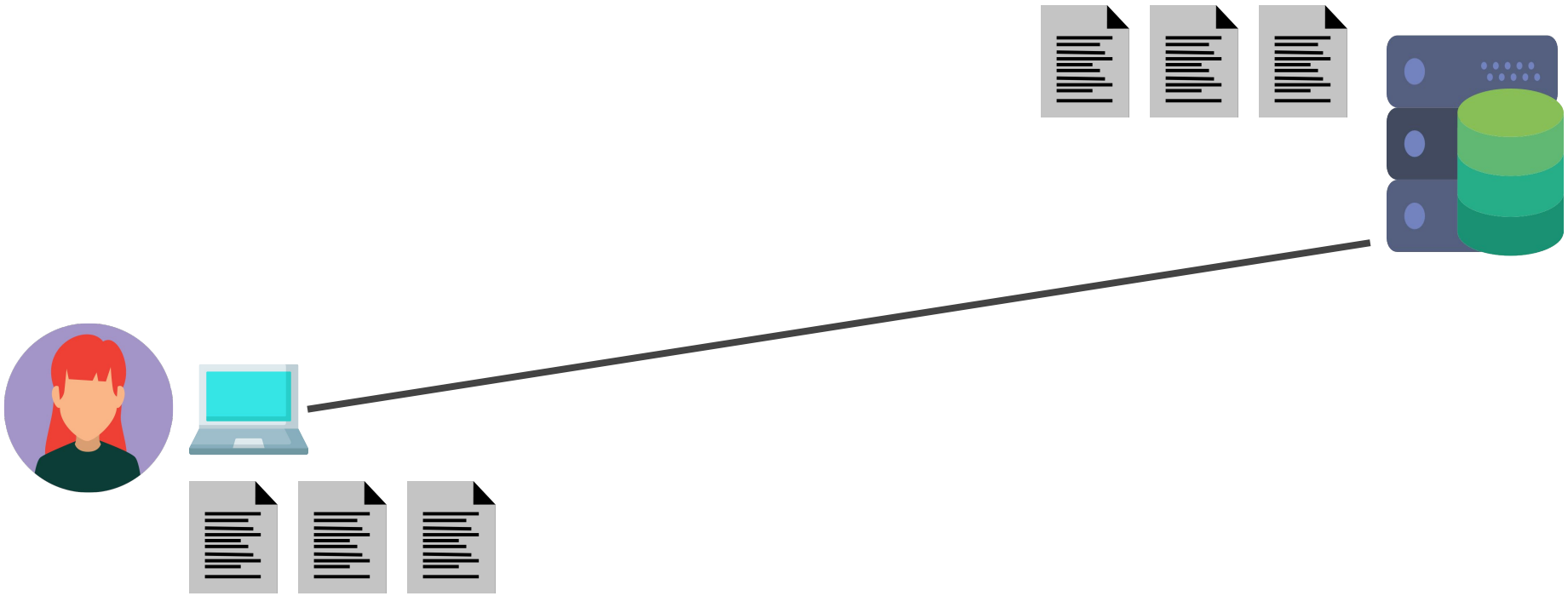


Distributed

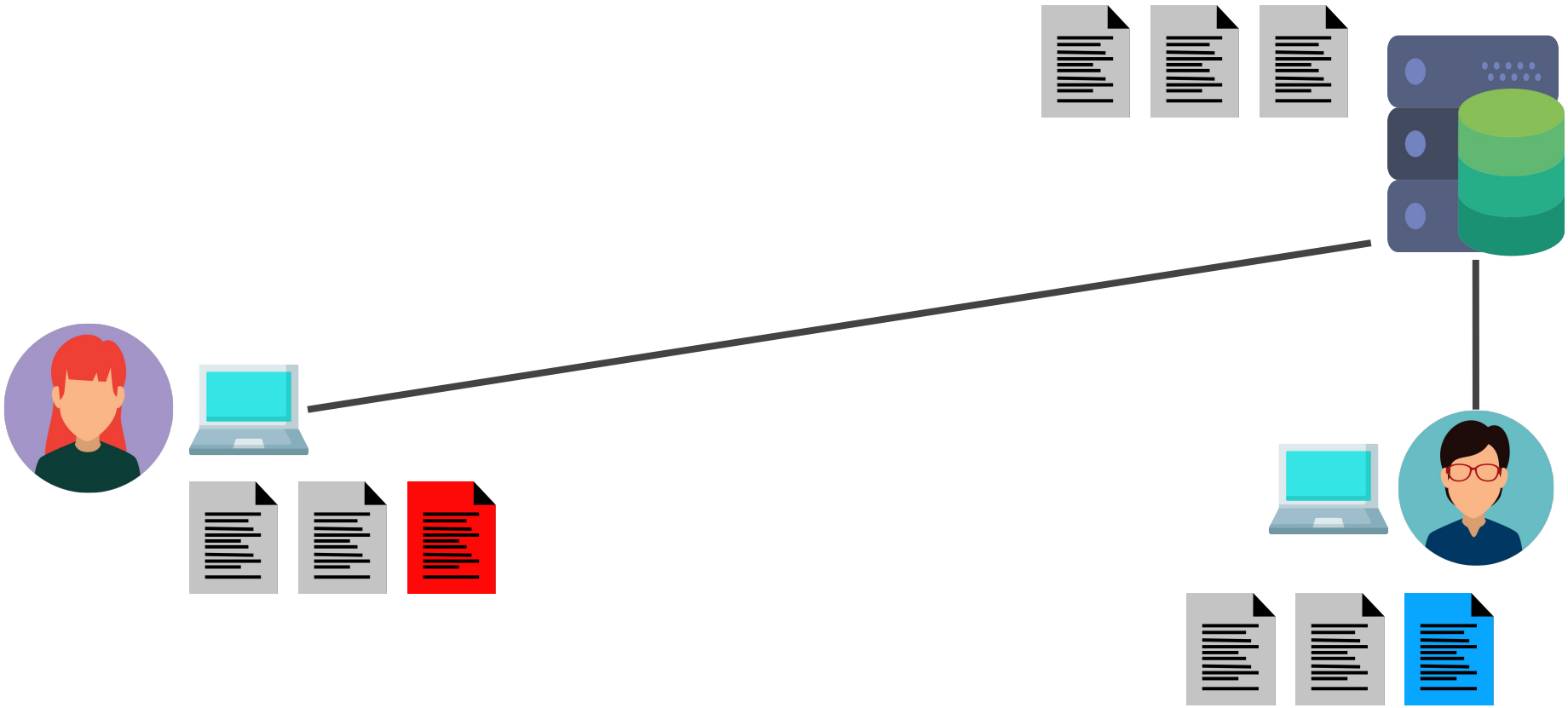
Client-server Version Control

Client-server Version Control

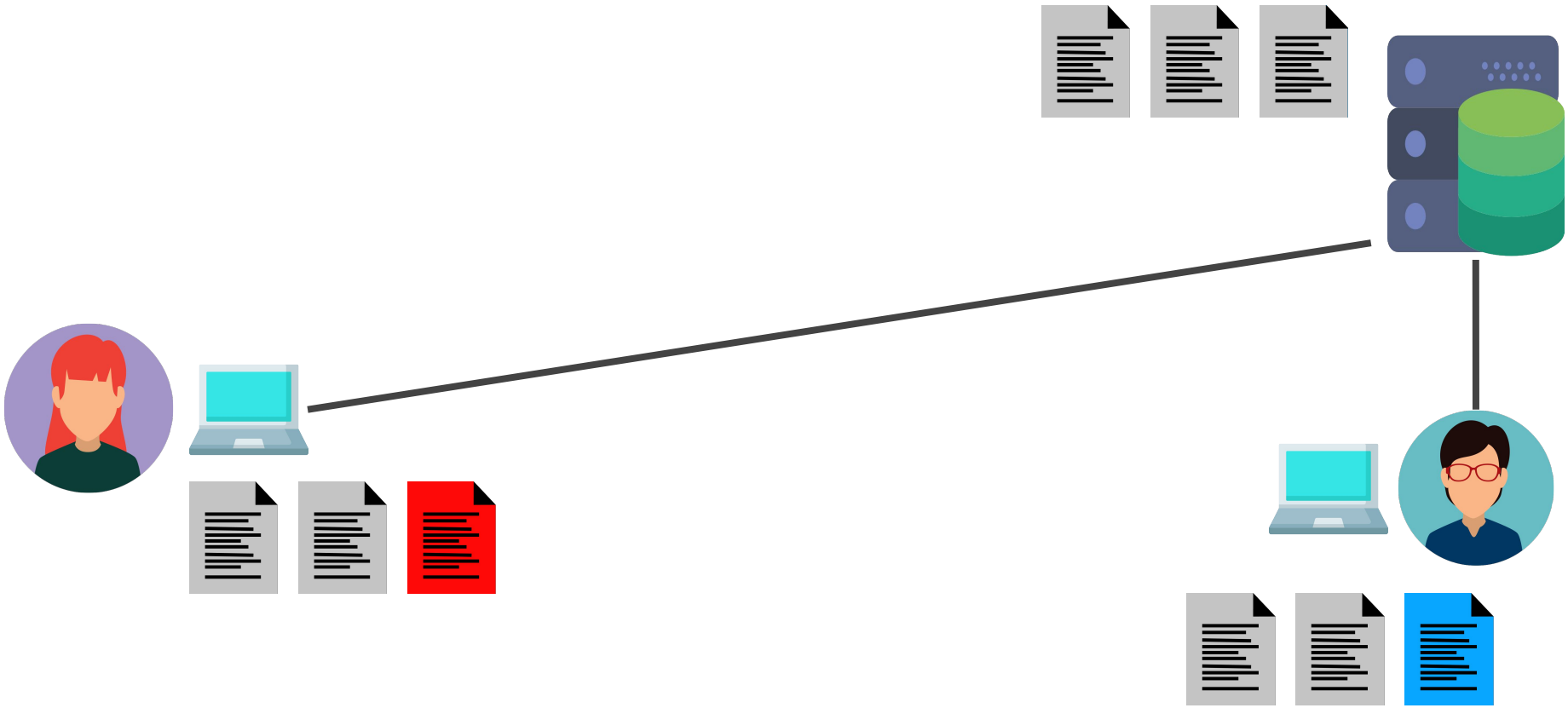
Client-server Version Control



Client-server Version Control



Client-server Version Control



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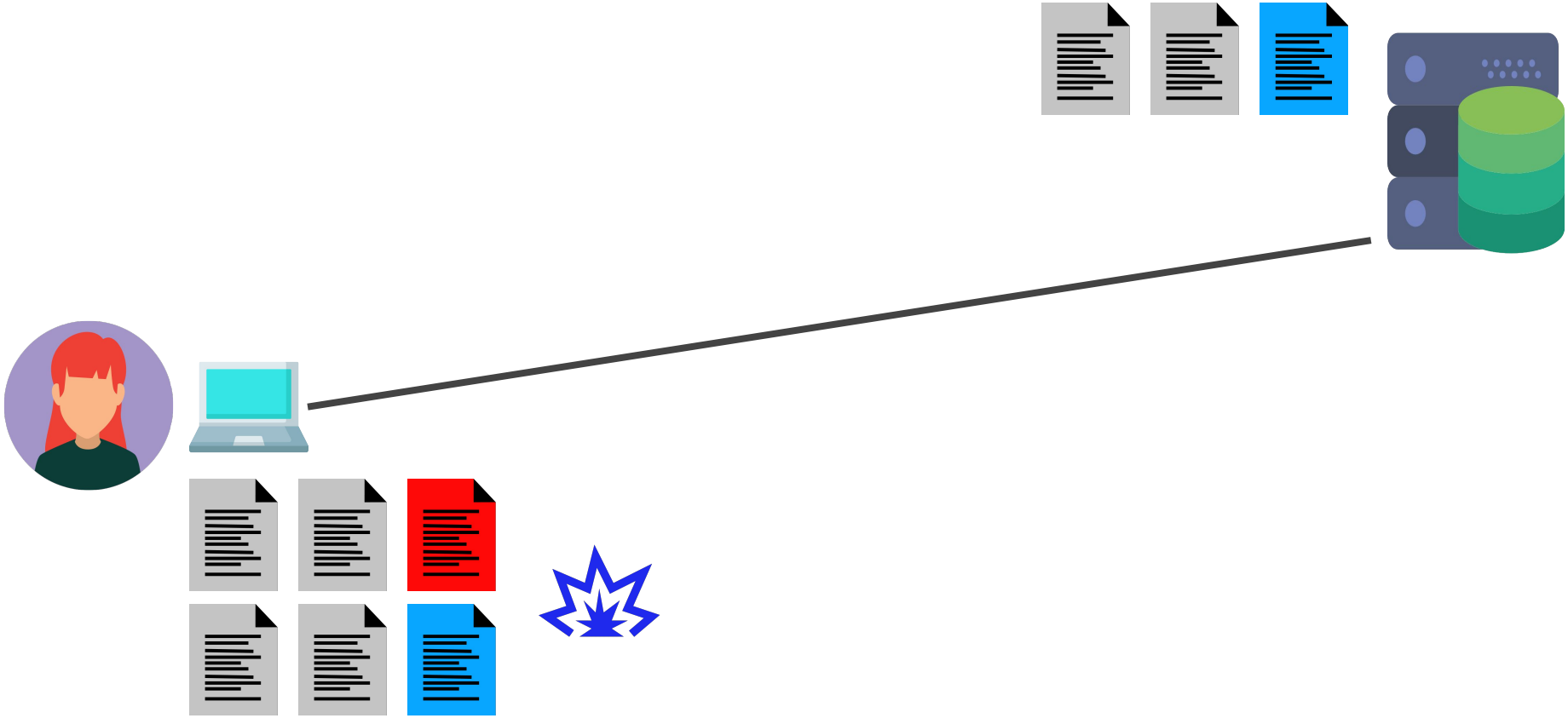

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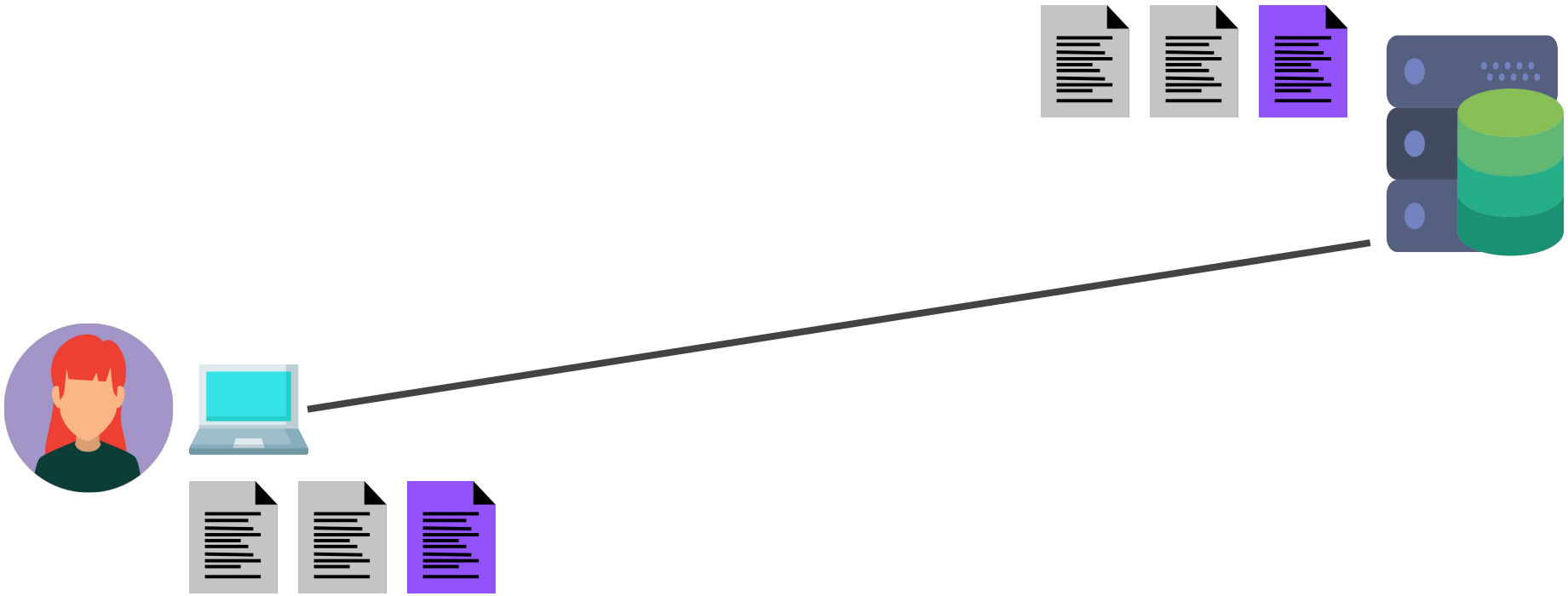
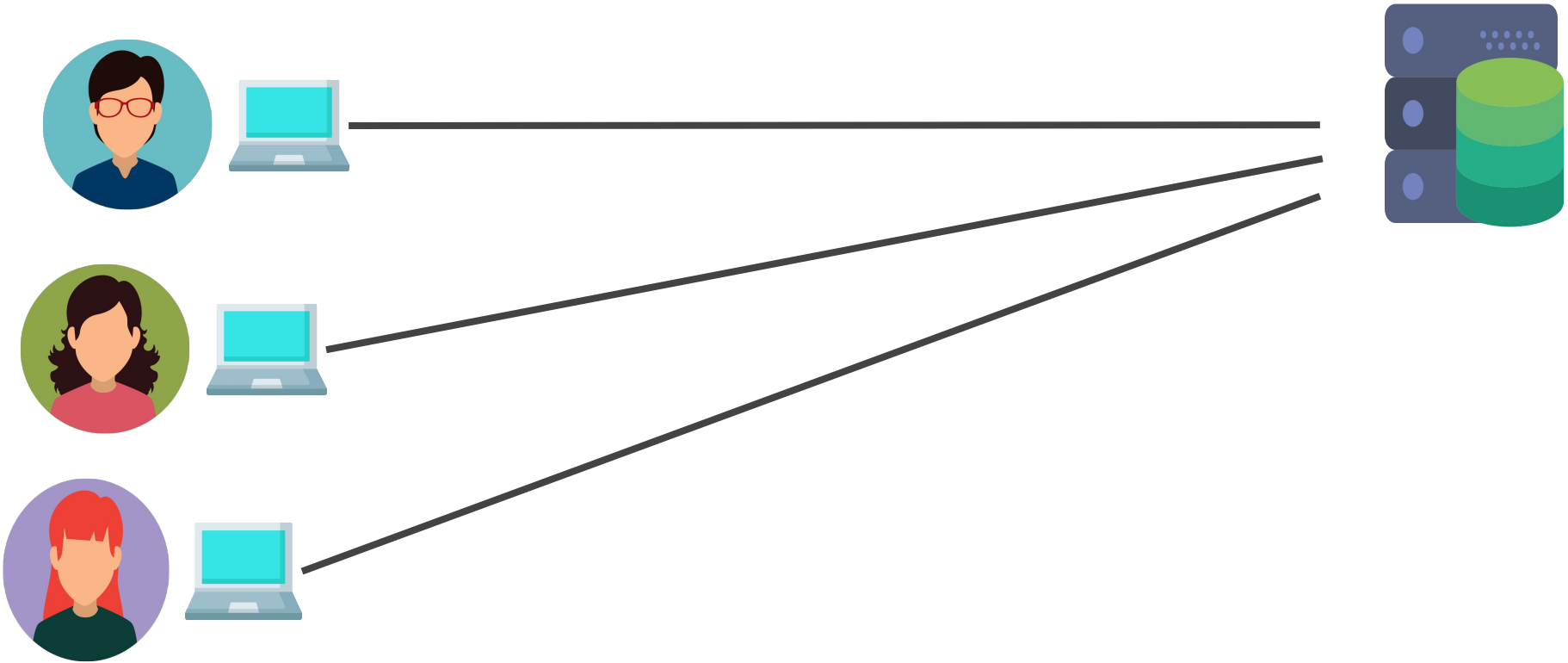


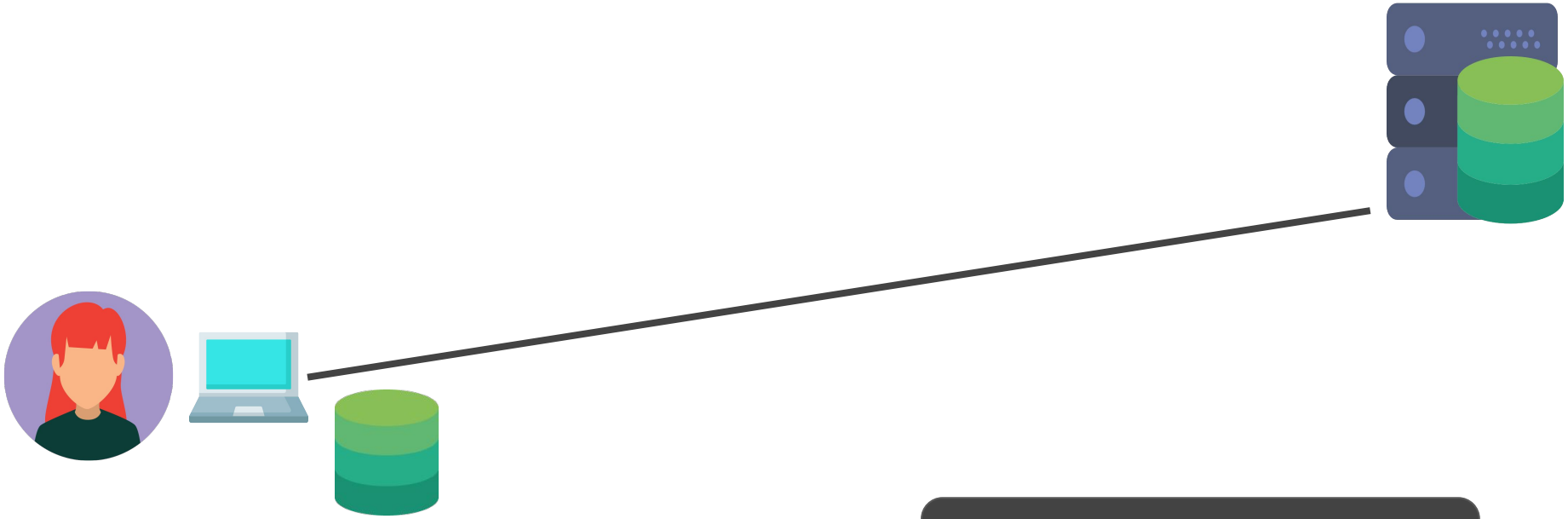
Client-server Version Control



Distributed Version Control

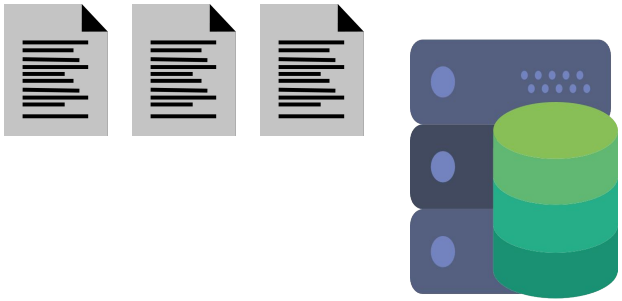
Distributed Version Control

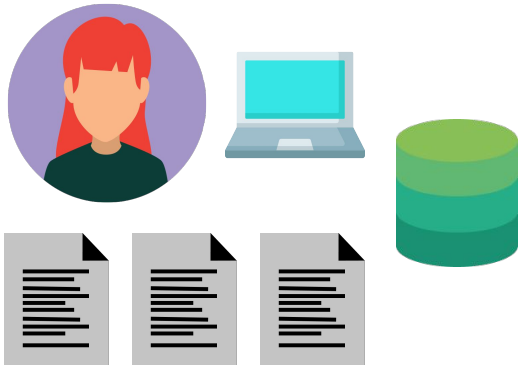
Cloning a Repository



git clone <server_name>

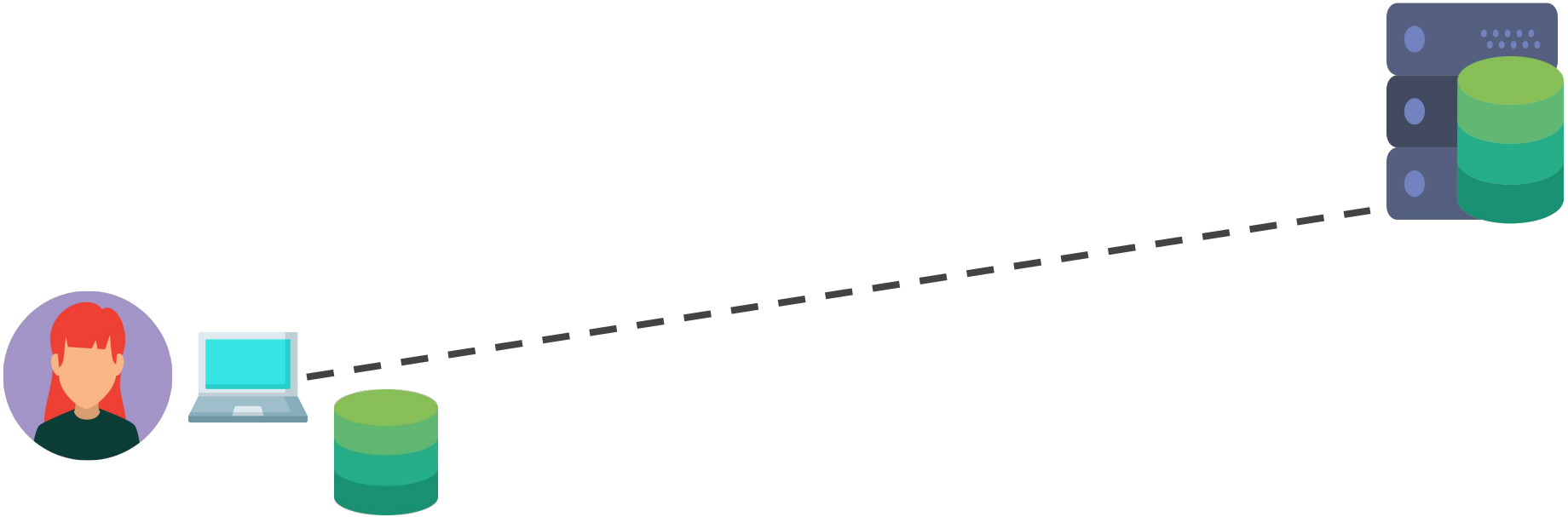
Cloning a Repository



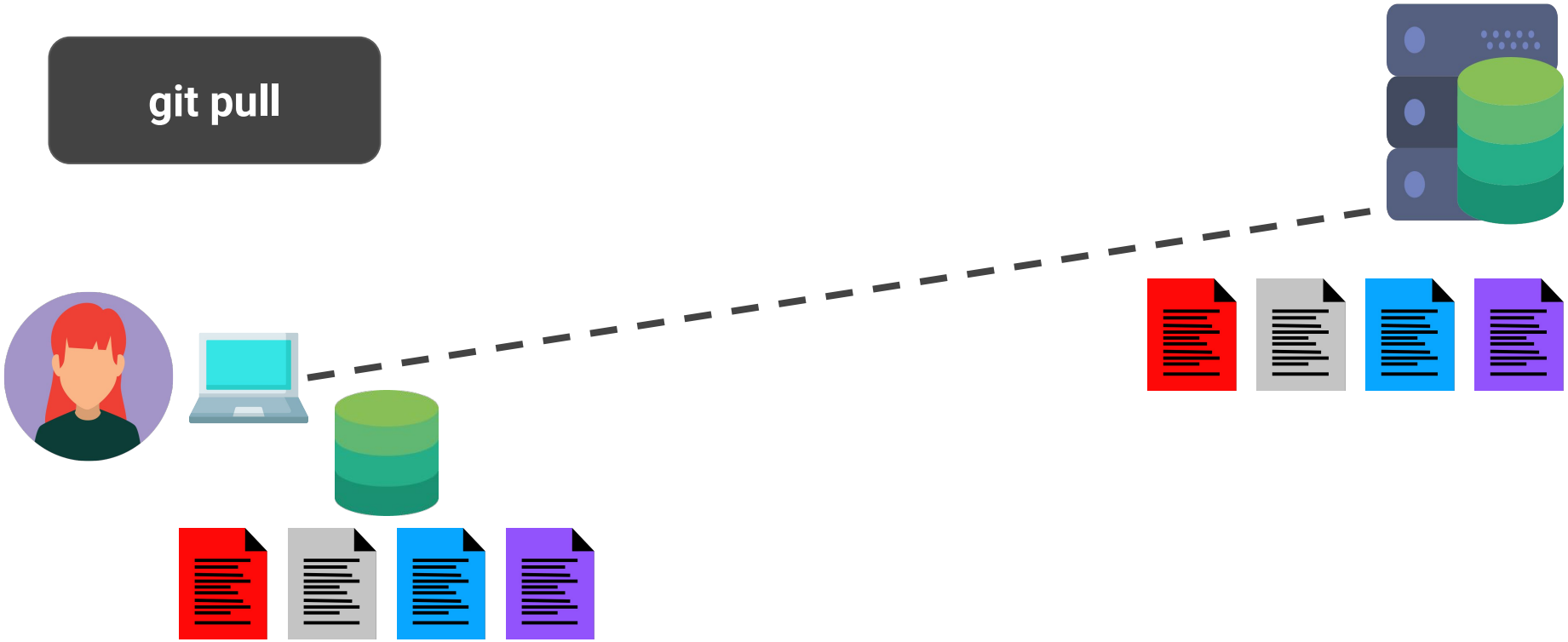


Where Is the Repository

Distributed Version Control



Remote Repositories



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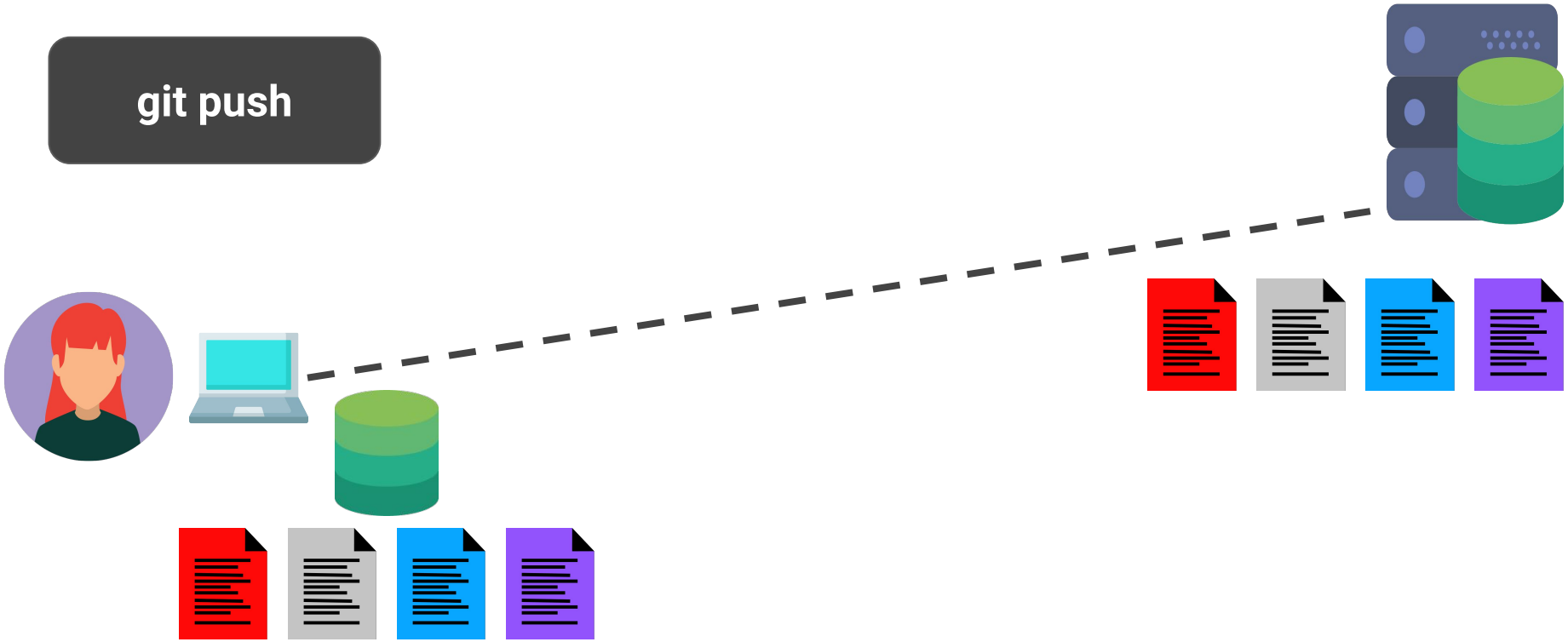

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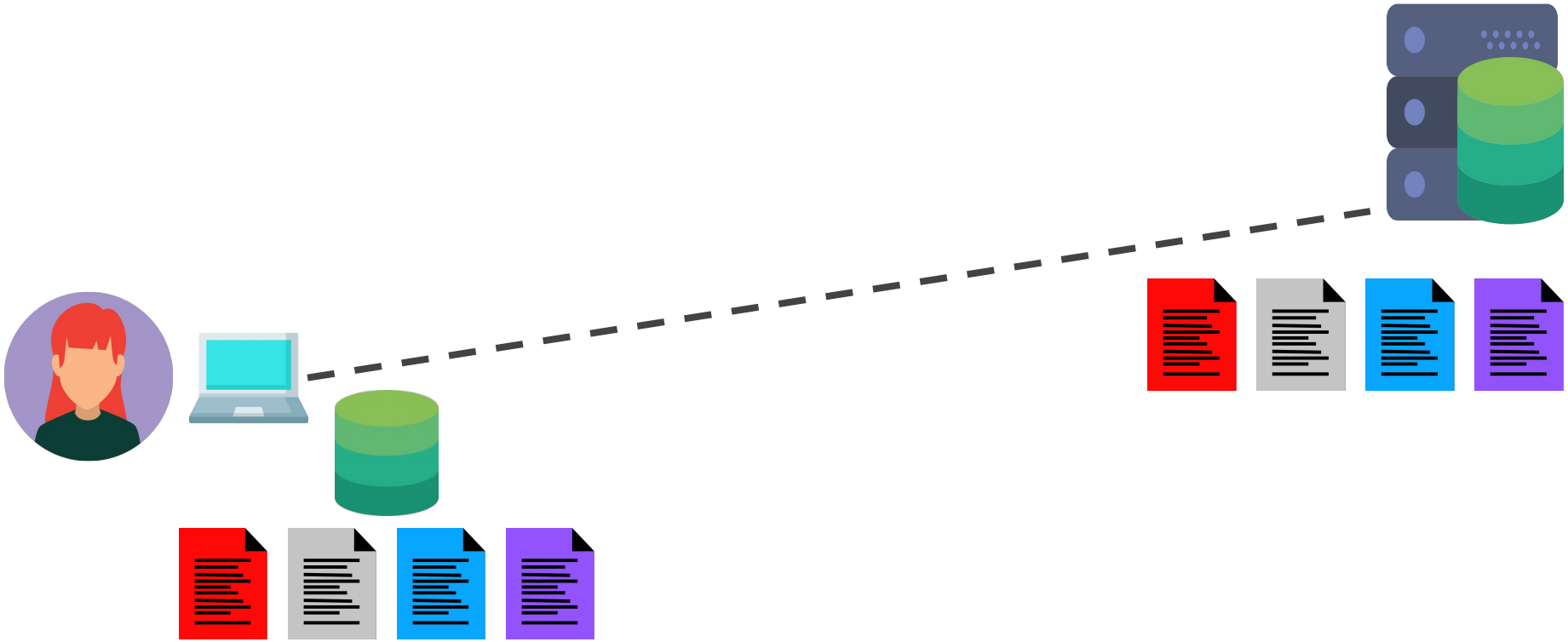

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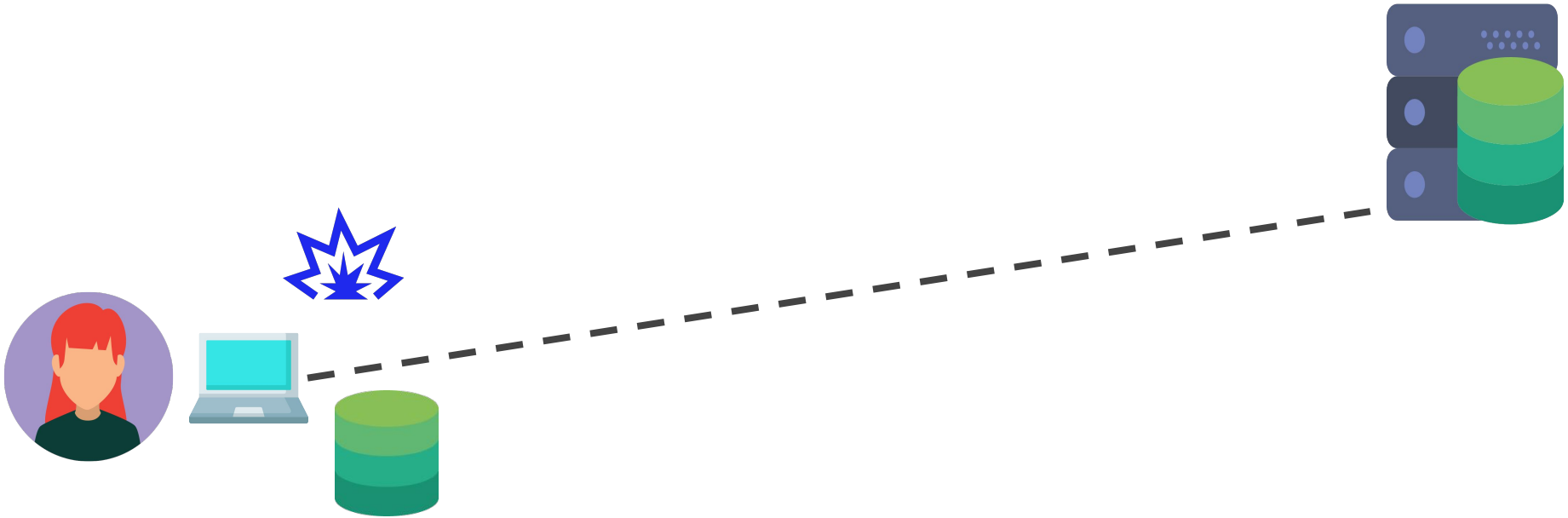

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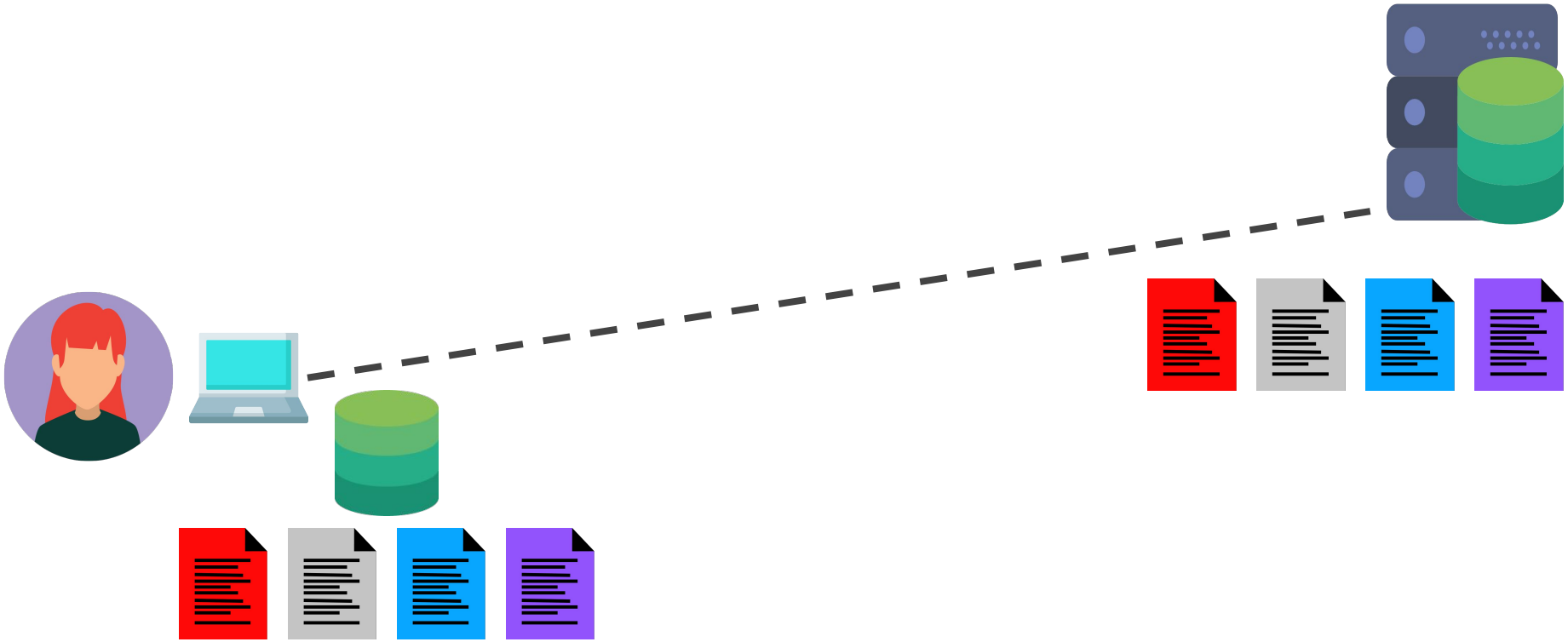

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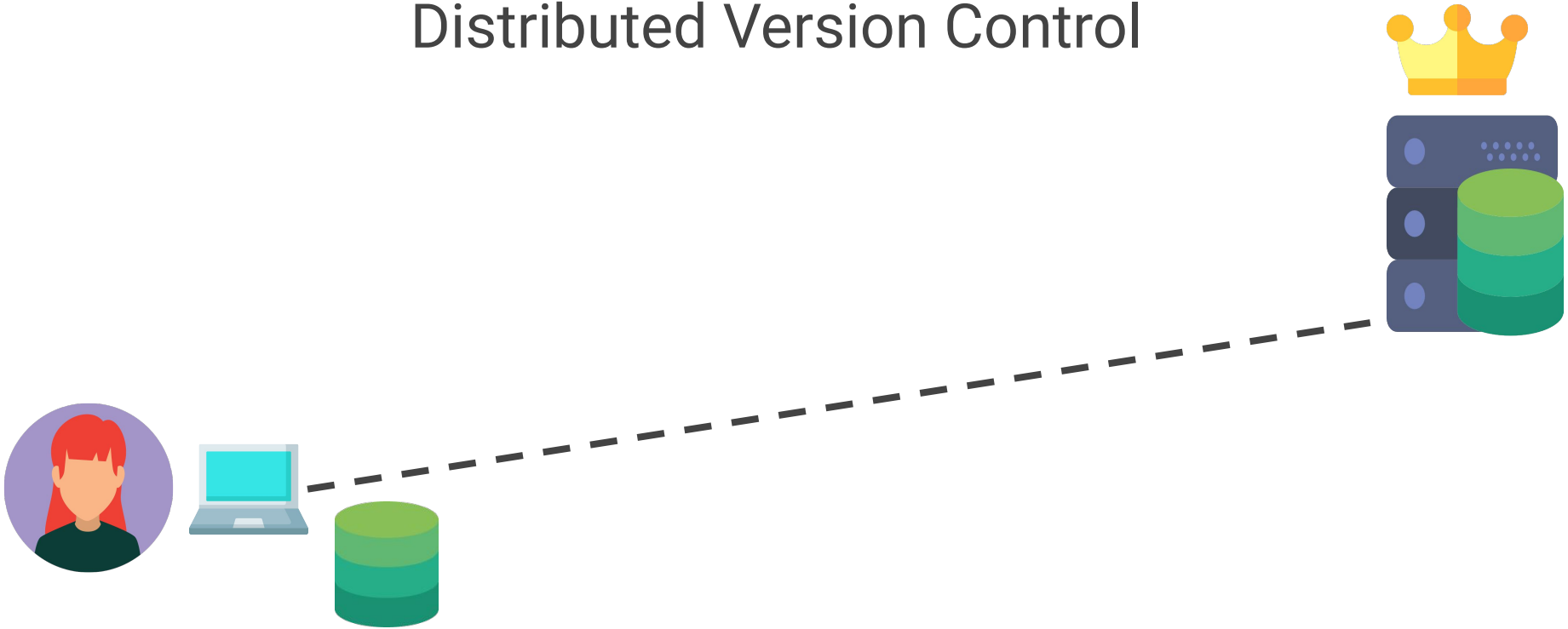
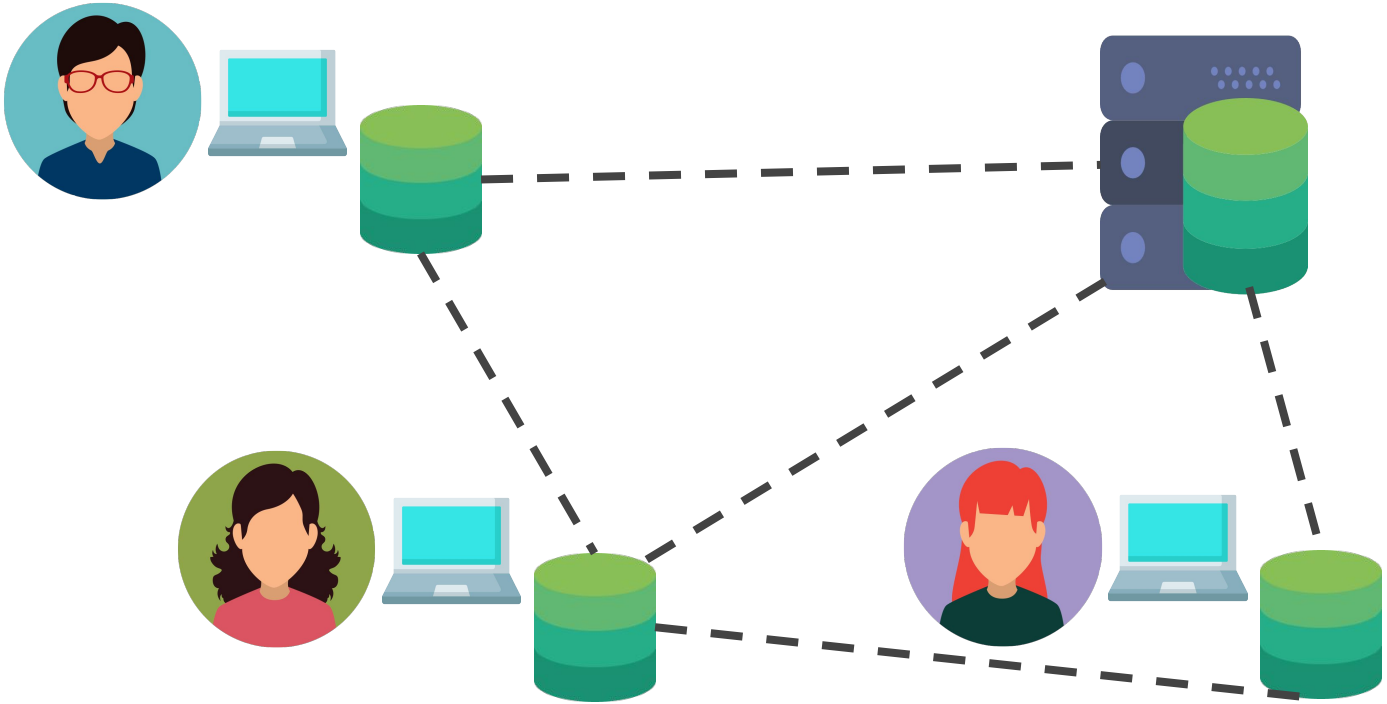


Distributed Version Control

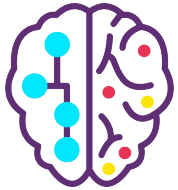


Distributed Version Control

Distributed version control gives you flexibility

Gits Strong Points

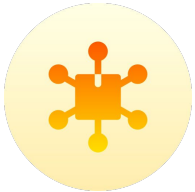
Fast



Smart

Flexible

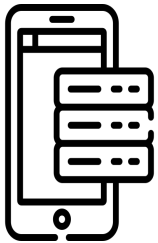
Safe

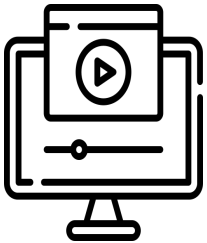


Distributed

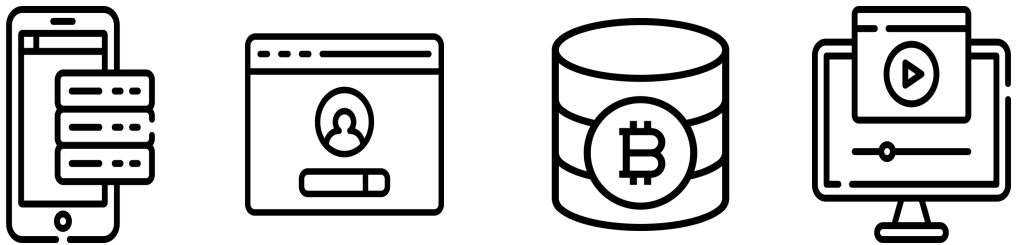
Cool!

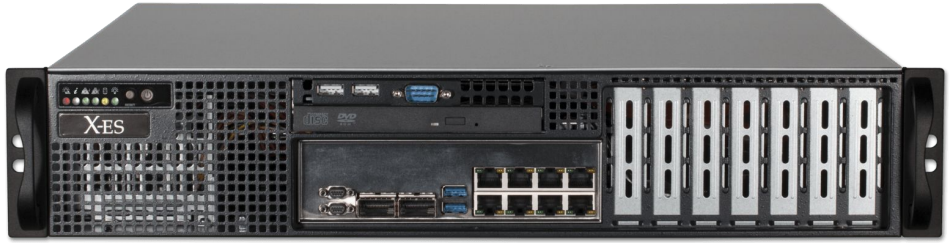
The Bad Old Days

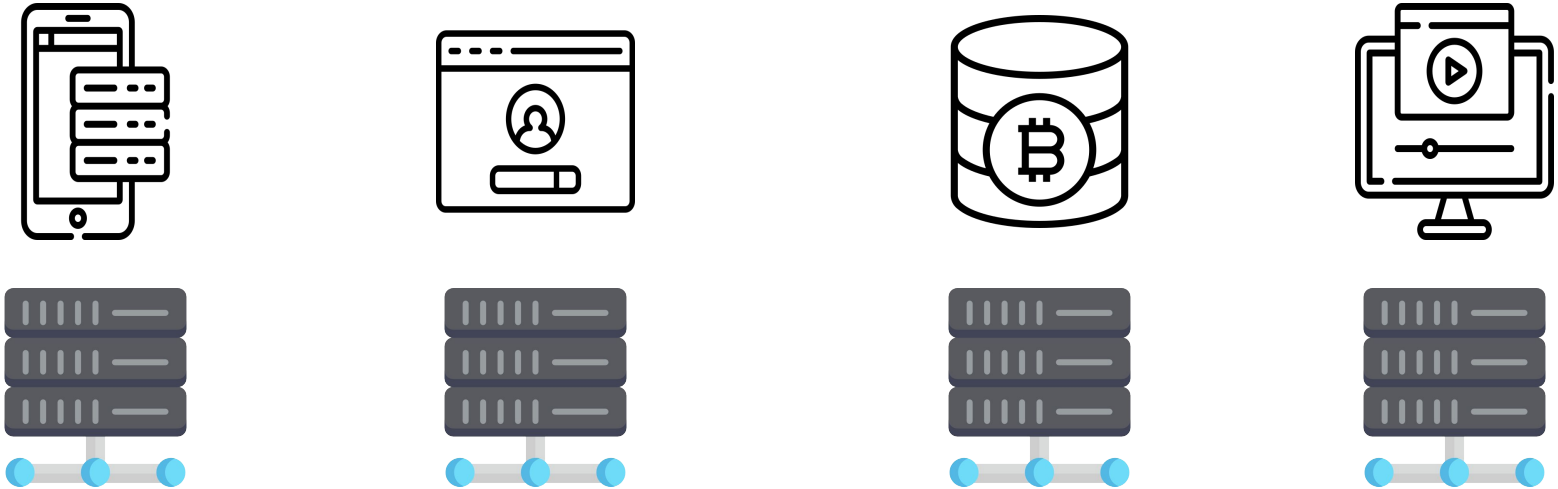


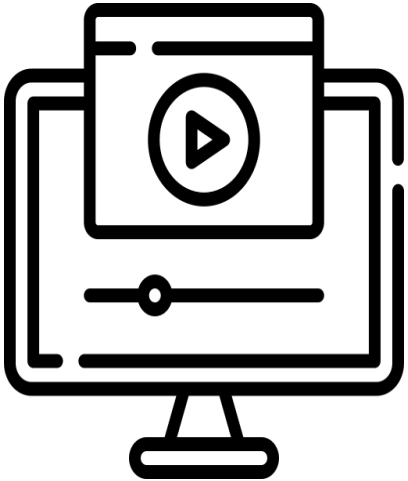


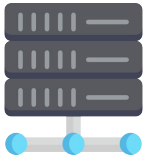
No Applications,
No business!

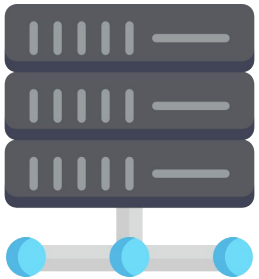



X-ES









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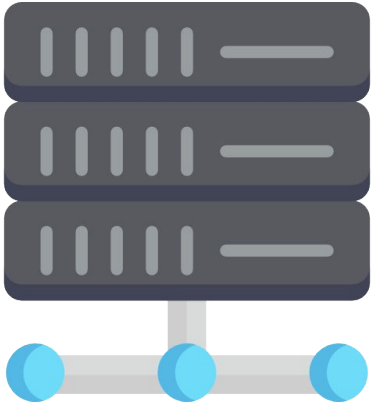
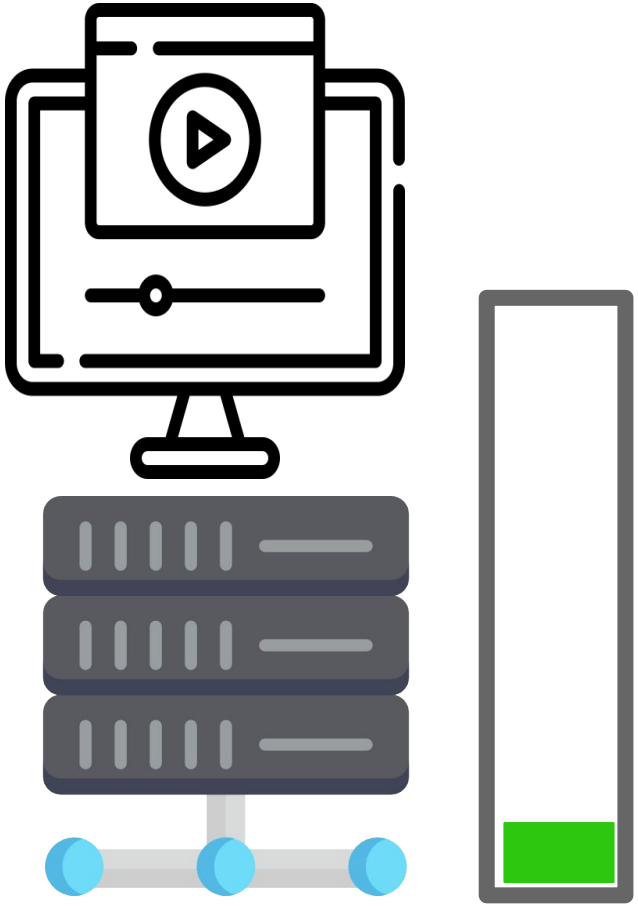
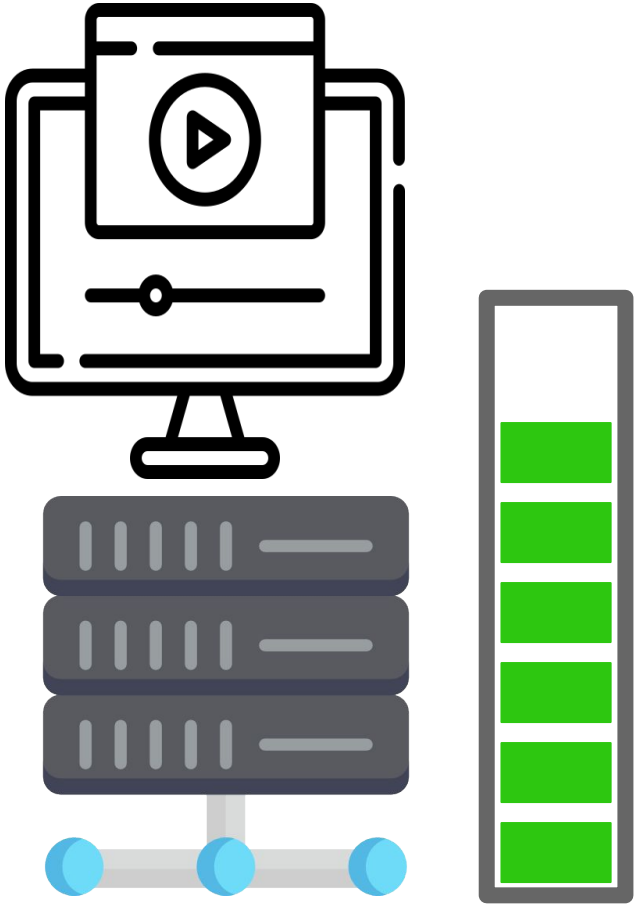
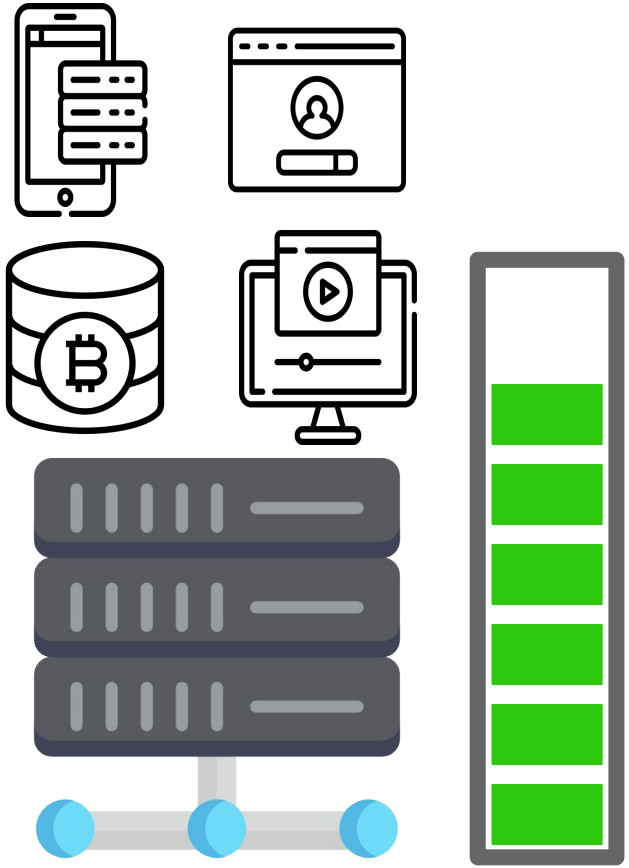




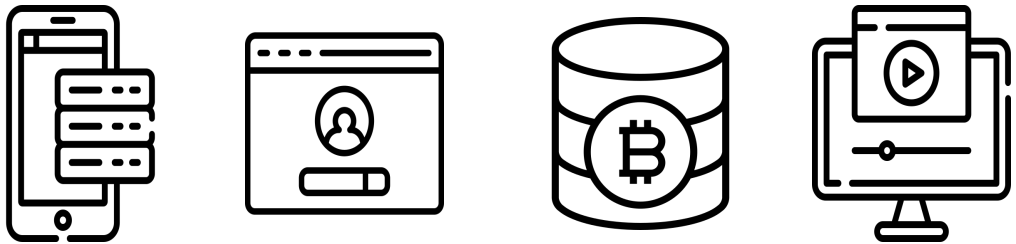
Hello VMware!

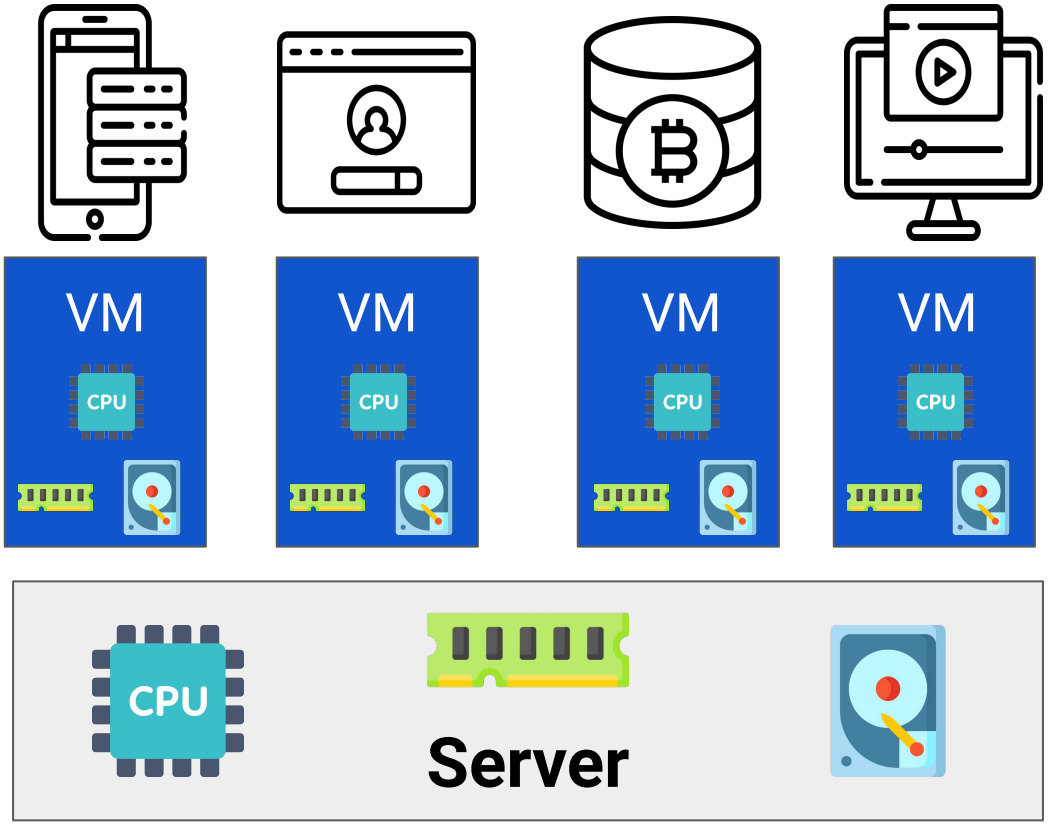


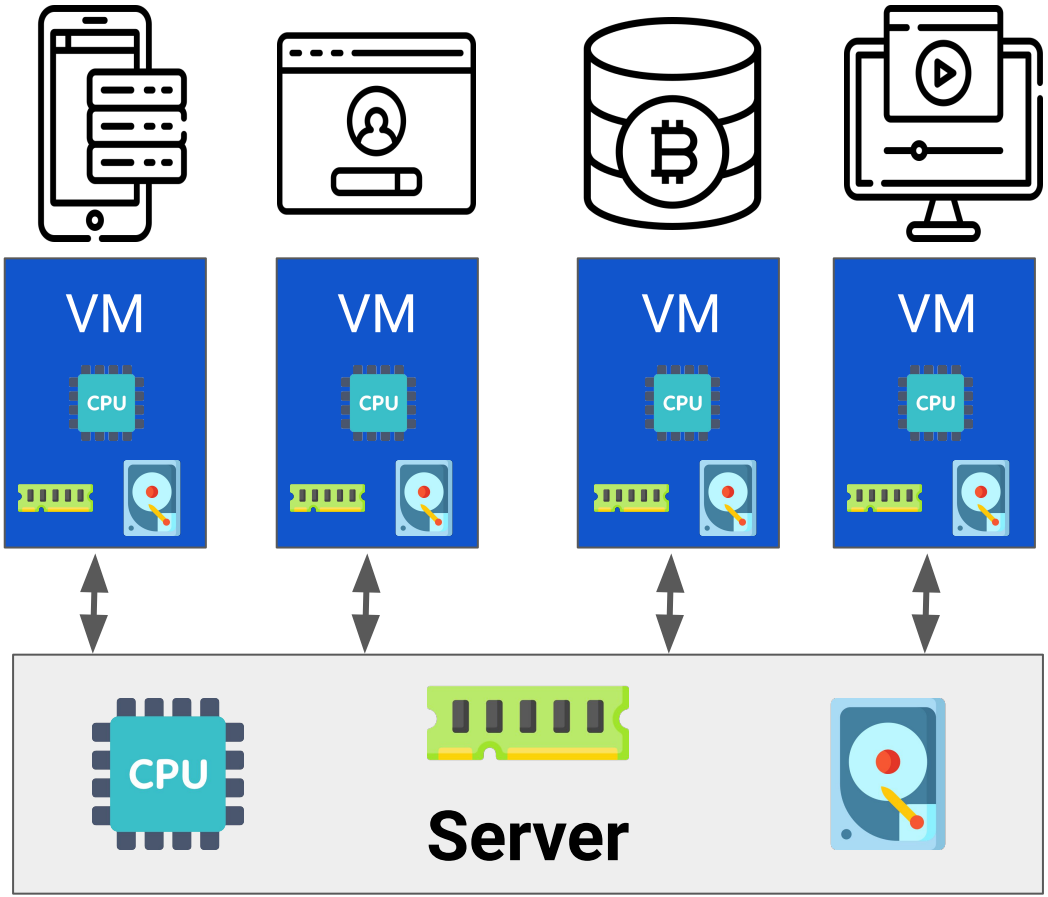


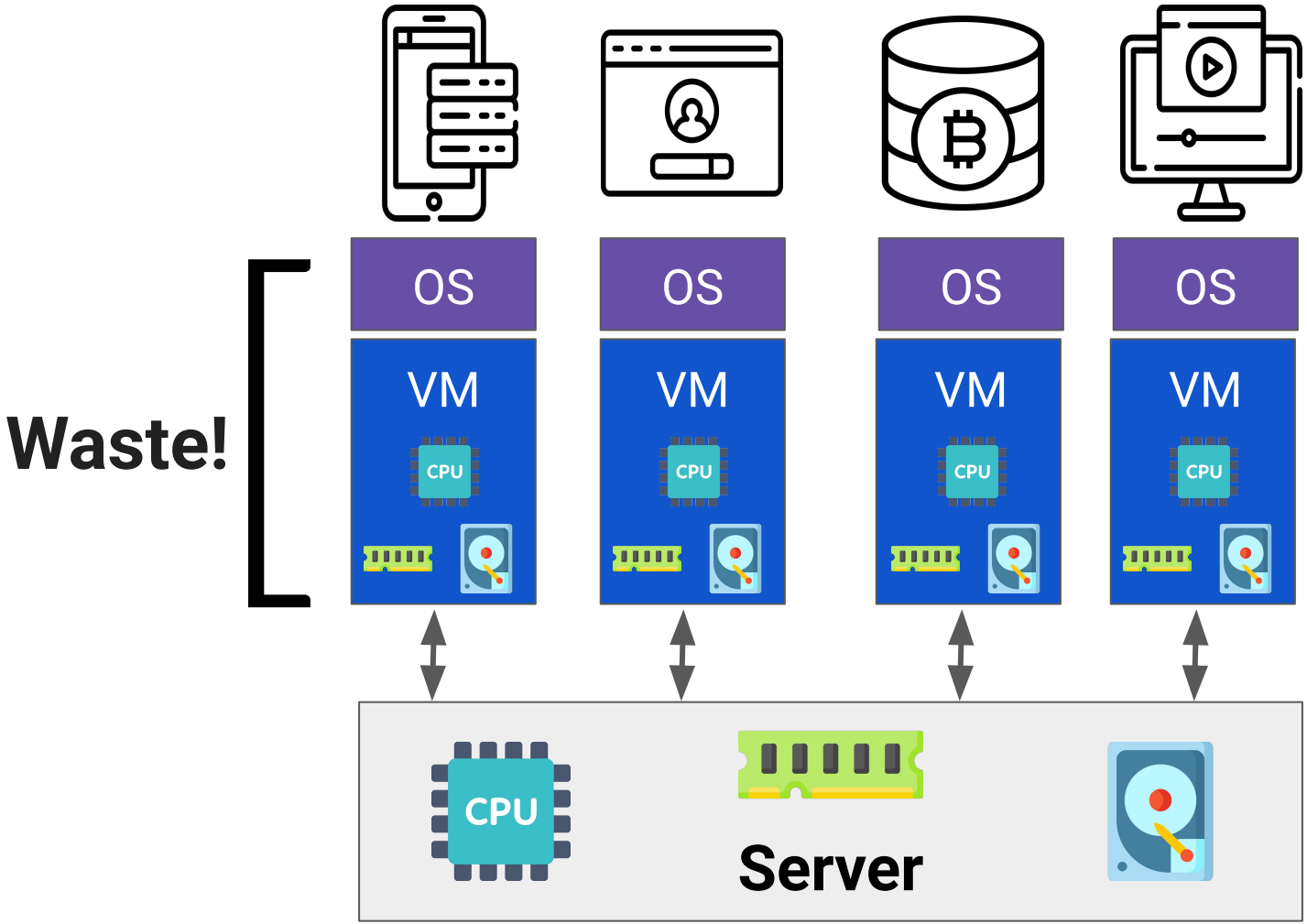
But...

VM Warts


CPU
Server


VM
CPU
VM
CPU
VM
CPU
VM
CPU
CPU
Server

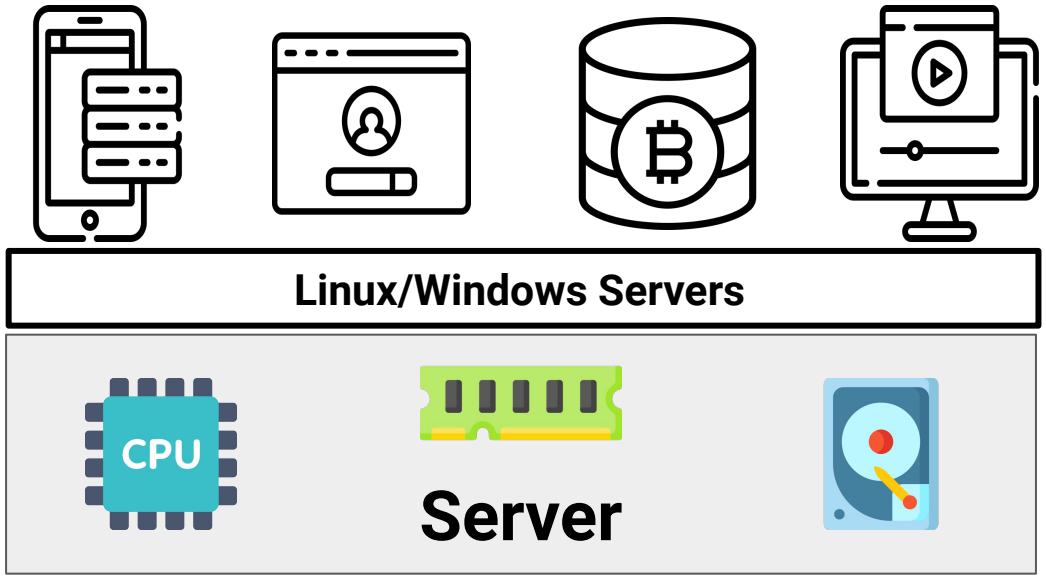

VM
CPU
VM
CPU
VM
CPU
VM
CPU
CPU
Server

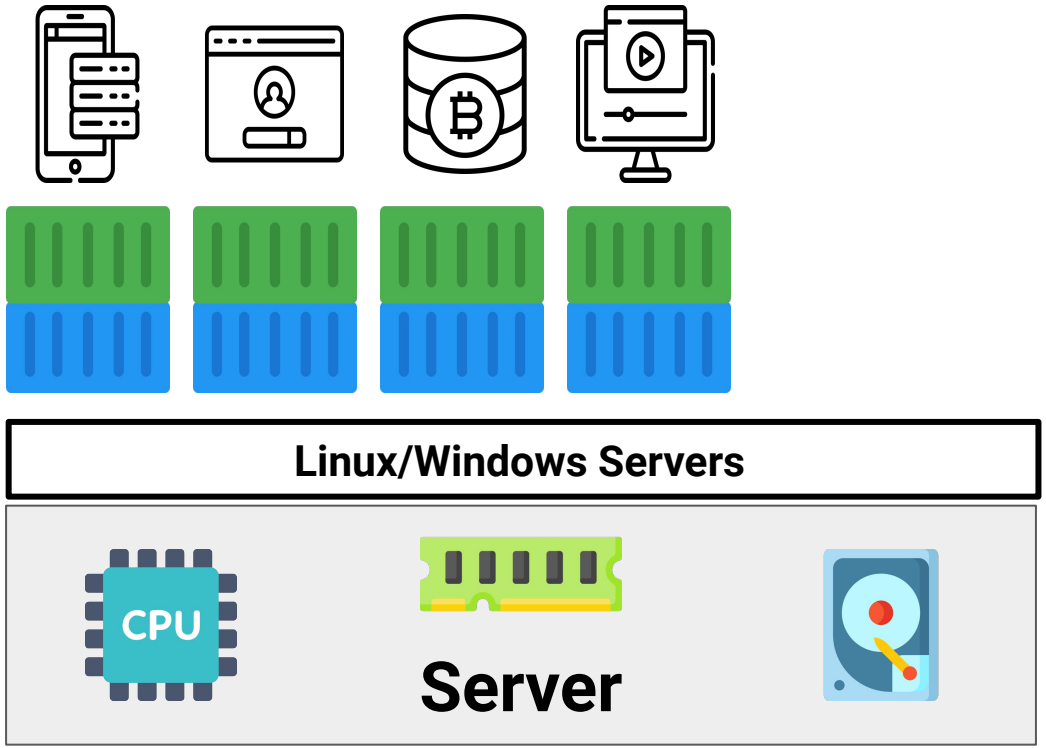


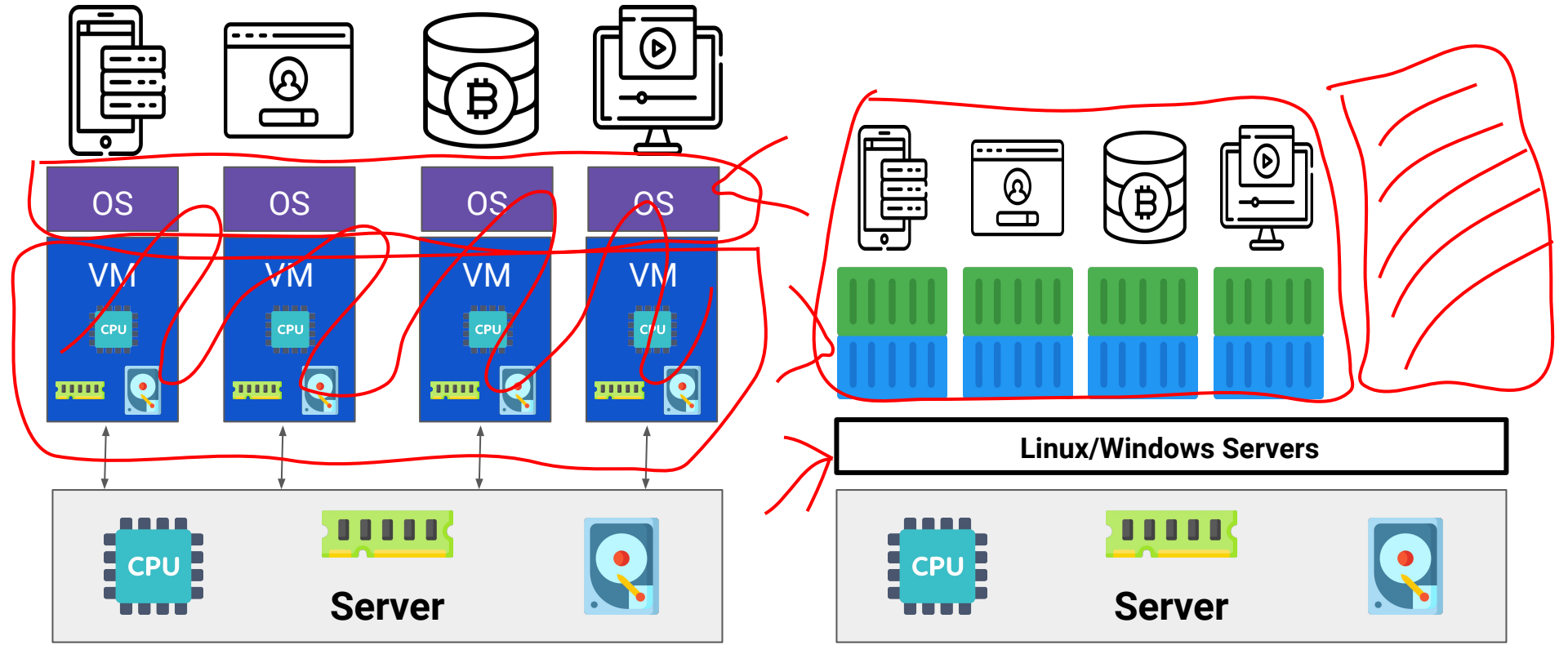
Potential OS Overheads:

- Licence Cost
- Admin
  - Patching
  - Updates
  - AV
  - More..

Containers


Linux/Windows Servers
CPU
Server


Linux/Windows Servers
CPU
Server


OS
OS
OS
OS
VM
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VM
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CPU
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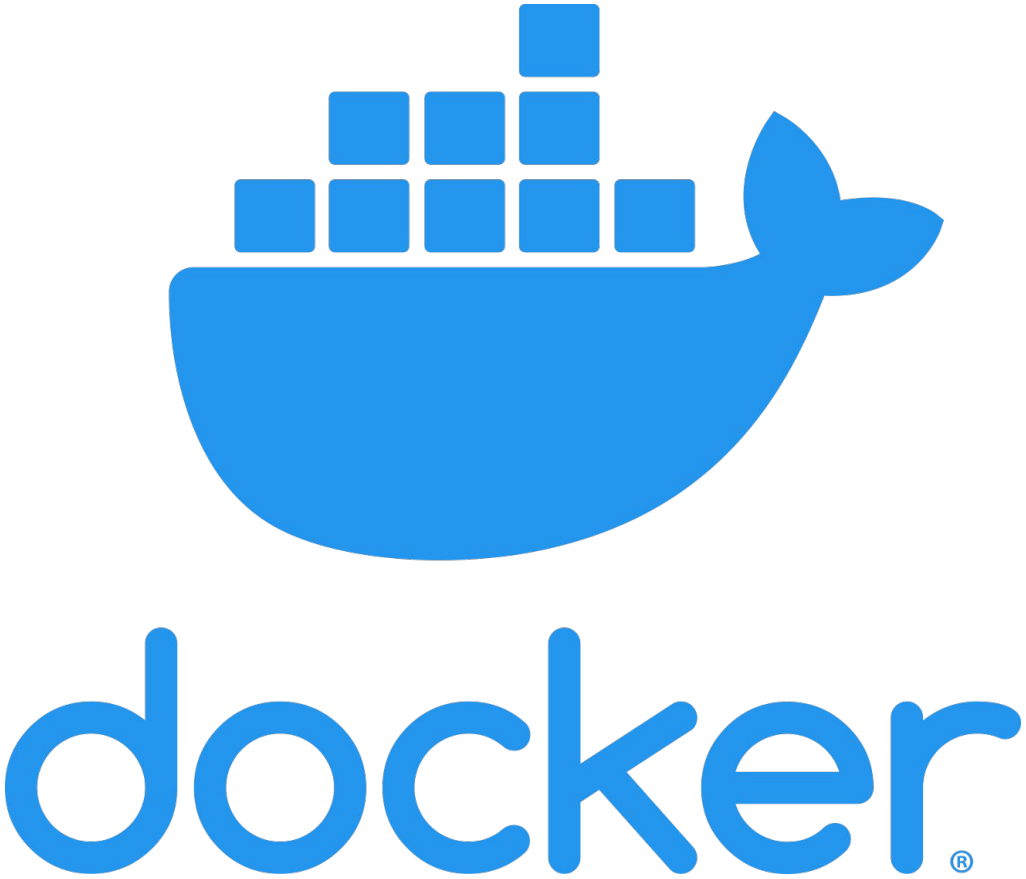
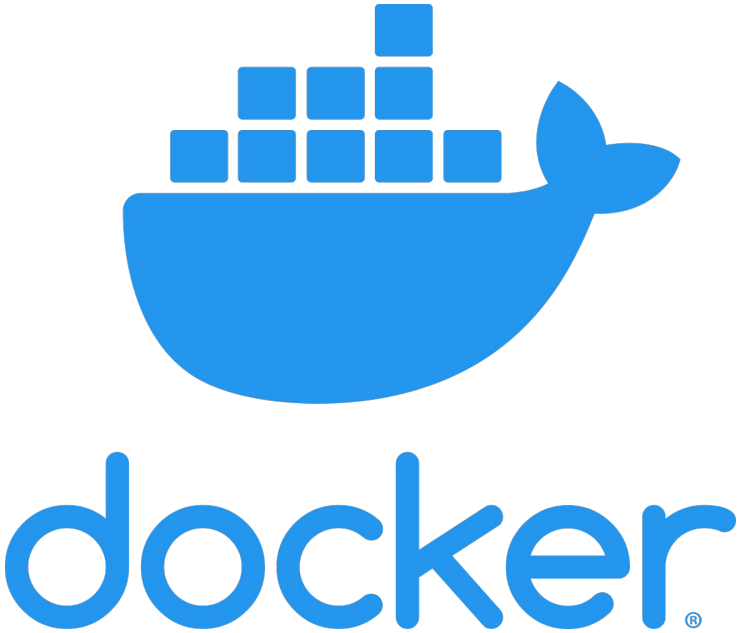
CPU
Linux/Windows Servers
CPU
Server
CPU
Server

Docker

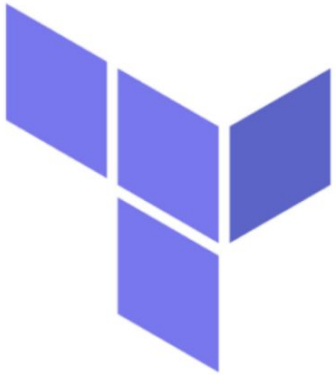

docker

Docker: The Technology

Making containers easy



<Containerizing Apps>



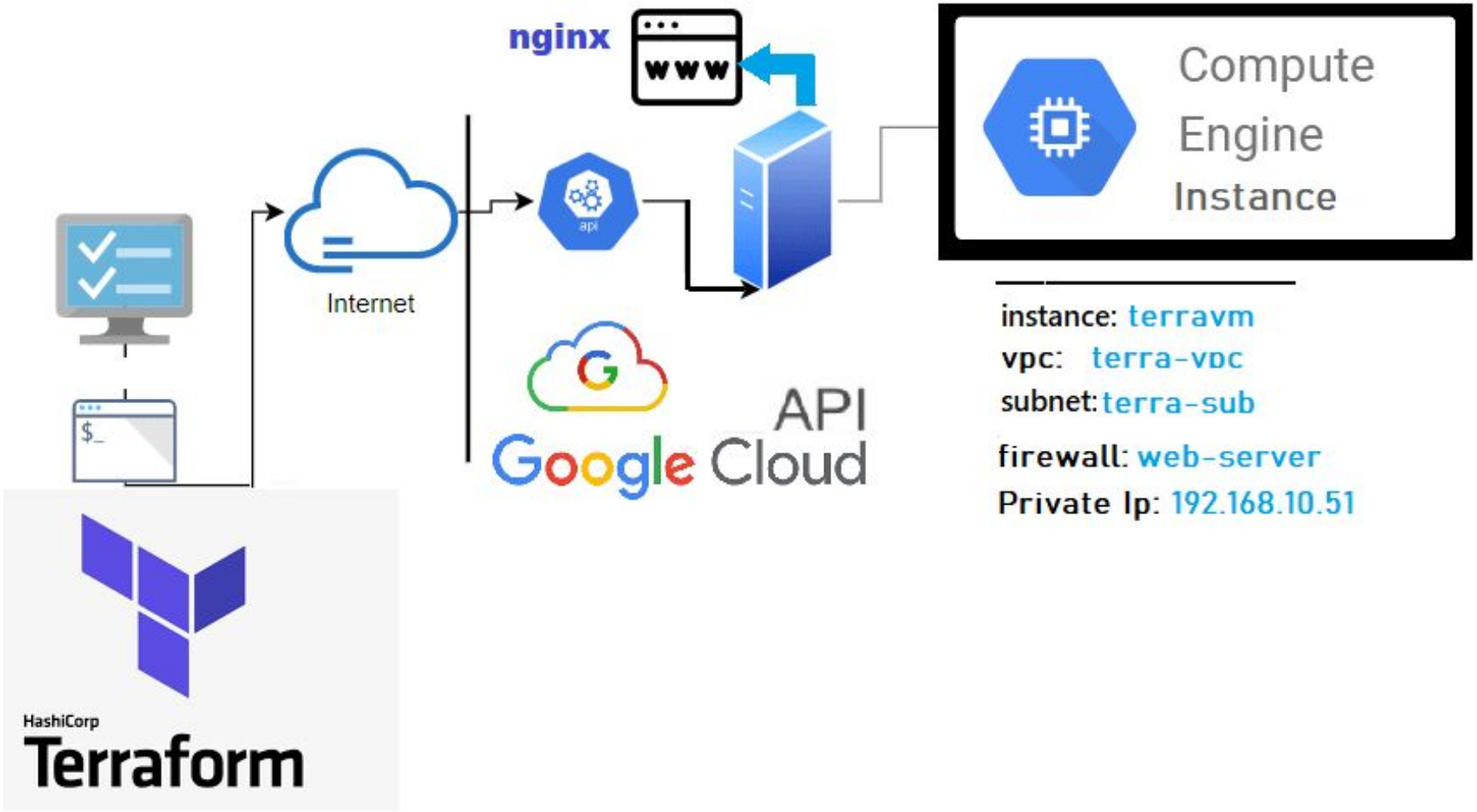
HashiCorp
Terraform

Google Cloud

Credits: Google

GCP Demo with Terraform

Explore the GCP Tour and experience the Compute Engine.



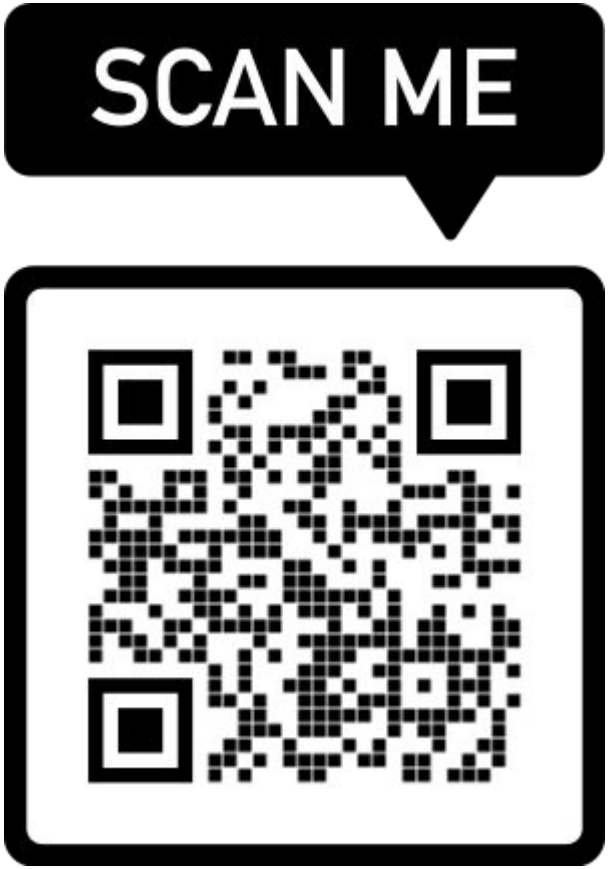
Credits: Google

Any Questions?

Available on Telegram & Twitter: @nomadicmehul

>>> bio.link/nomadicmehul

Join the community now 🚀



Mastering DevOps: A Step-by-Step Roadmap for Beginners to become #CloudCaptain ☁️

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Thank You!