

DevOps 101 WorkShop

Deployment Simplified...



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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

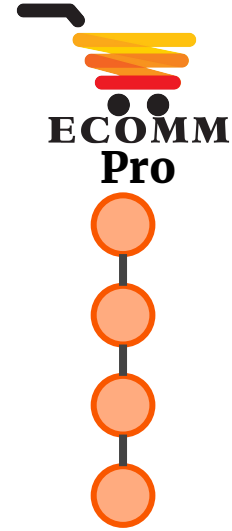
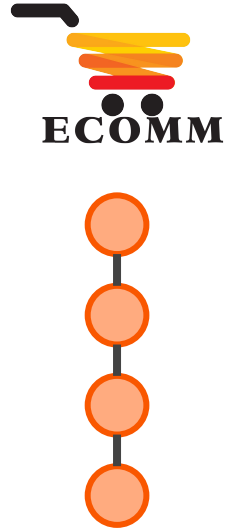
**Disclaimer: version control isn't a
backup**

Managing Multiple version of a Project

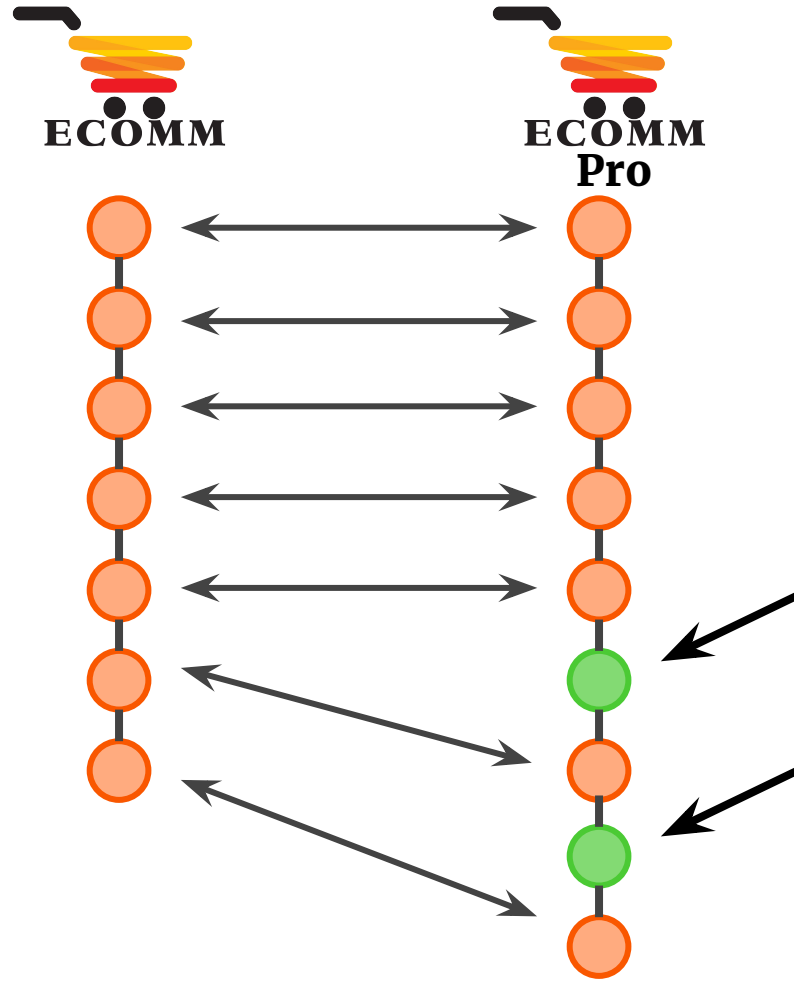
The Ecomm App



The Ecomm App



The Ecomm App



Branching

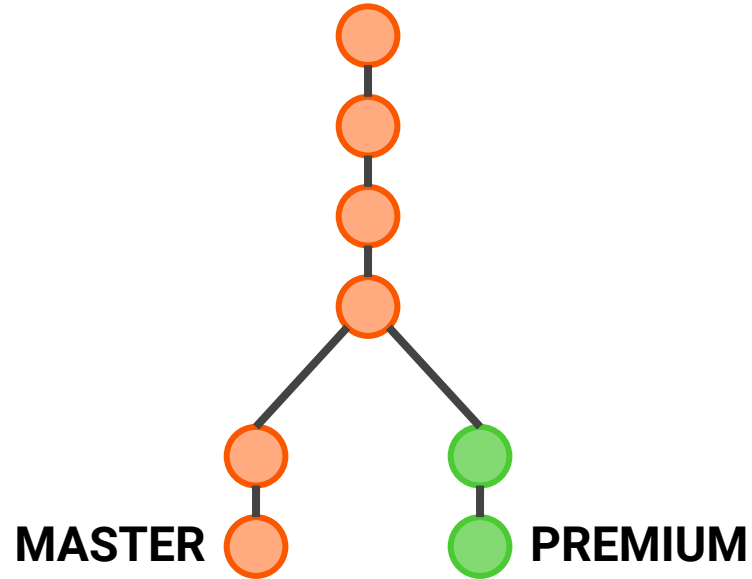


git branch premium

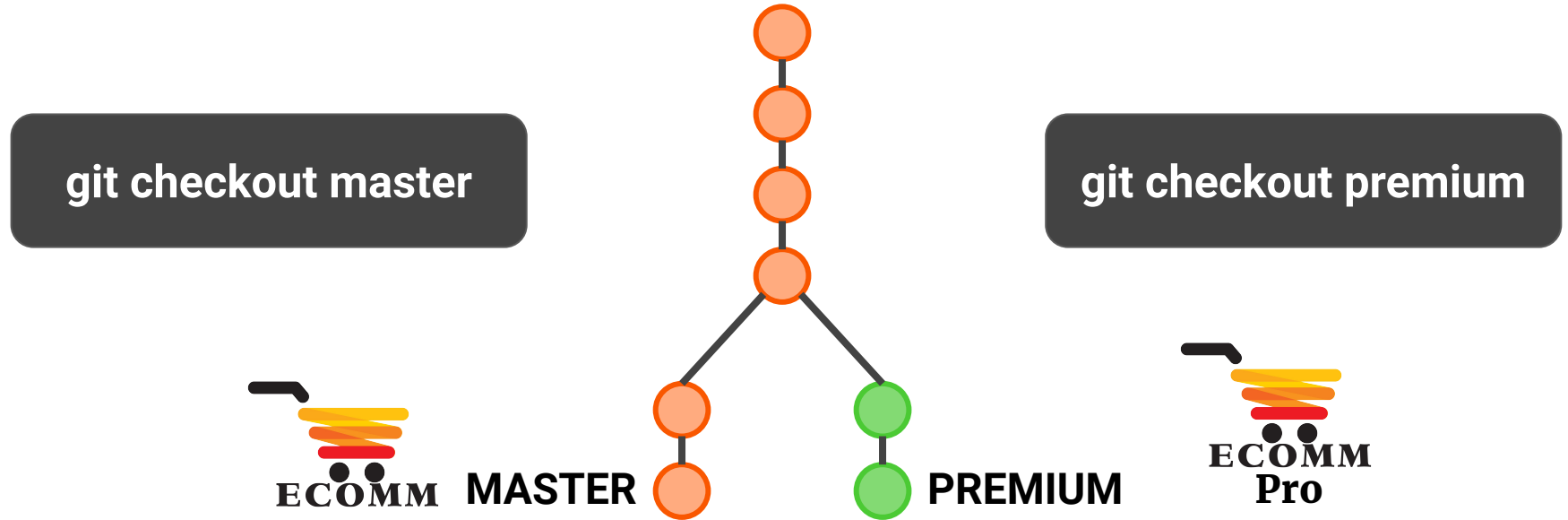
MASTER



Branching

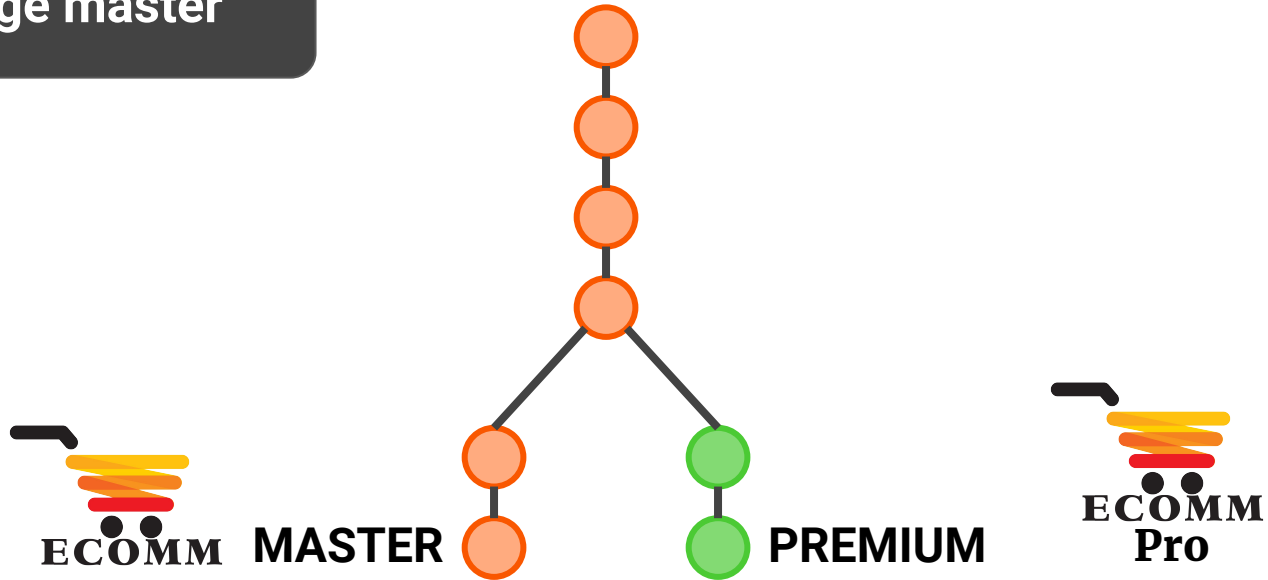


Branching



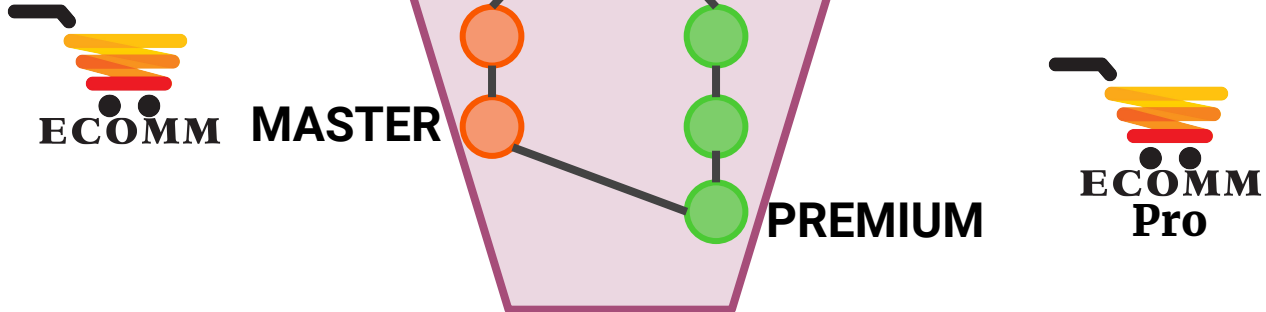
Merging

`git merge master`



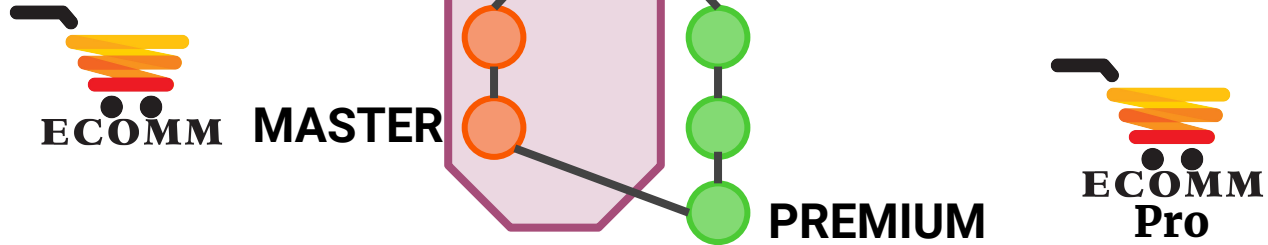
Merging

`git merge master`

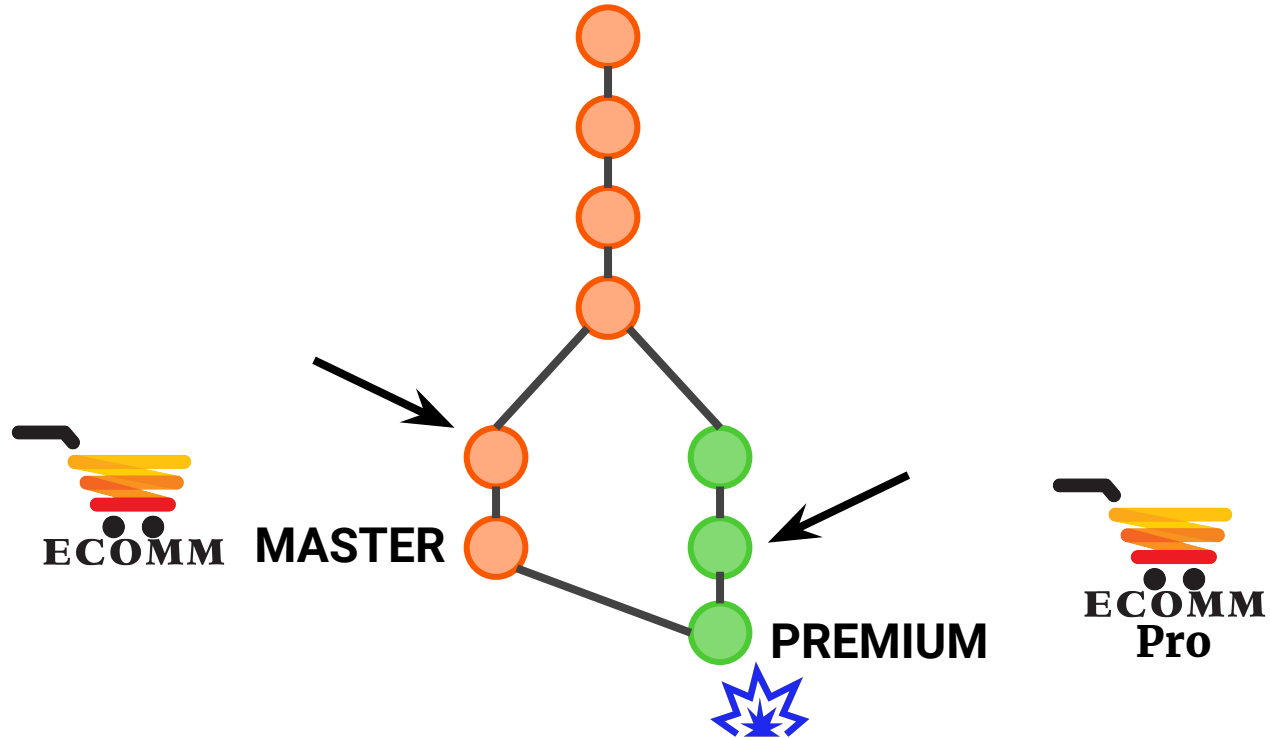


Merging

git merge master



Merging



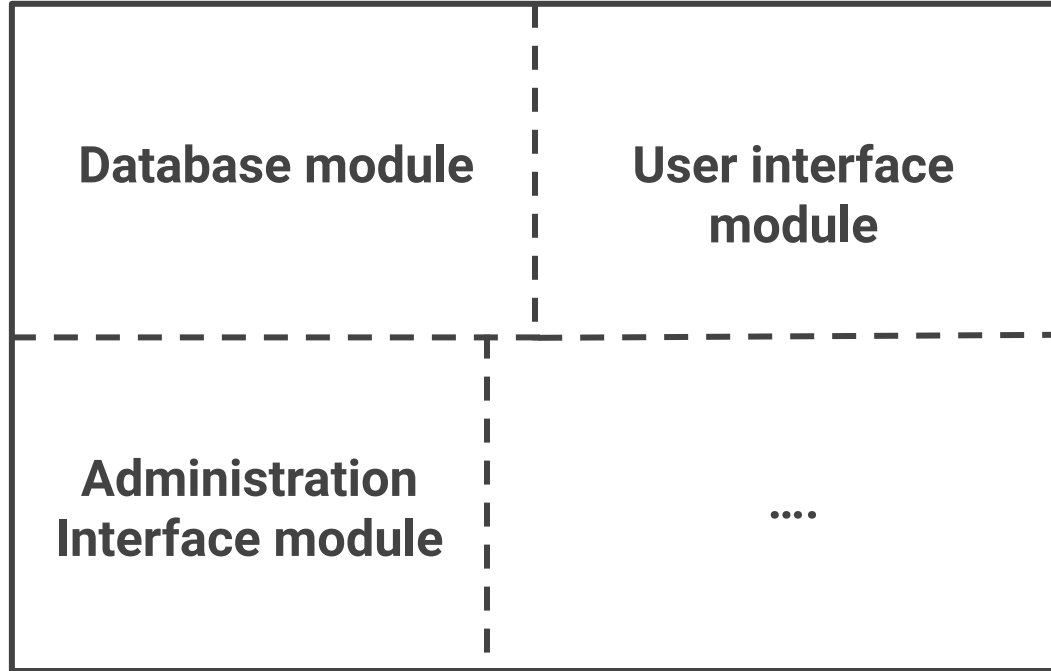
Version Control Is Useful To..

**...manage multiple version of
a project**

Sharing Code Amongst Developers

A project without Version Control

Inventory Management



A project without Version Control



Database module



**Administration
Interface module**

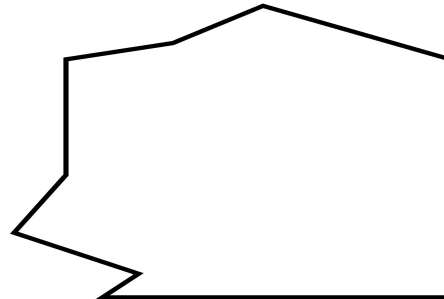
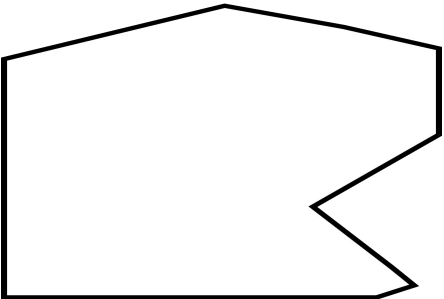
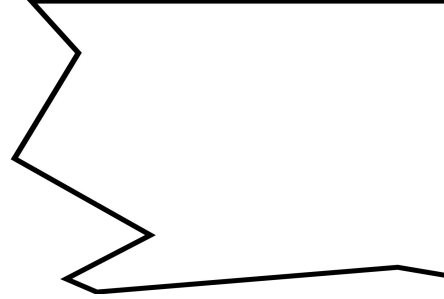
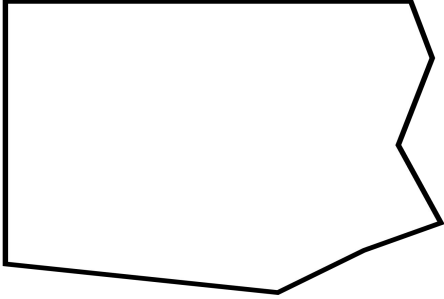
**User interface
module**



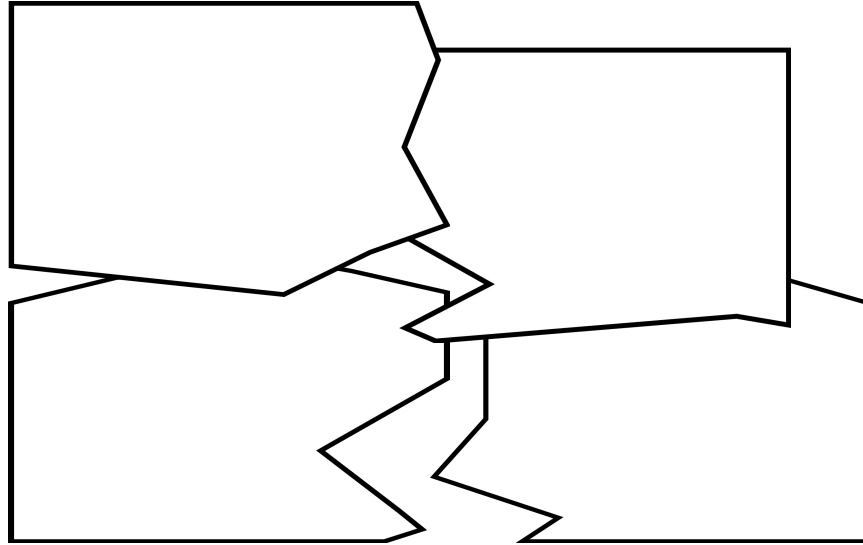
...



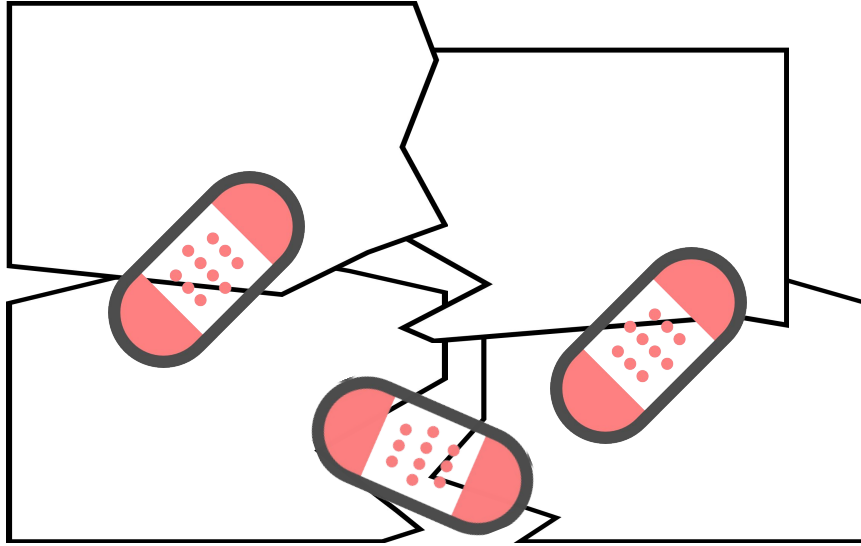
A project without Version Control



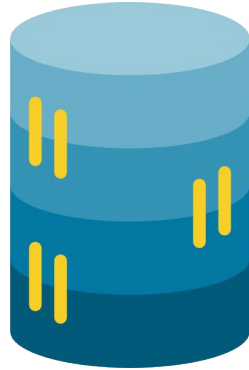
The Integration Phase



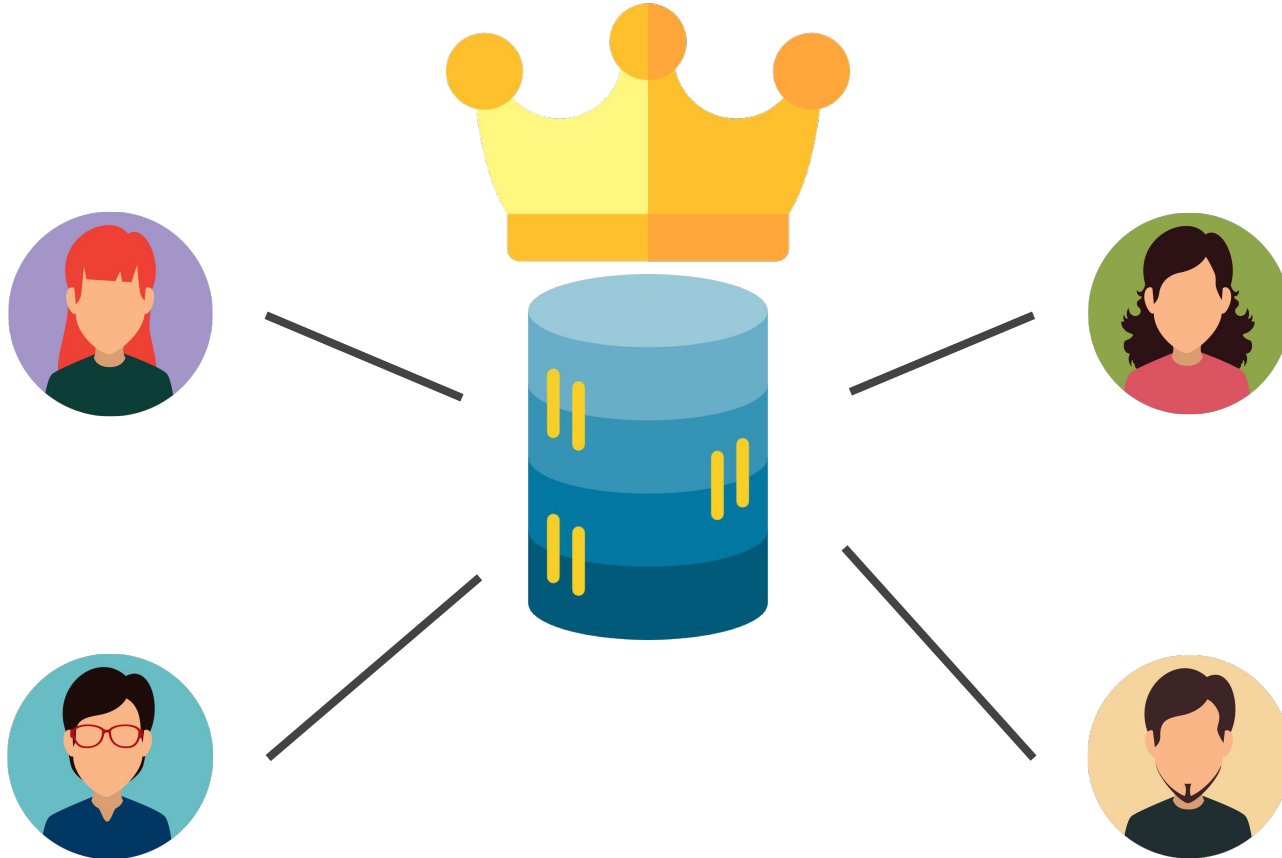
The Integration Phase



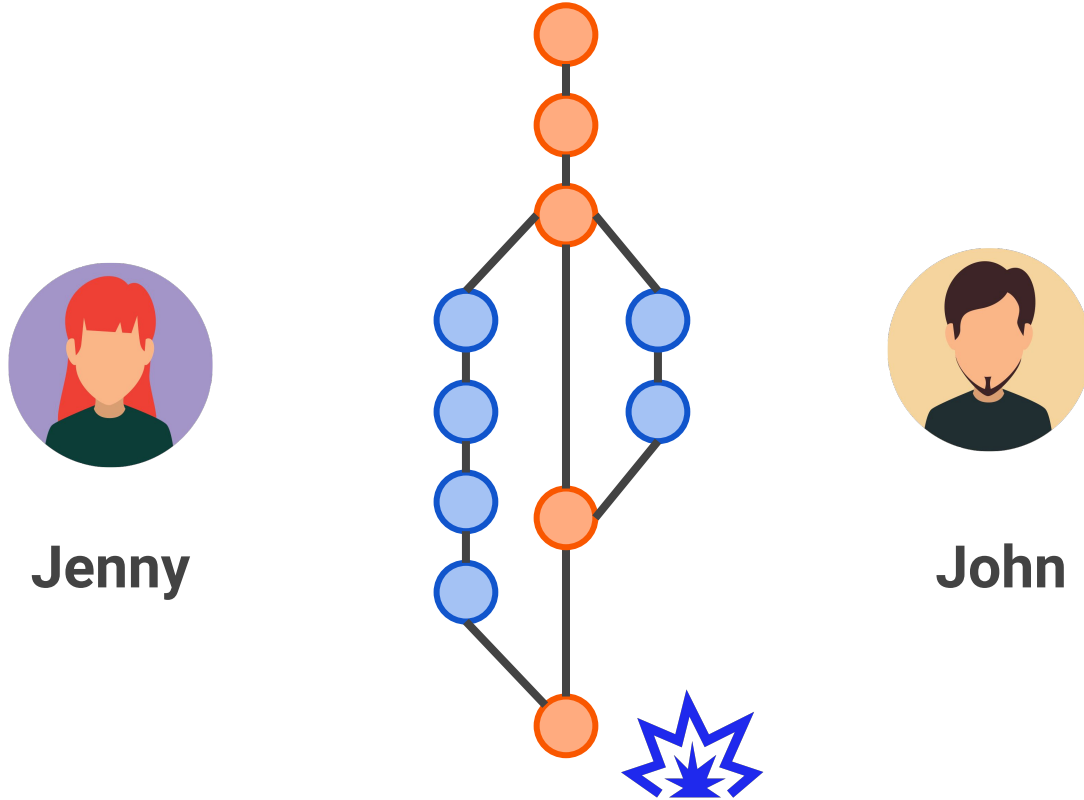
A project with Version Control



A project with Version Control



A project with Version Control



"If it hurts, do it more often."

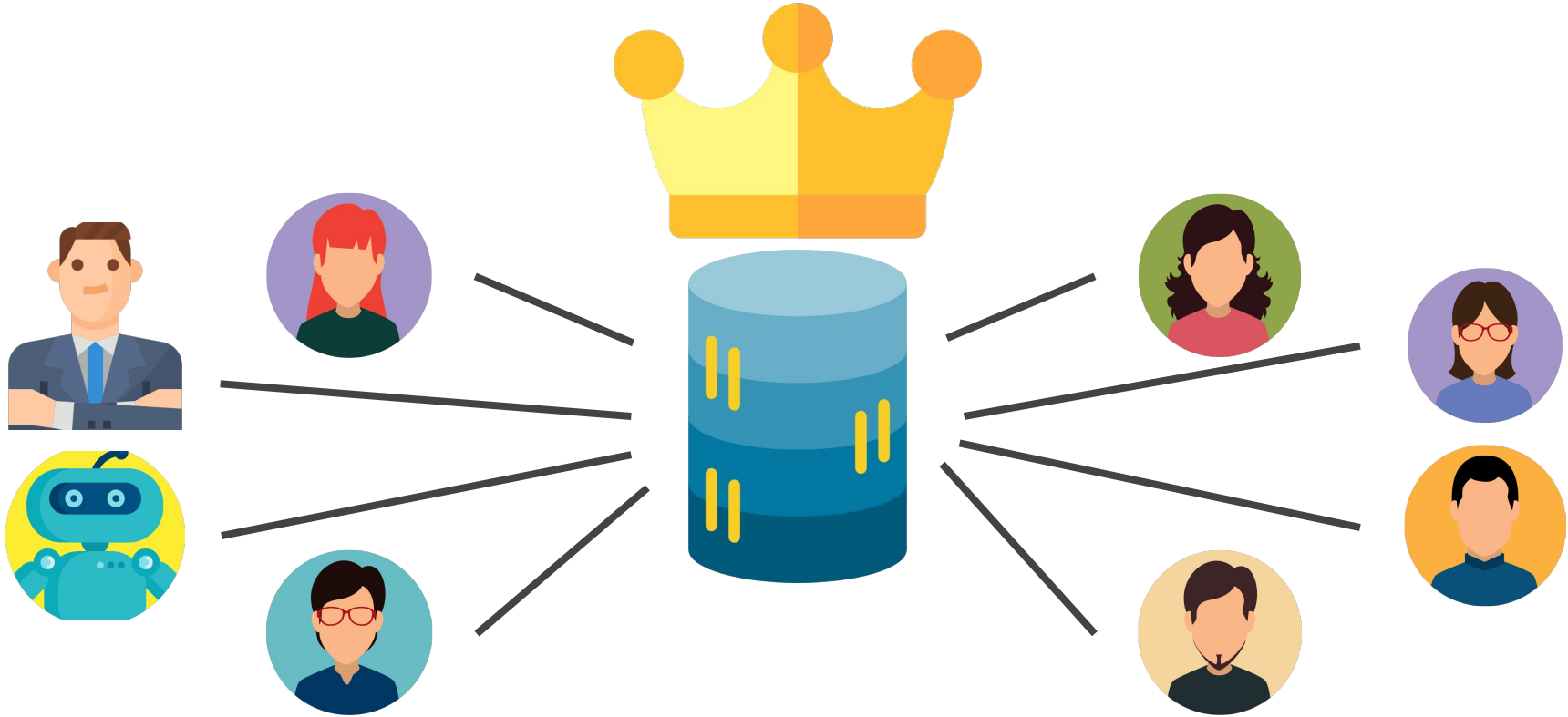
Martin Fowler

Version Control Is Useful To..

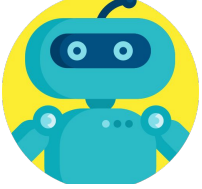
**...share code amongst
developers**

Coordinating Teamwork

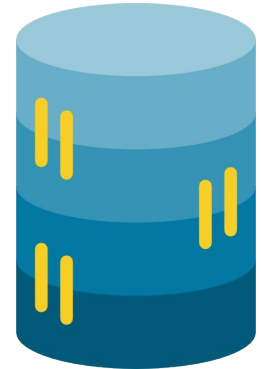
The Source of Truth



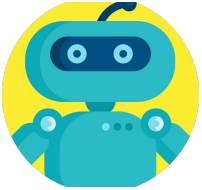
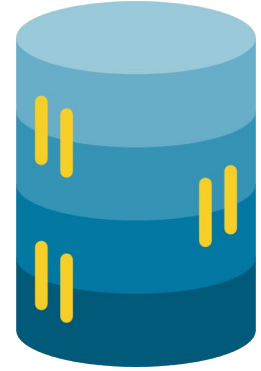
The Bug Trackers



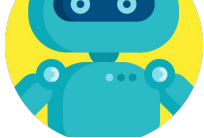
- **Example: Bugzilla, Mantis**
- **Stores Bug reports**



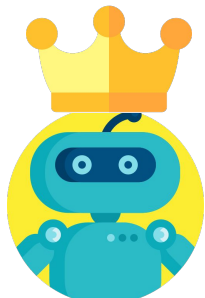
Project Management Tools



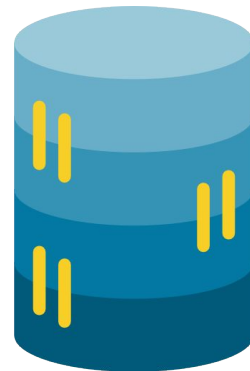
- **Example: Jira**
- **Tracks work**
- **Allocate tasks**



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

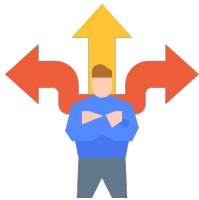
Gits Strong Points



Fast



Smart

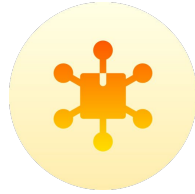


Flexible



Safe

Gits Strong Points



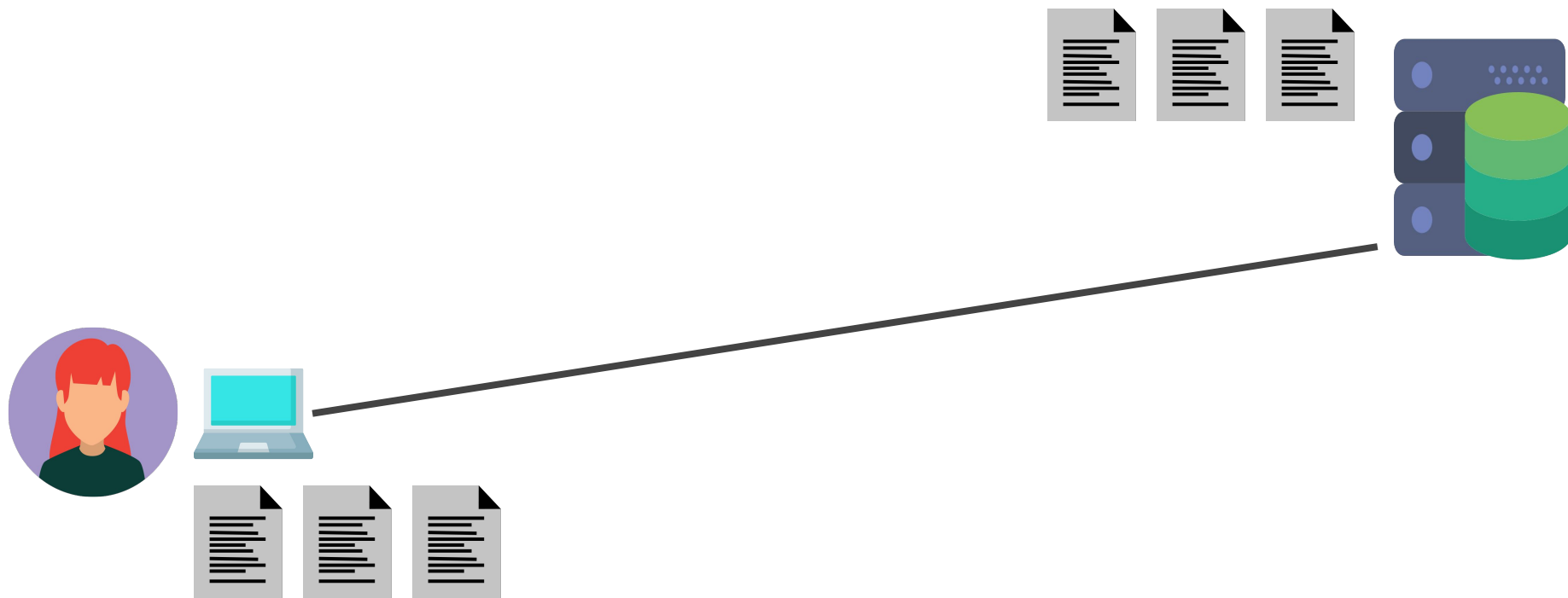
Distributed

Client-server Version Control

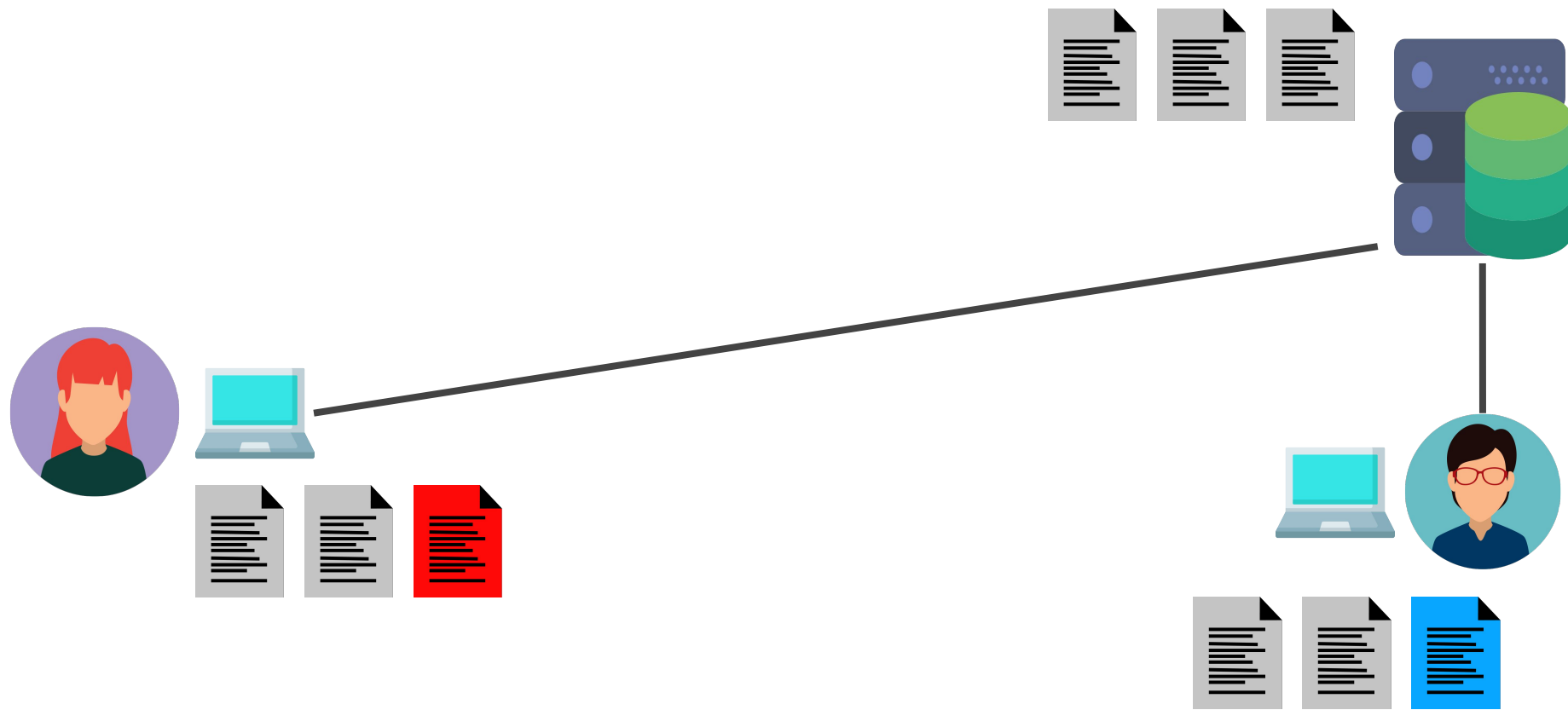
Client-server Version Control



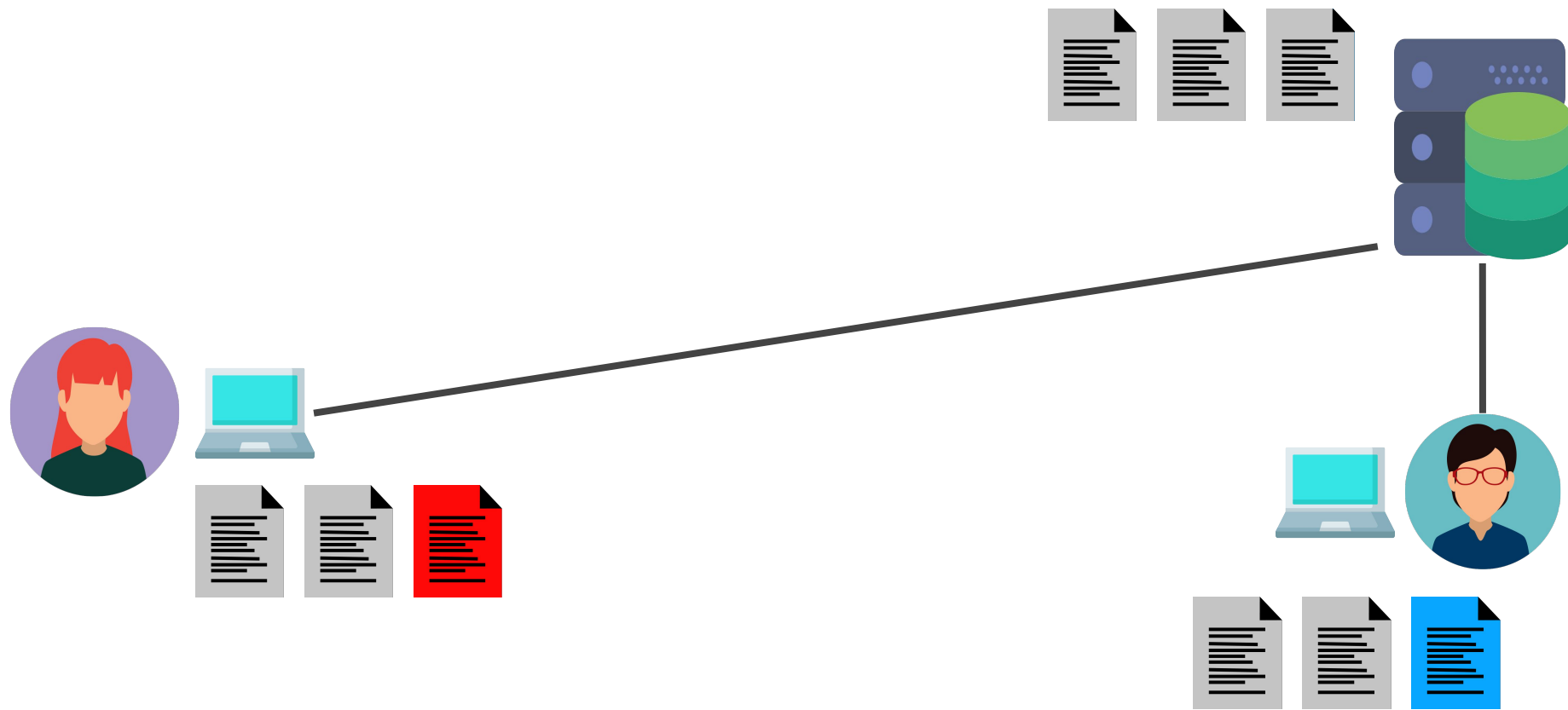
Client-server Version Control



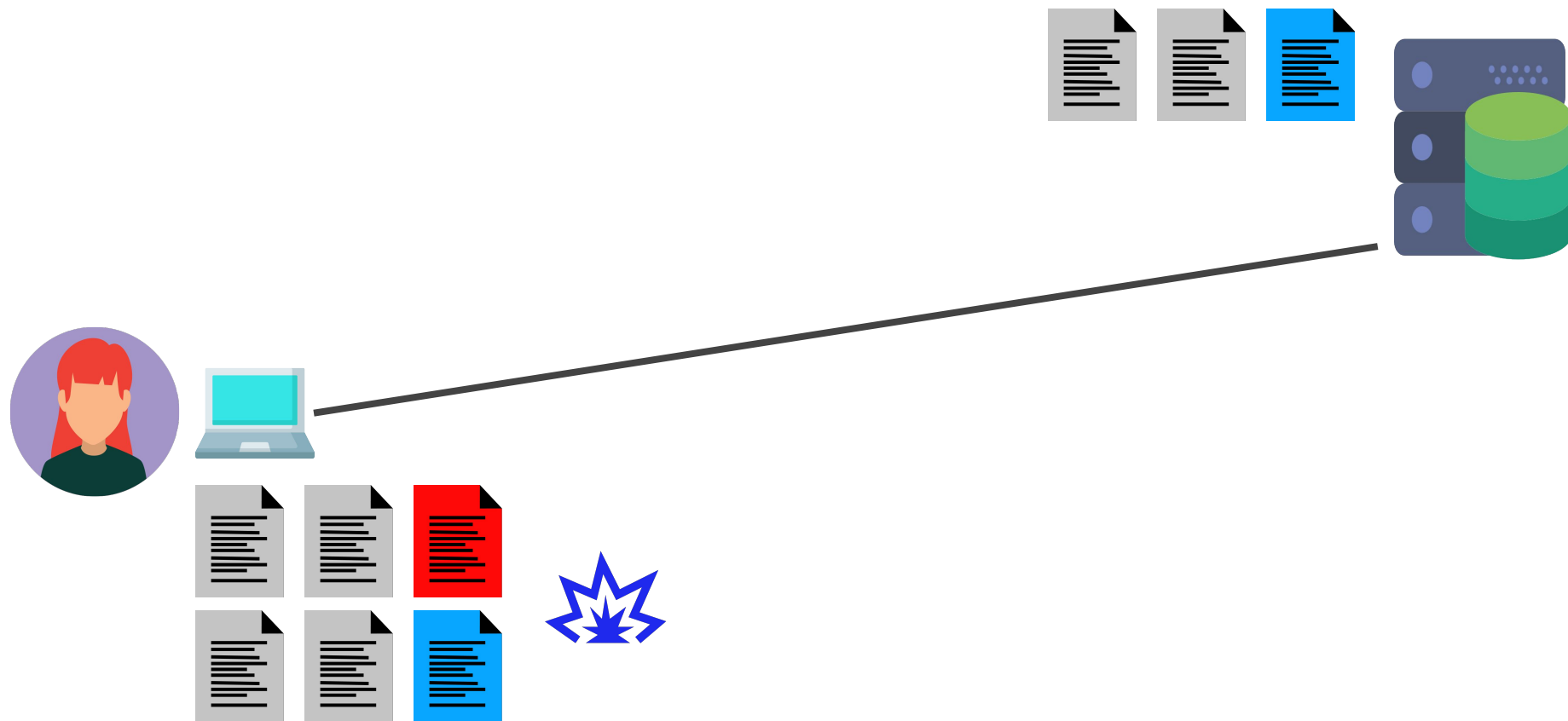
Client-server Version Control



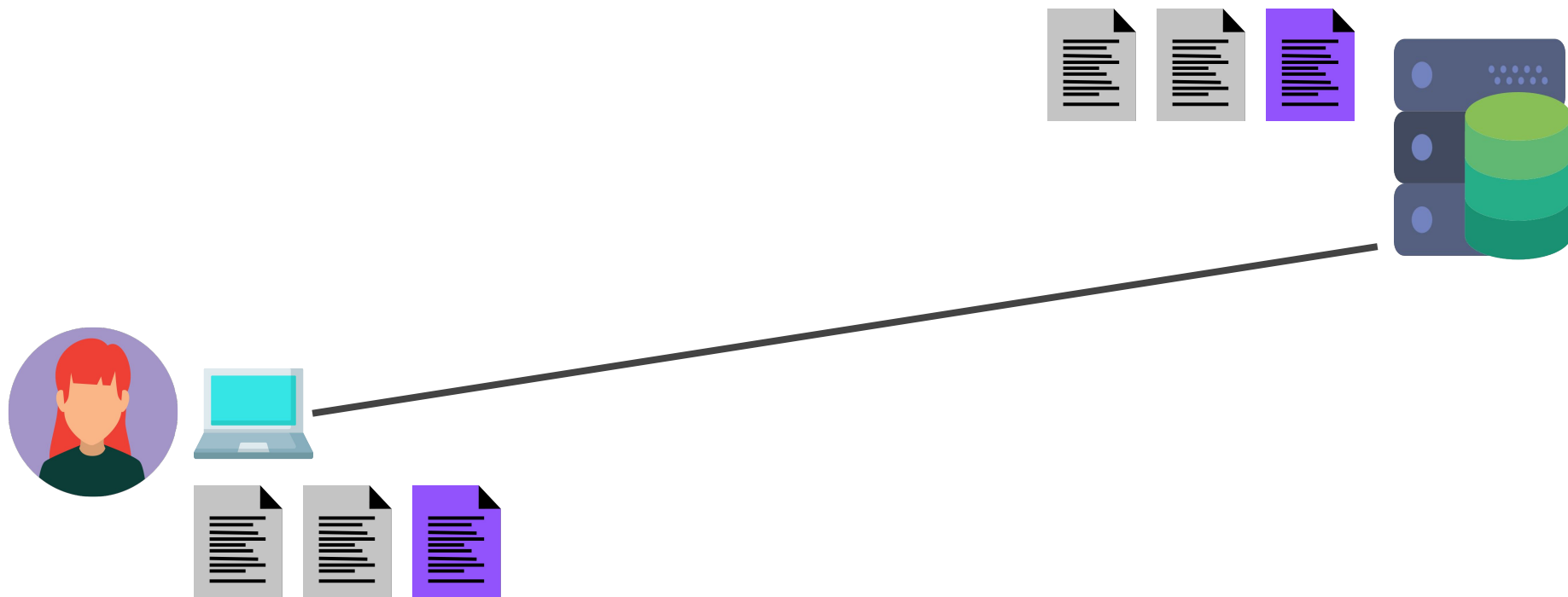
Client-server Version Control



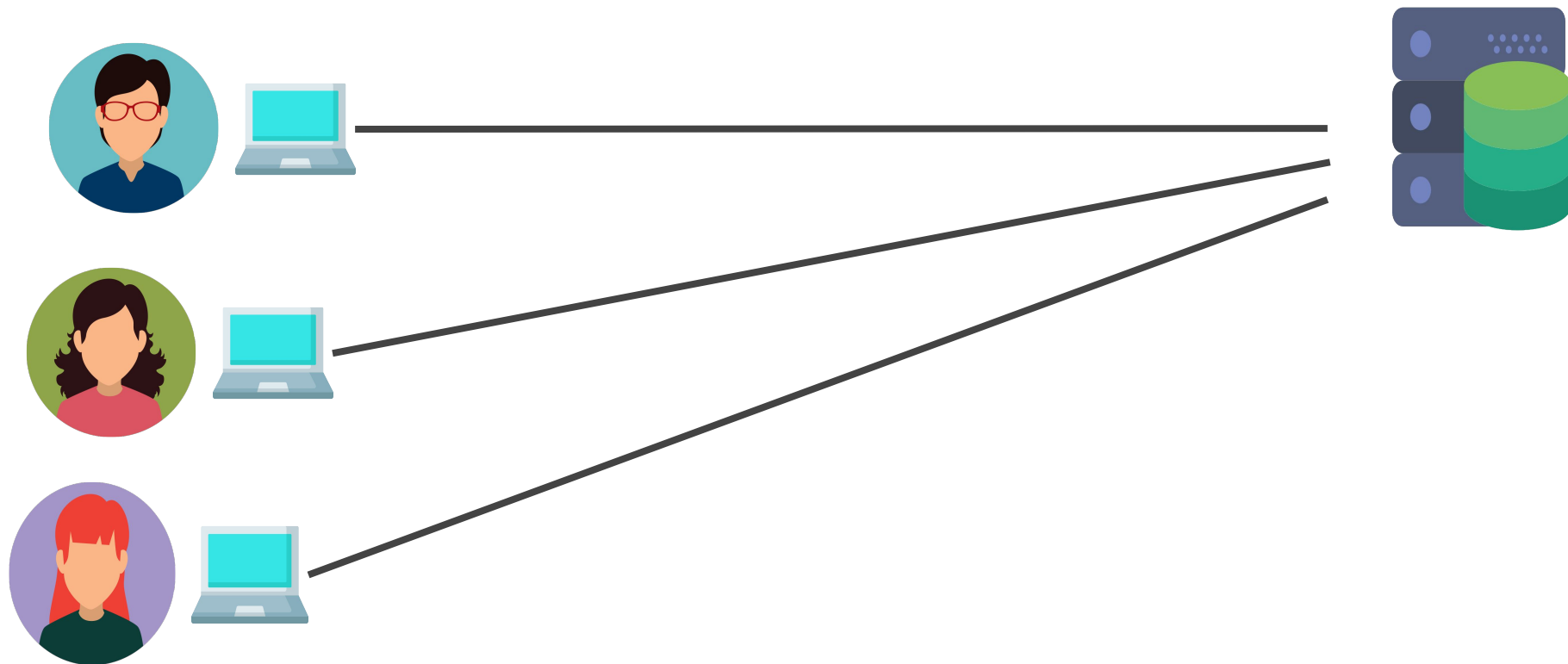
Client-server Version Control



Client-server Version Control



Client-server Version Control



Distributed Version Control

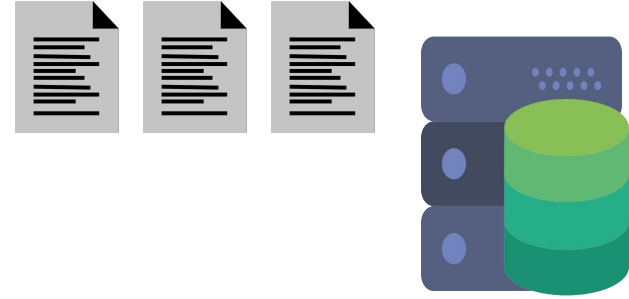
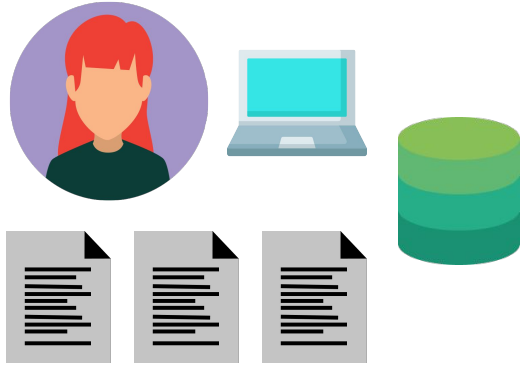
Distributed Version Control



Cloning a Repository

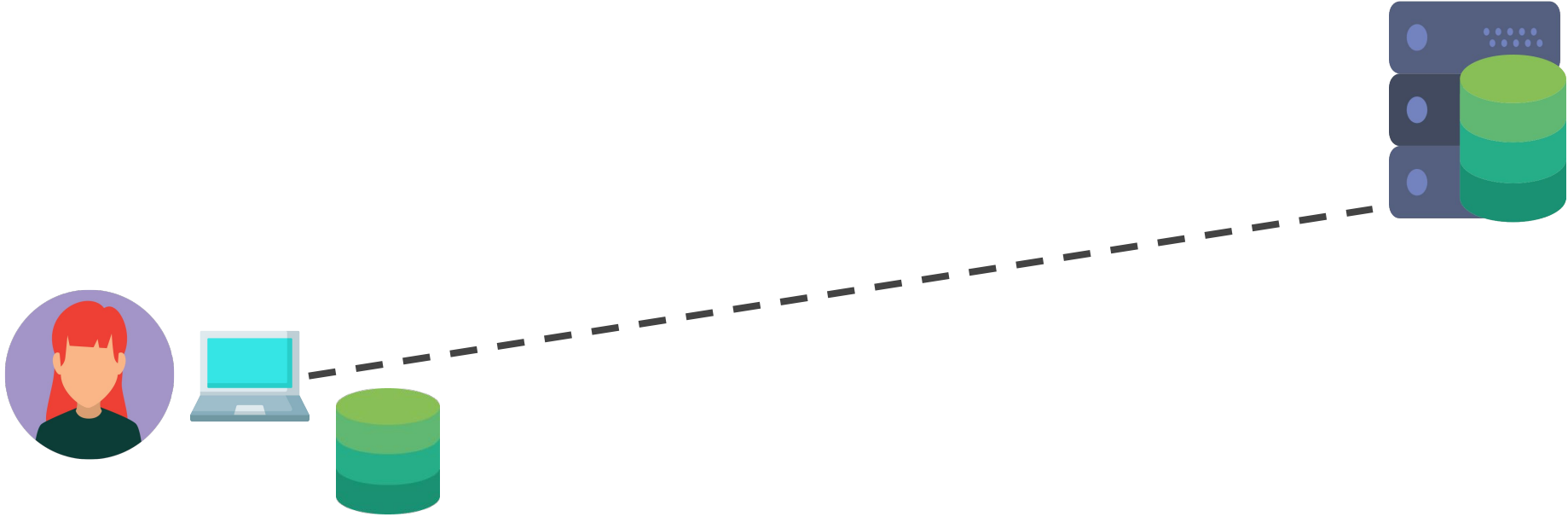


Cloning a Repository

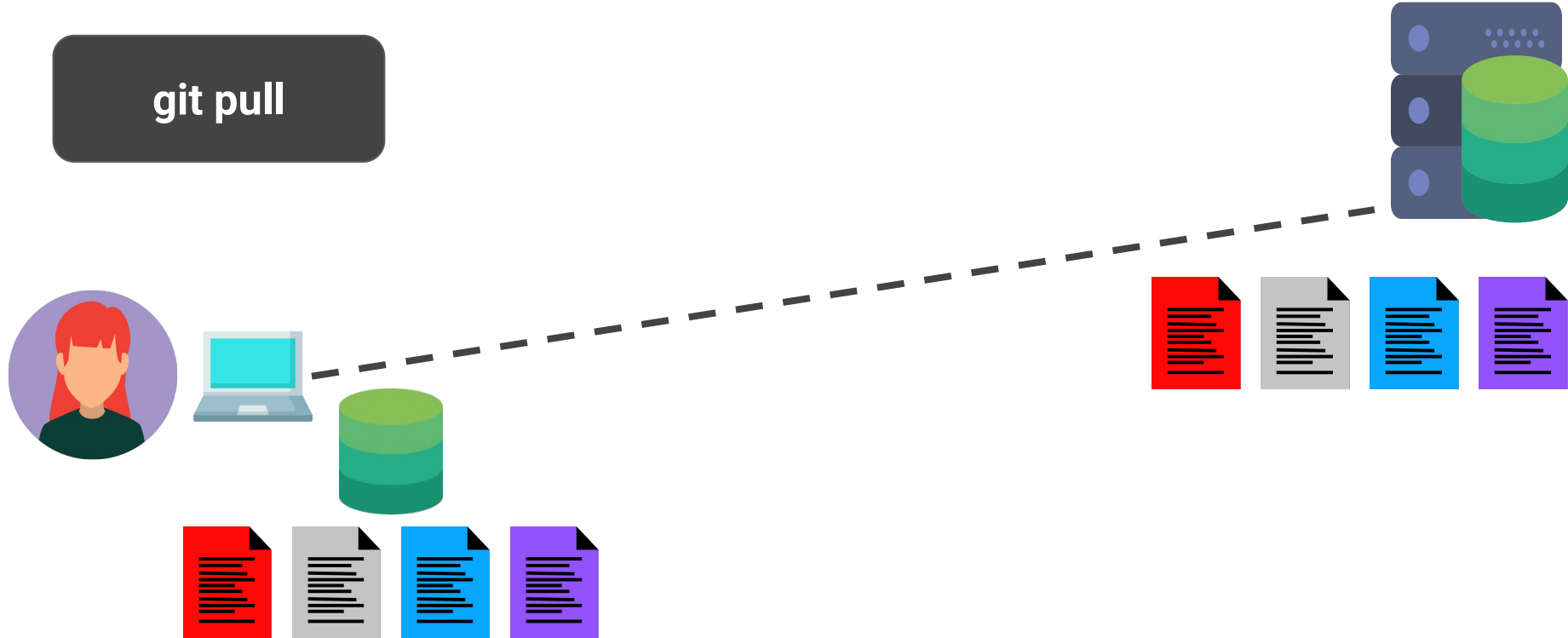


Where Is the Repository

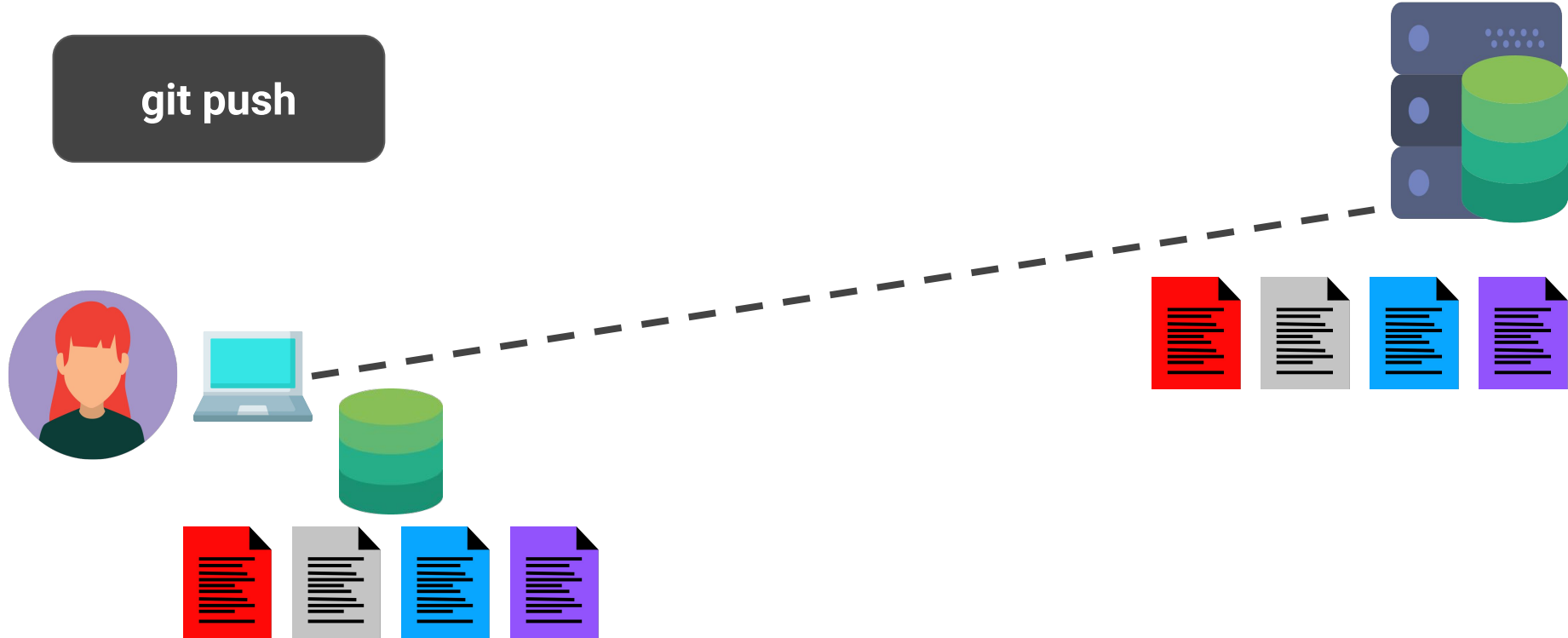
Distributed Version Control



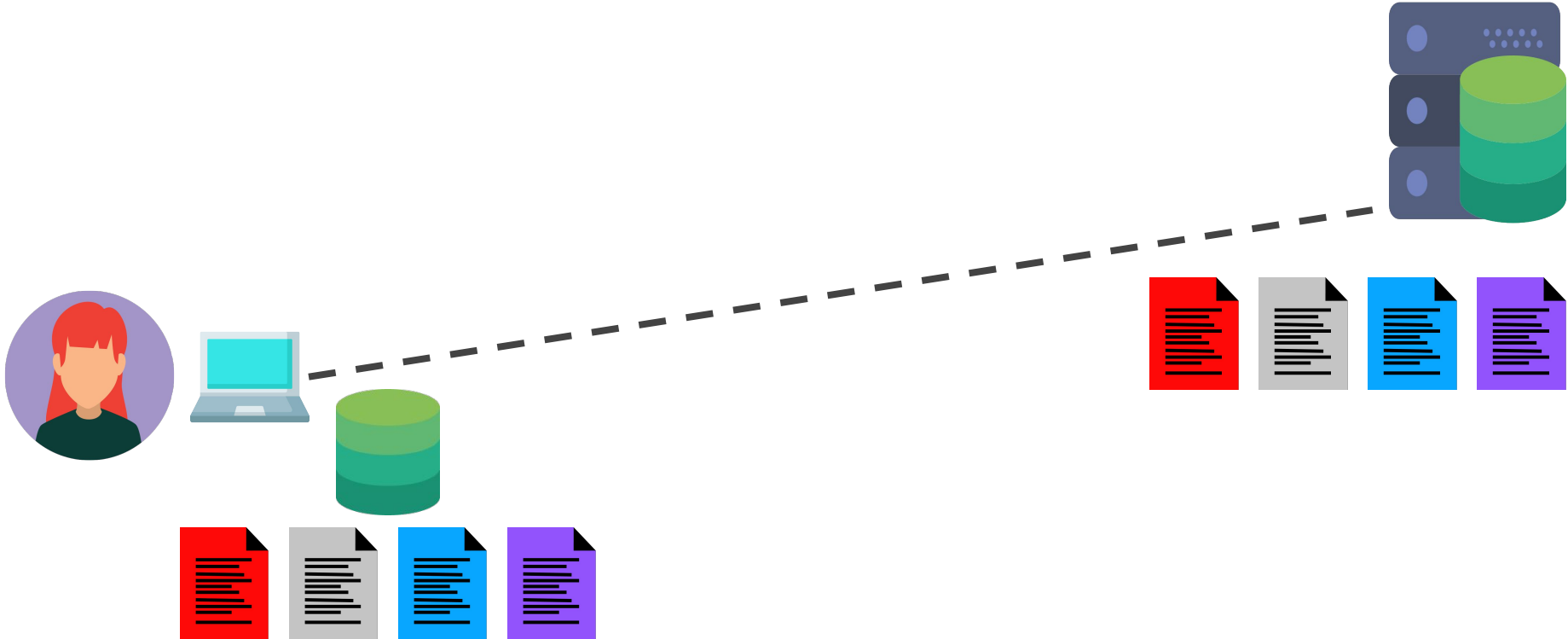
Remote Repositories



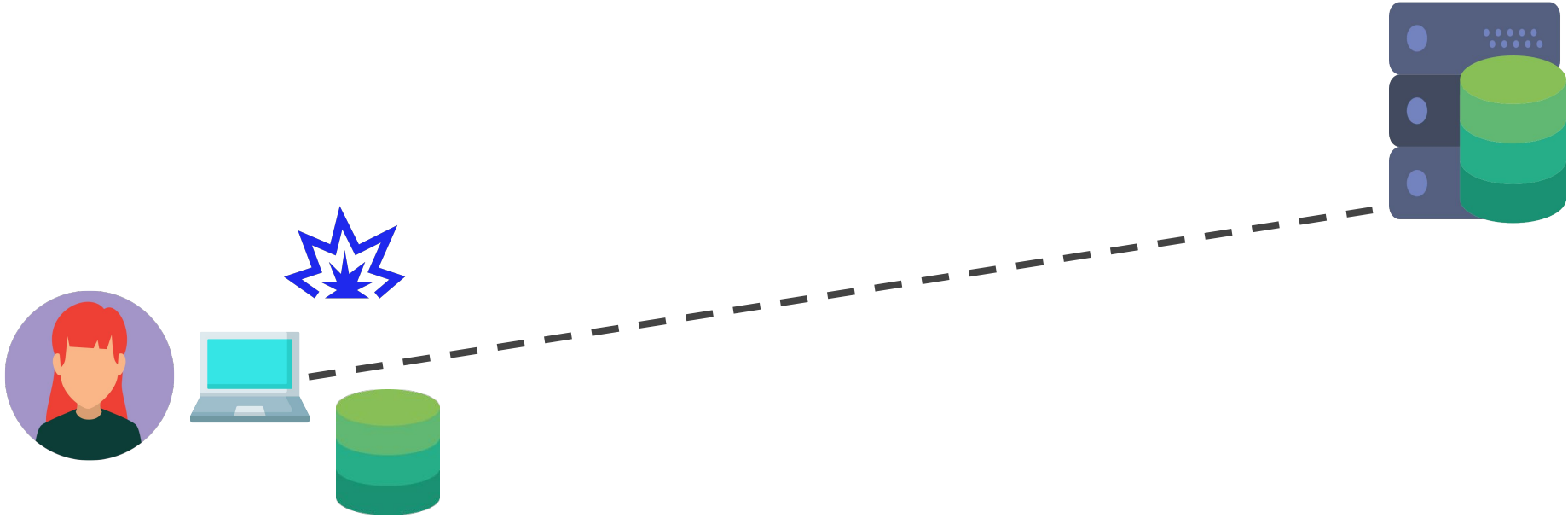
Remote Repositories



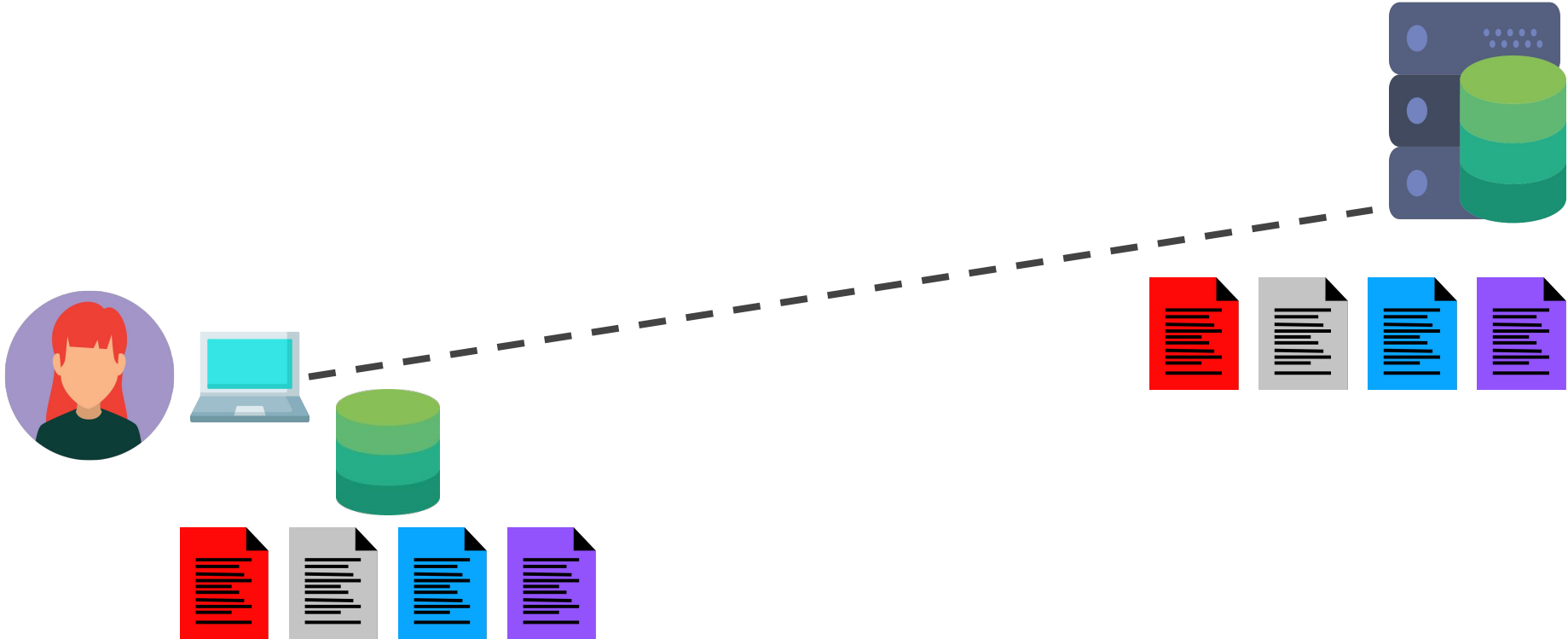
Remote Repositories



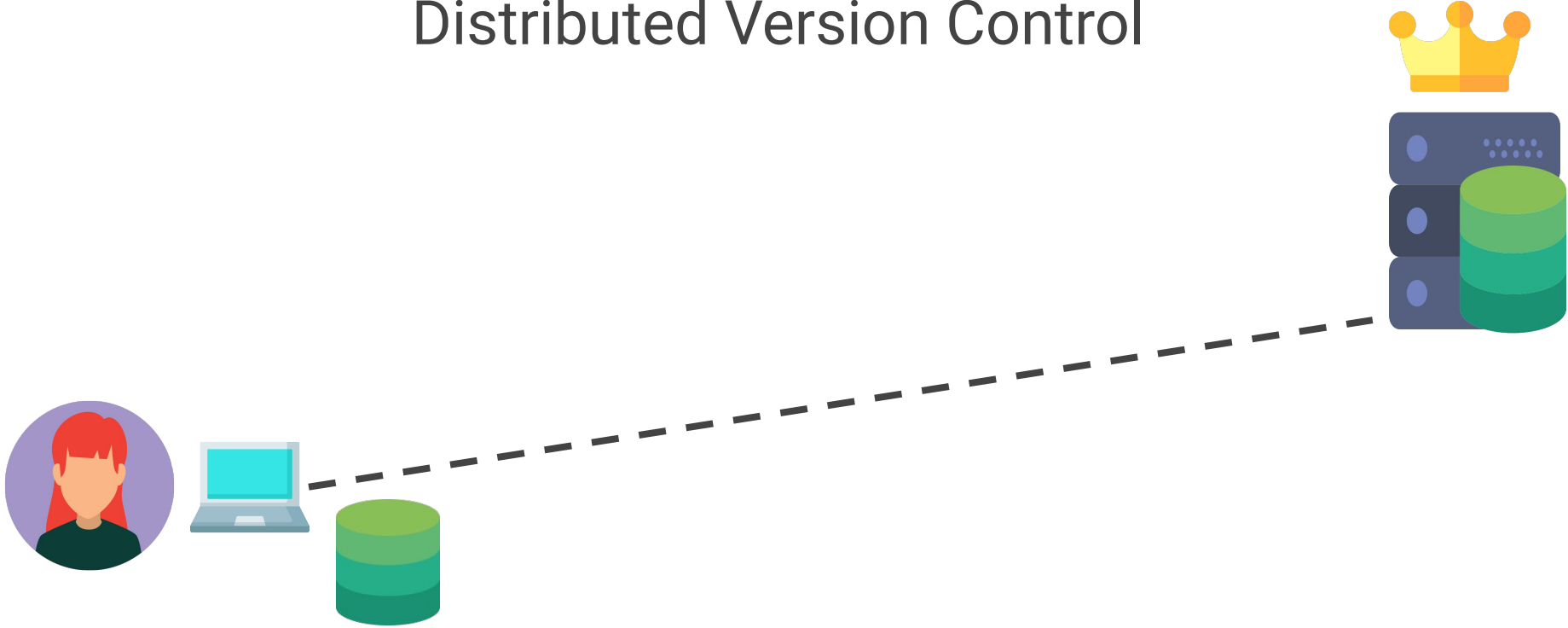
Remote Repositories



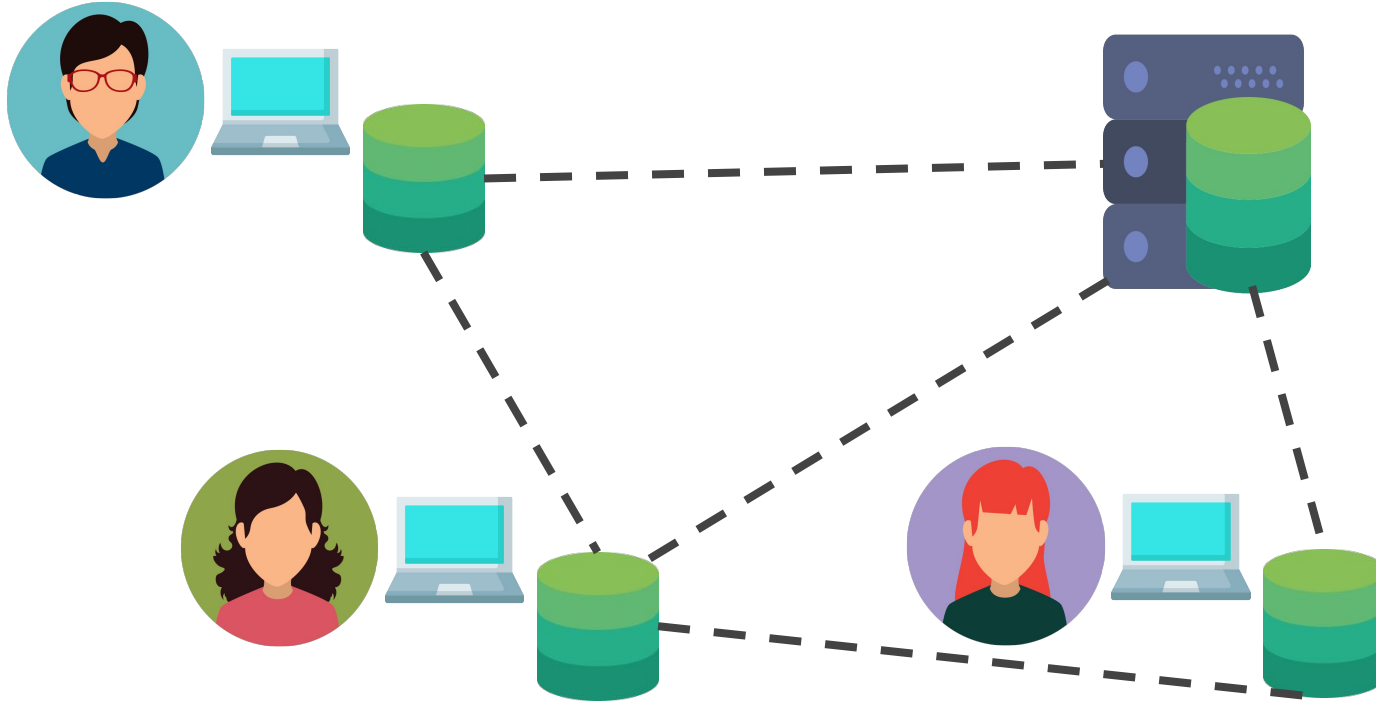
Remote Repositories



Distributed Version Control



Distributed Version Control



Distributed Version Control

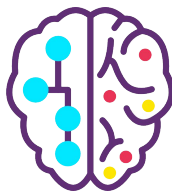


**Distributed version control gives
you flexibility**

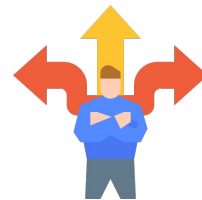
Gits Strong Points



Fast



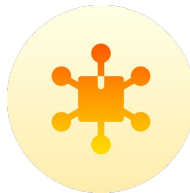
Smart



Flexible



Safe

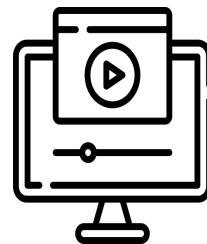
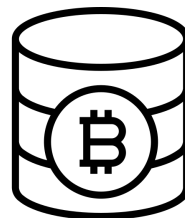
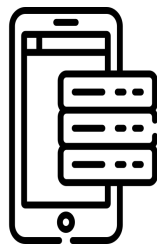
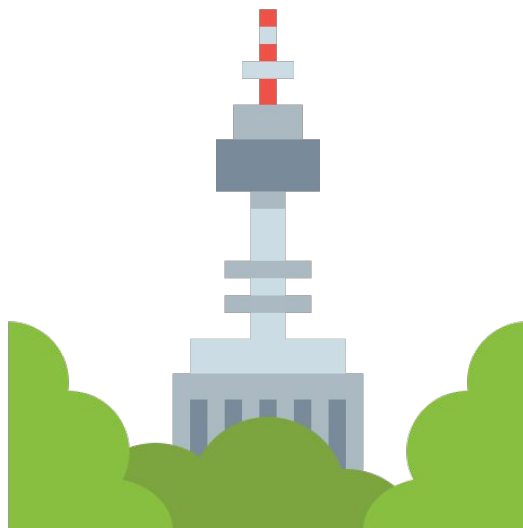


Distributed

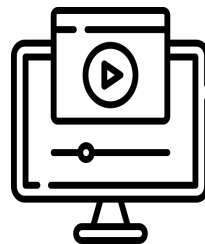
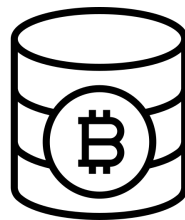
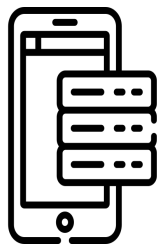


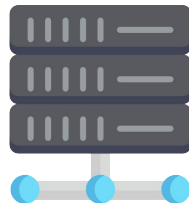
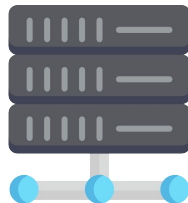
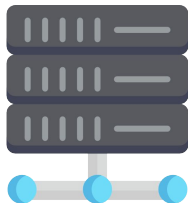
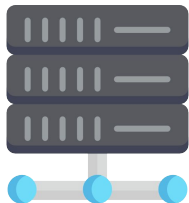
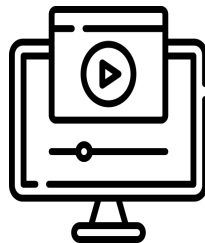
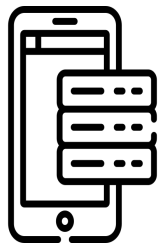
Cool!

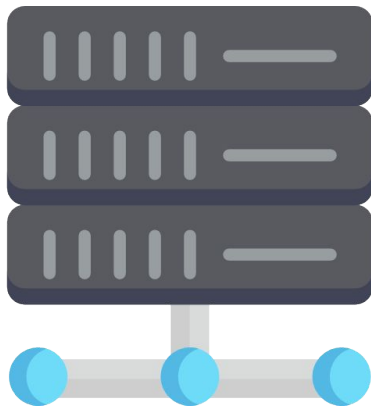
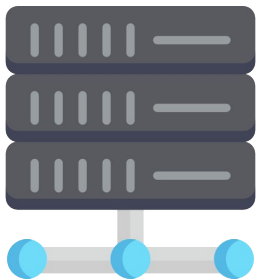
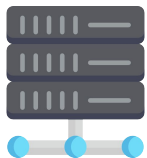
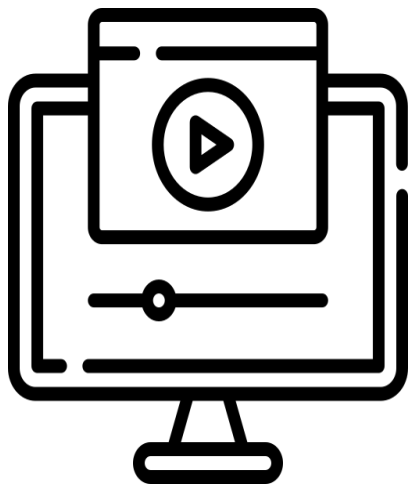
The Bad Old Days

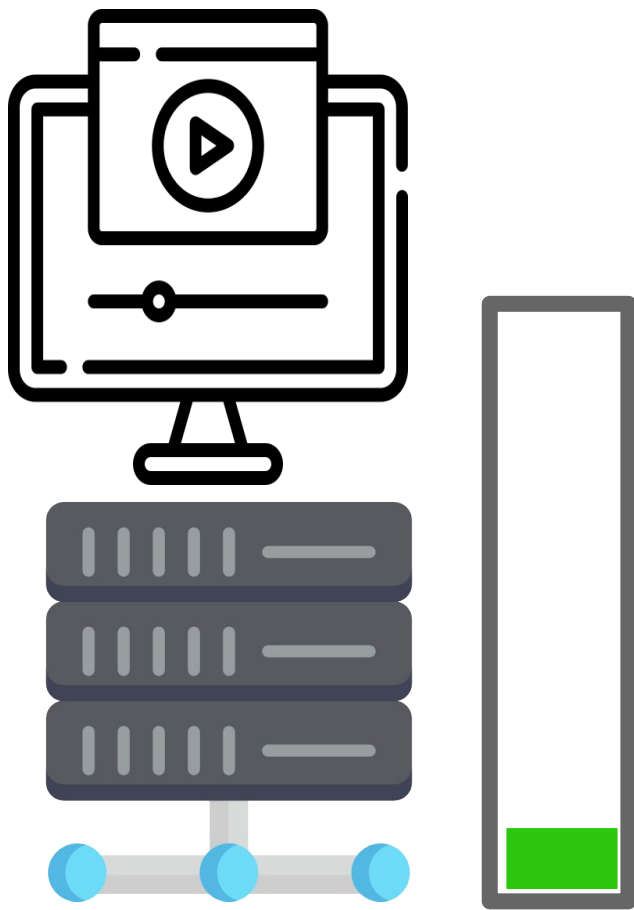


**No Applications,
No business!**

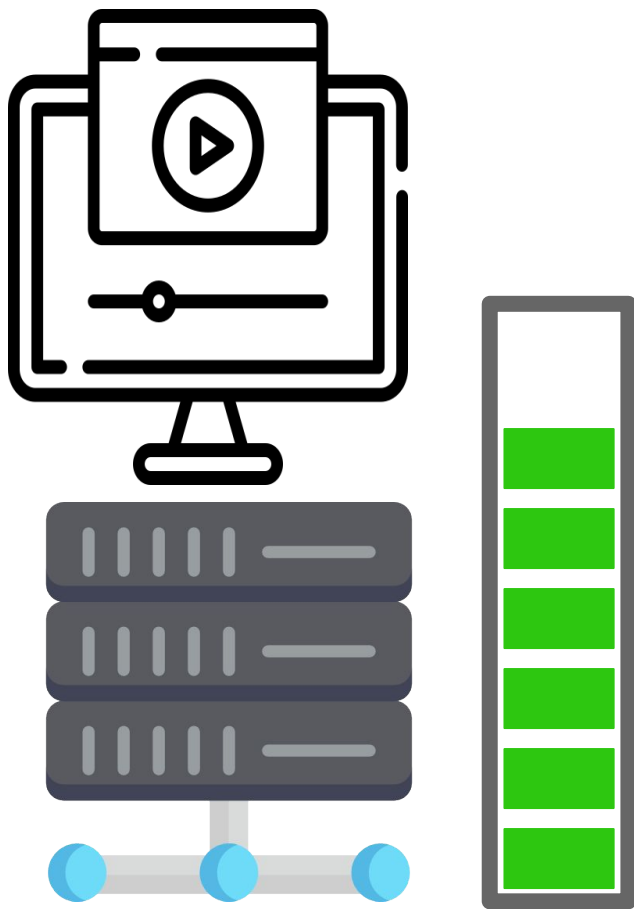


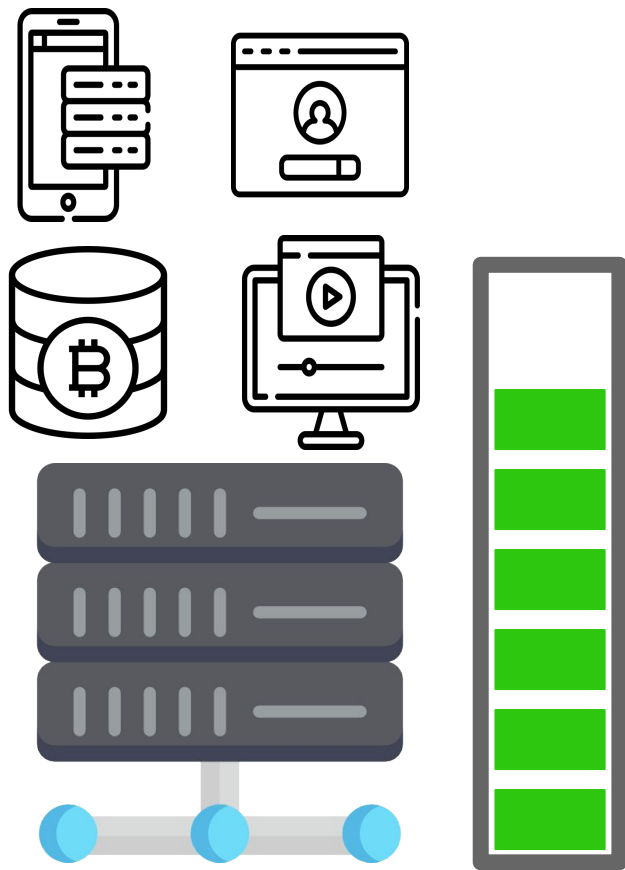






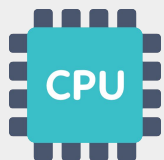
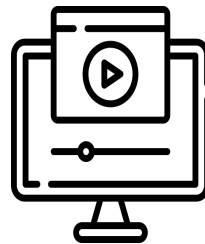
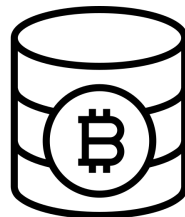
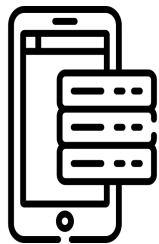
Hello VMware!



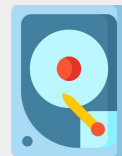


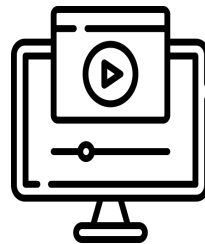
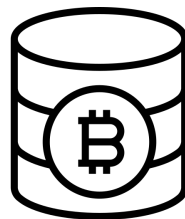
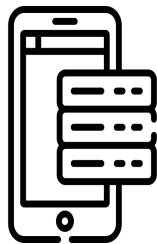
But...

VM Warts



Server





VM



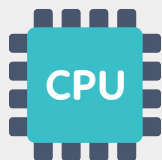
VM



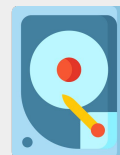
VM

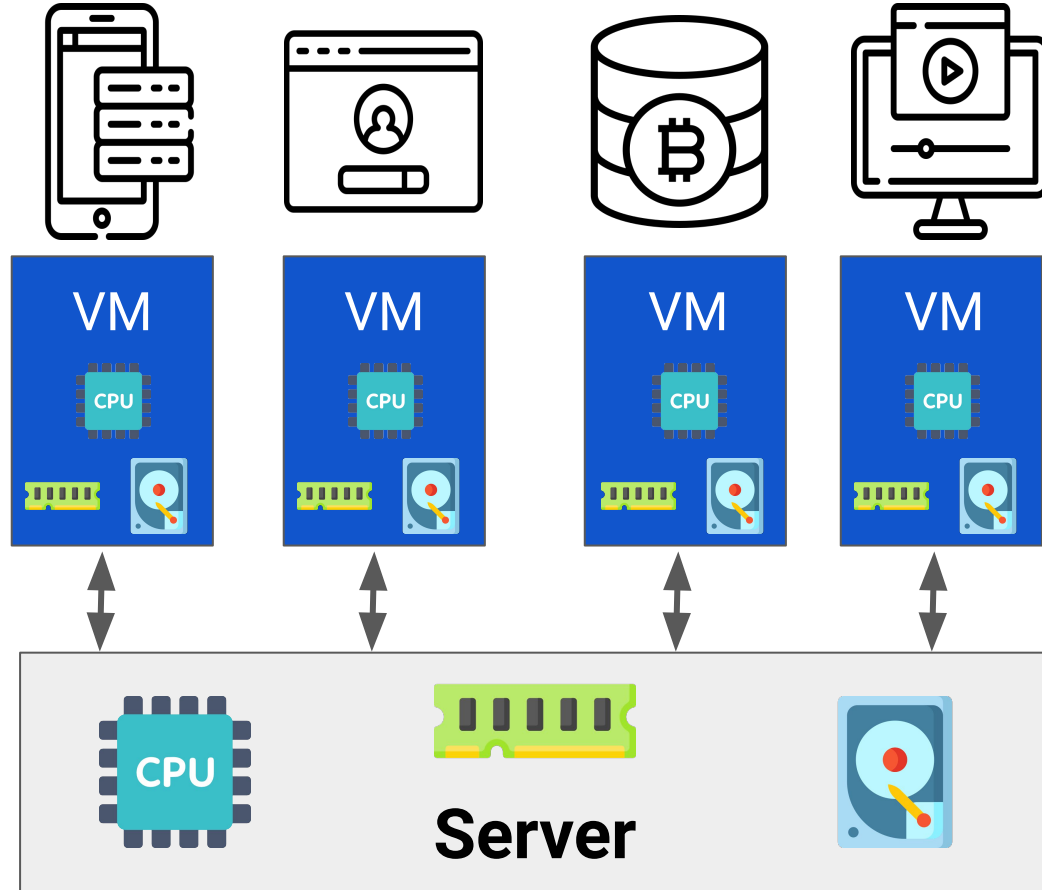


VM

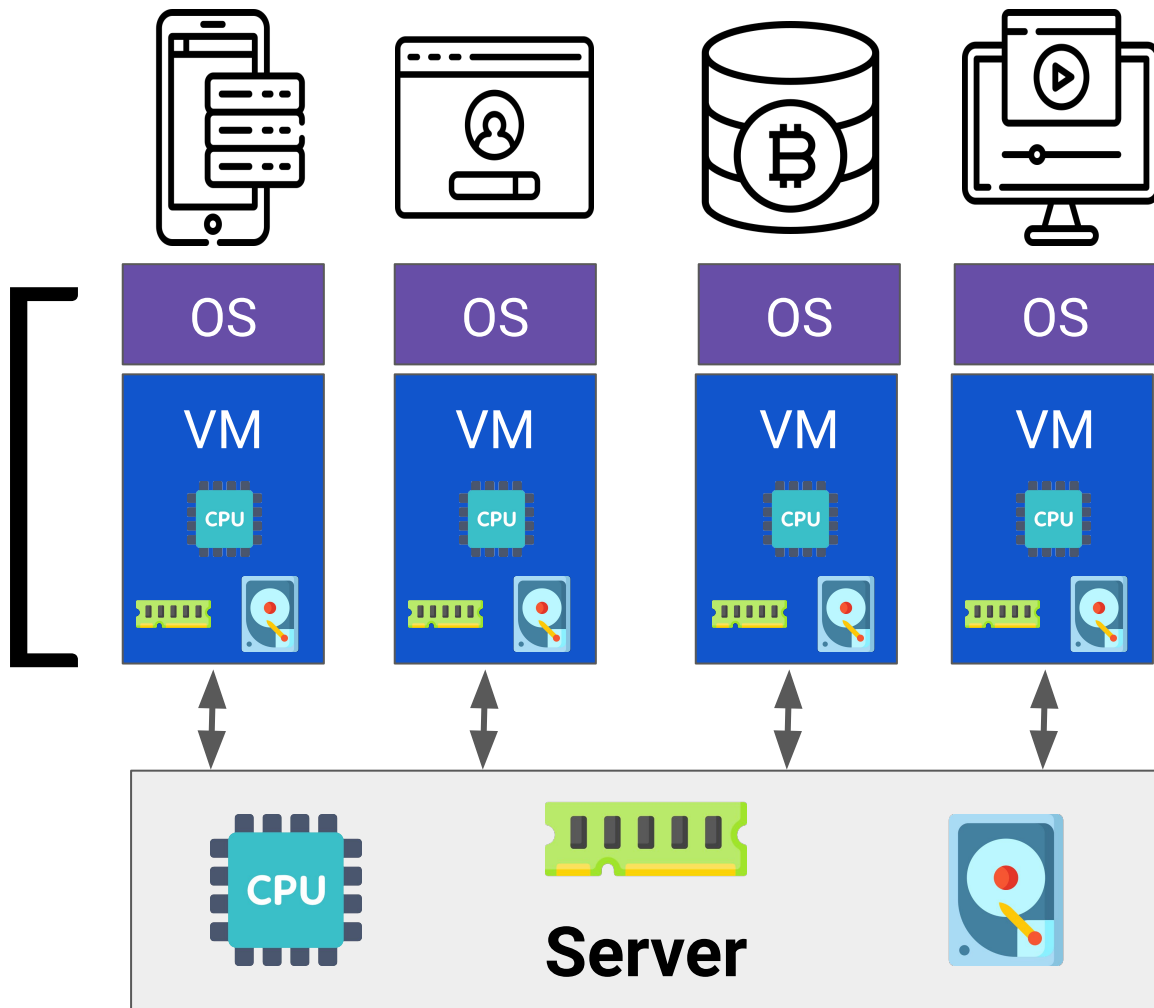


Server





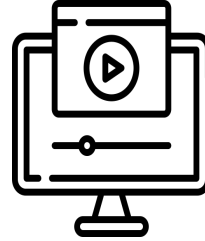
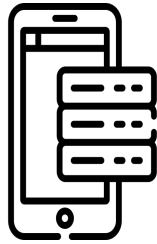
Waste!



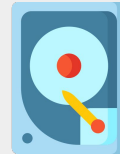
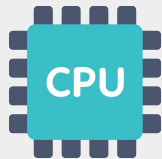
Potential OS Overheads:

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

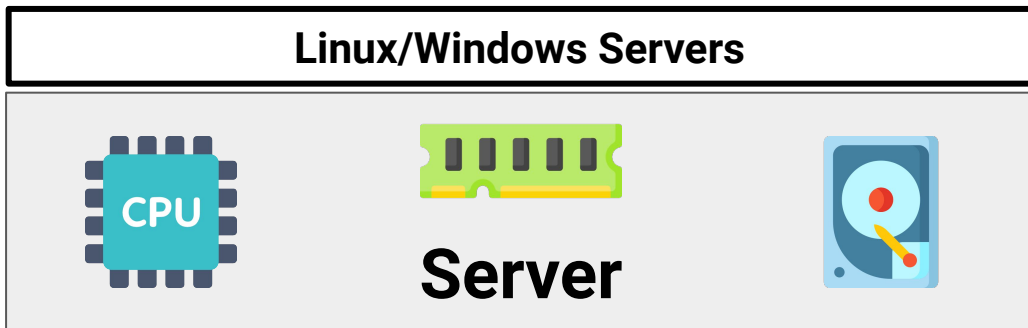
Containers

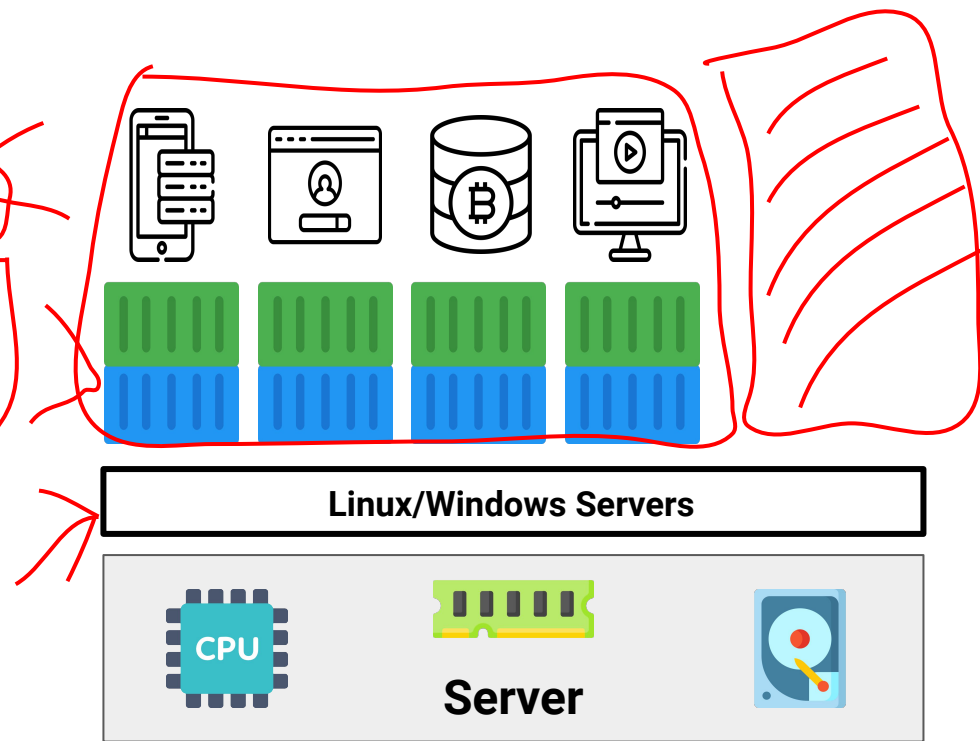
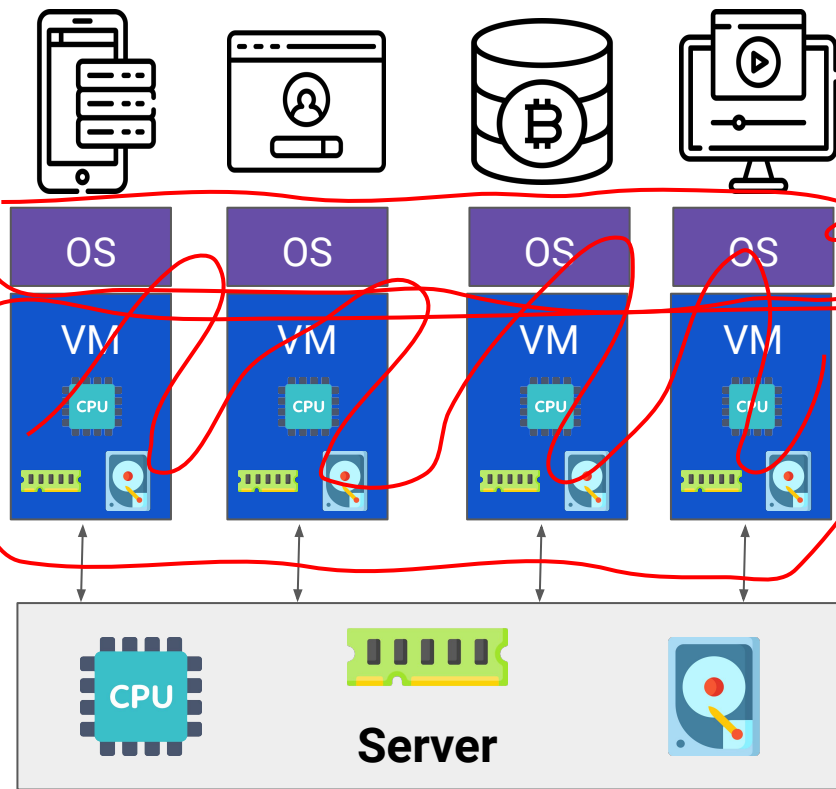


Linux/Windows Servers

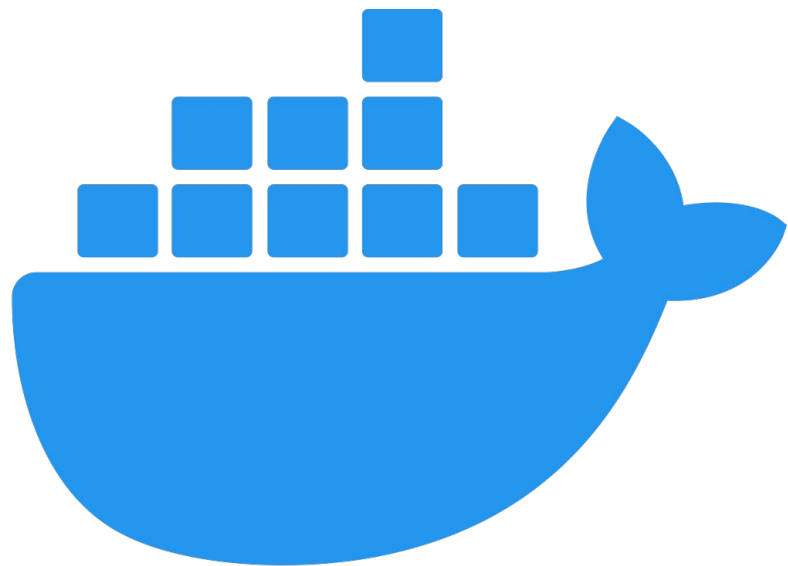


Server





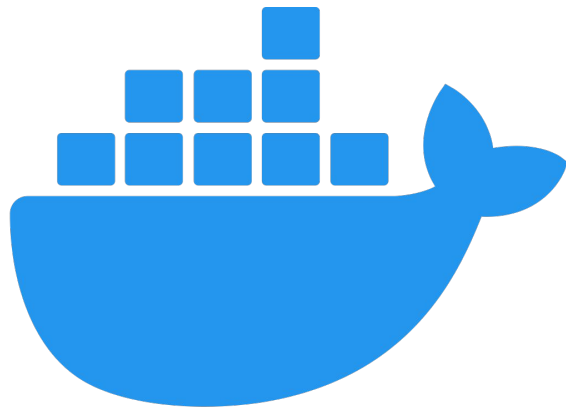
Docker



docker®

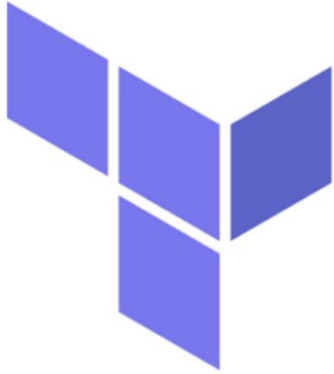
Docker: The Technology

Making containers easy



docker[®]

<Containerizing Apps>



HashiCorp

Terraform

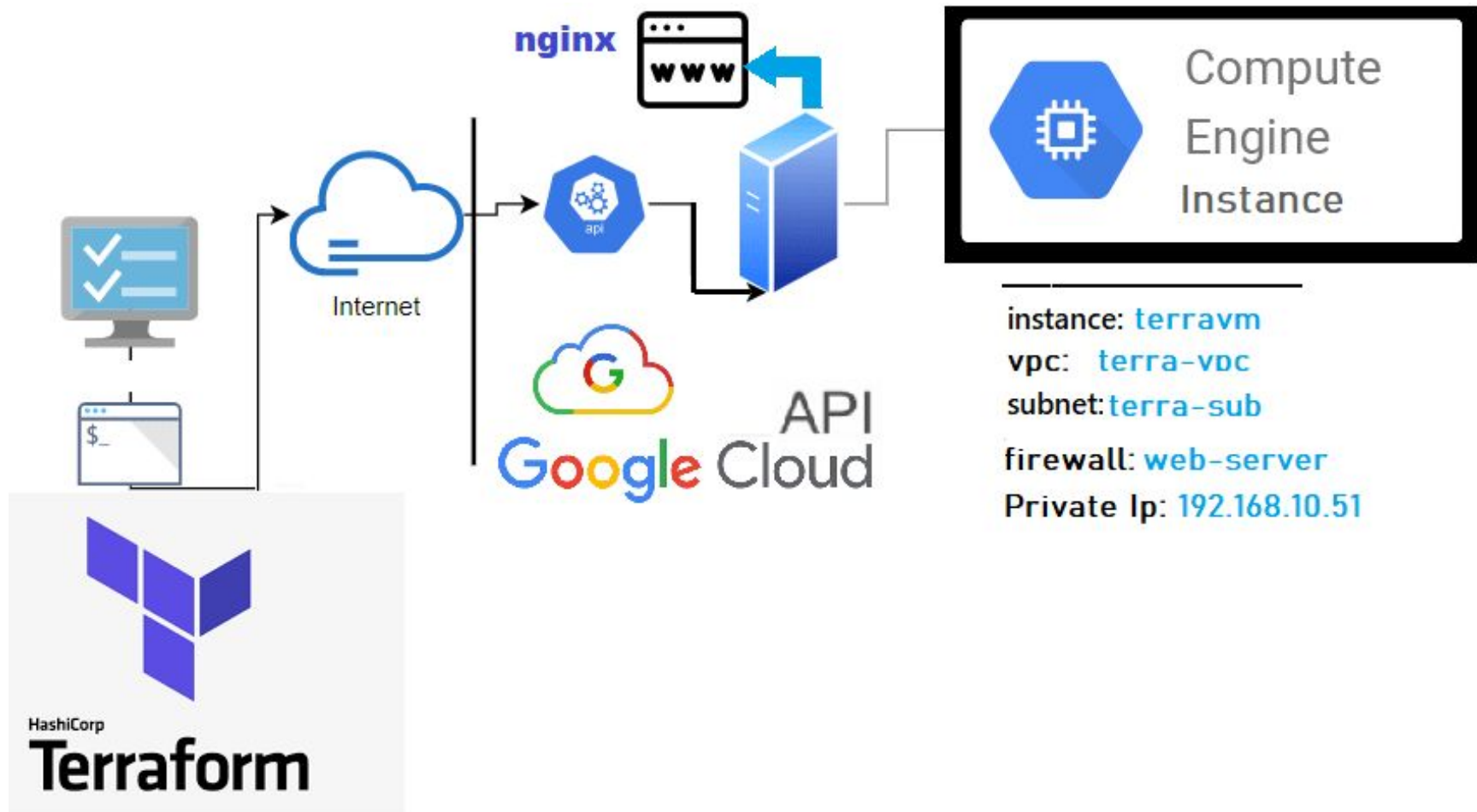


Google Cloud

Credits: Google

GCP Demo with Terraform

Explore the GCP Tour and experience the Compute Engine.



Credits: Google



Any Questions?

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Thank You!