



Developing for the cloud... in the cloud... with GitPod!

Horacio Gonzalez

2021-11-01

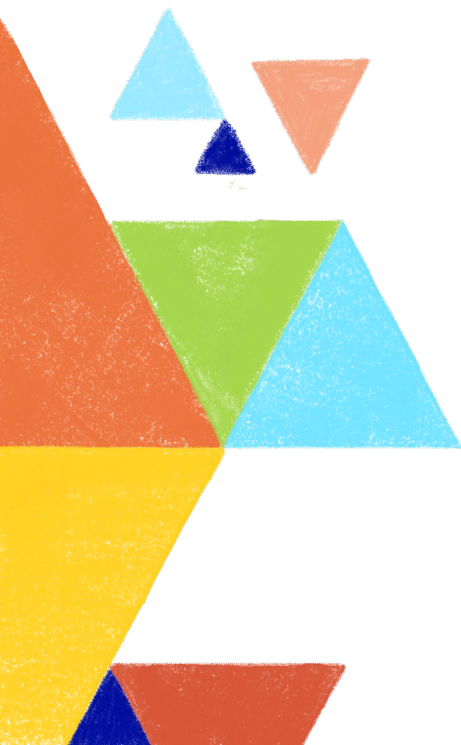
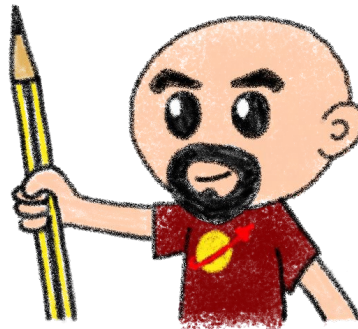


@LostInBrittany



Who are we?

Introducing myself and
introducing OVHcloud

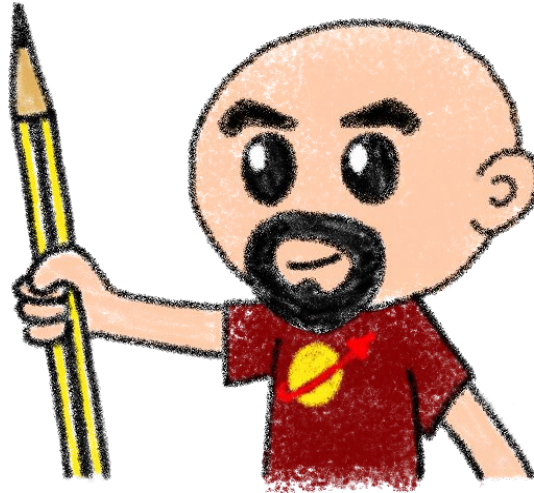


Horacio Gonzalez



@LostInBrittany

Spaniard lost in Brittany,
developer, dreamer and
all-around geek



OVHcloud: A global leader



Web Cloud & Telcom



Private Cloud



Public Cloud



Storage



Network & Security



30 Data Centers
in 12 locations



34 Points of Presence
on a 20 TBPS Bandwidth Network



2200 Employees
worldwide



115K Private Cloud
VMS running



300K Public Cloud
instances running



380K Physical Servers
running in our data centers



1 Million+ Servers
produced since 1999



1.5 Million Customers
across 132 countries



3.8 Million Websites
hosting



1.5 Billion Euros Invested
since 2016



P.U.E. 1.09
Energy efficiency indicator



20+ Years in Business
Disrupting since 1999



Why are you talking about an IDE?

This is the Container Day conference, you fool!



High performance at affordable prices



Infra-4

Processore: 2x Intel Xeon Silver 4214 - 12 c / 24 t - 2.2 GHz / 3.2 GHz
Banda passante pubblica: A partire da 1 Gbps
Banda passante privata: A partire da 2 Gbps
Memoria: A partire da 96GB
Storage: NVMe, SATA disponibile

Disponibile in 7 datacenter

Consegna a partire da 120 s



HGR-SDS-1

Processore: Intel Xeon Gold 6242R - 20 c / 40 t - 3.1 GHz / 4.1 GHz
Banda passante pubblica: A partire da 1 Gbps
Banda passante privata: A partire da 10 Gbps
Memoria: A partire da 96GB
Storage: NVMe, SAS disponibile

Disponibile in 5 datacenter

Consegna a partire da 120 s

HGR-HCI-2

Processore: 2x Intel Xeon Gold 6242R - 20 c / 40 t - 3.1 GHz / 4.1 GHz
Banda passante pubblica: A partire da 1 Gbps
Banda passante privata: A partire da 10 Gbps
Memoria: A partire da 384GB
Storage: NVMe, SAS disponibile

Disponibile in 5 datacenter

Consegna a partire da 10 g

From bare-metal servers to public or private cloud



We all live in a Cloud world



Cloud services are everywhere



Containers are a foundation of Cloud



More and more of cloud services are built on containers



Developers build the Cloud



Every service, every application



But they still do it in a traditional way



Installing an IDE on their computer



What about doing it different?



Building for the Cloud in the Cloud



Ok, man, stop the marketing...



This is a technical talk, let's talk tech



Being a cloud developer in 2021

Or do we really need 5000\$ laptops to develop an app



Let me tell you a story



Your next project

From: Boss <boss@mycompany.com>

To: Developer <dev@mycompany.com>

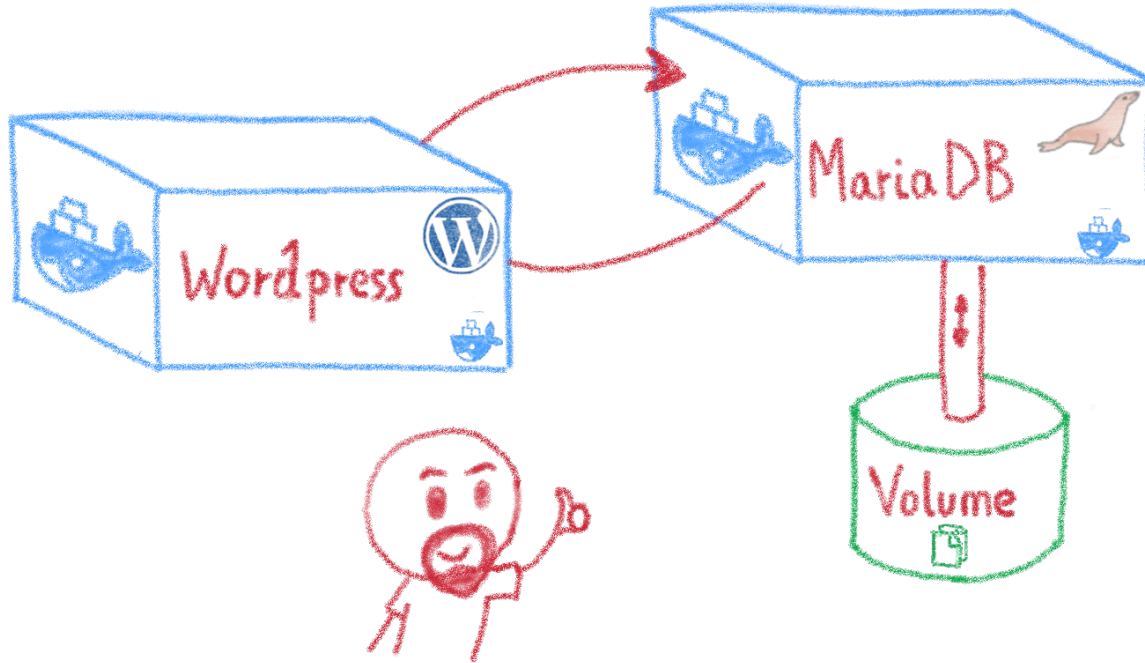
Hi Developer!

Next Monday you will begin a new project with Big Customer. You will be in a team building a system with a distributed architecture, using Redis & MariaDB storage, Go Python and Java applications, RabbitMQ event bus, ...

And here you have your new laptop, a good one this time, it has 8 GB RAM!



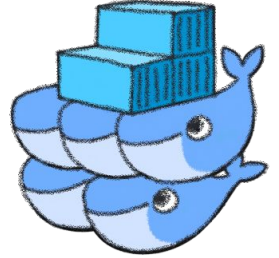
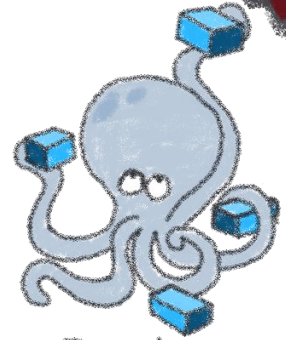
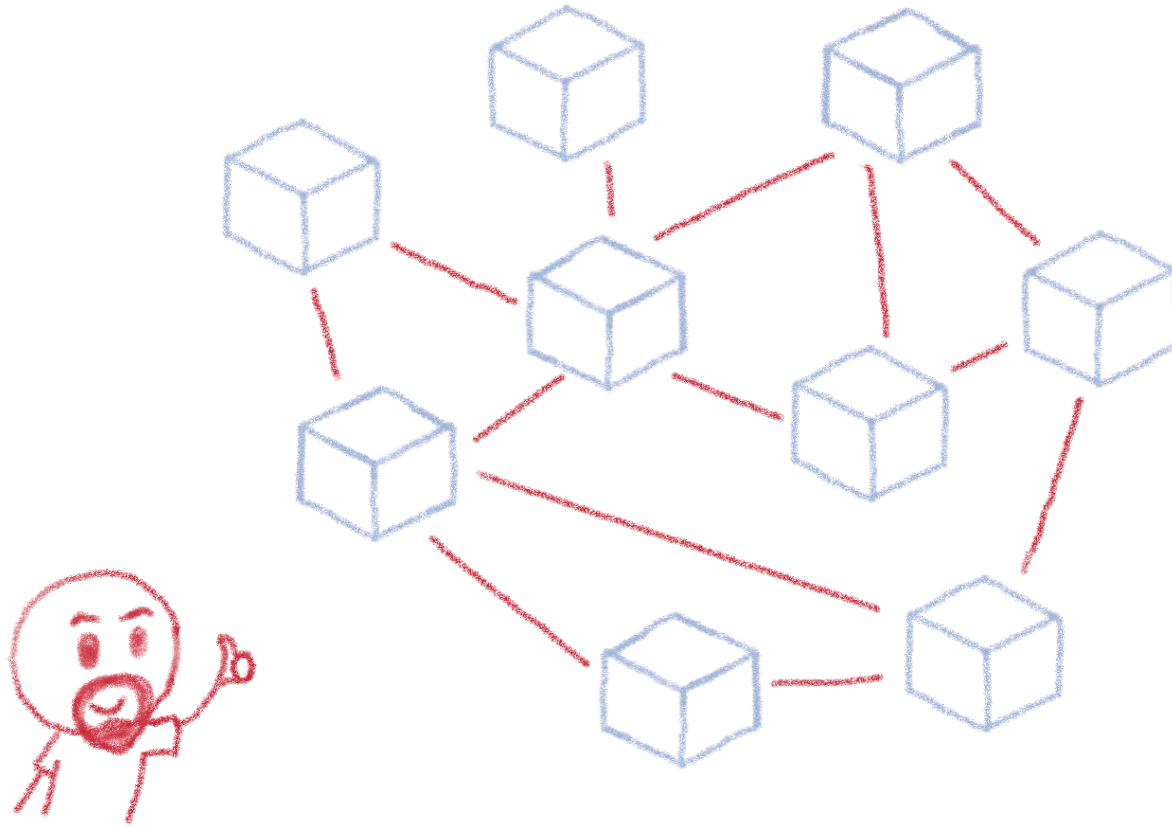
Containers have changed the game



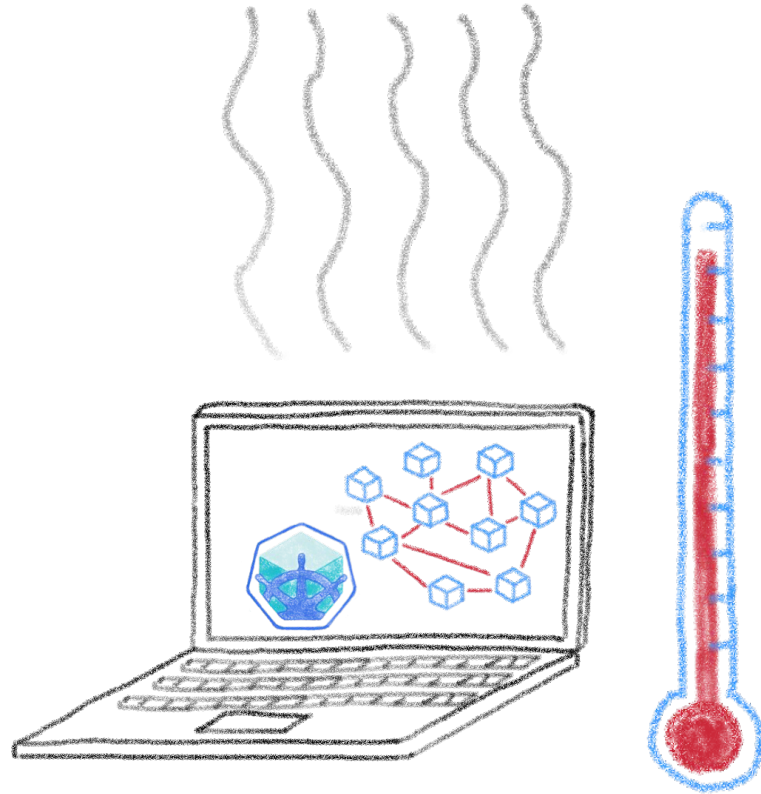
Using on your laptop the same architecture that in production



Even for complex architectures



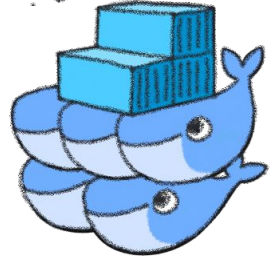
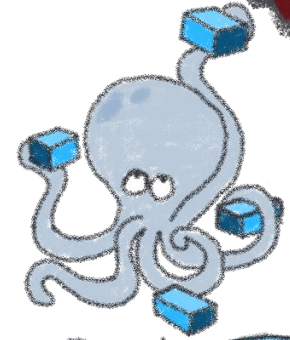
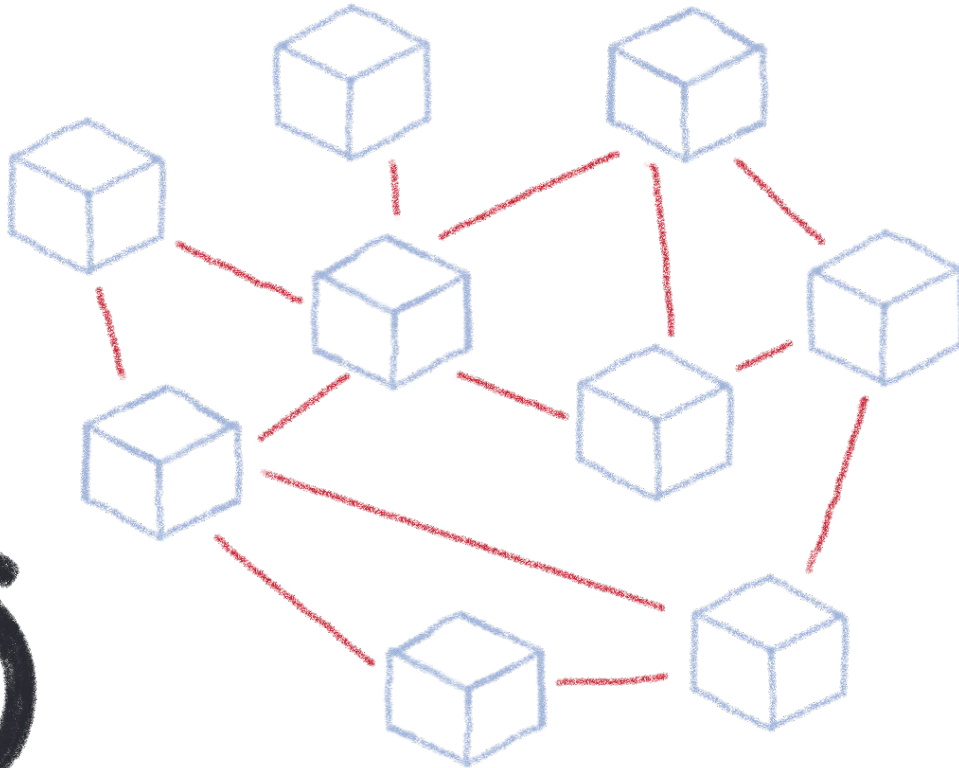
But a laptop is still a laptop



And all those containers need lots of CPU and RAM



Setting it up takes lots of time



Installing and configuring isn't always straightforward



In an ideal world, IDEaaS



Integrated Development Environment as a Service



GitPod is an open source IDEaaS



Gitpod



Automated, ephemeral developer environments in the web



A full IDE running in a browser tab

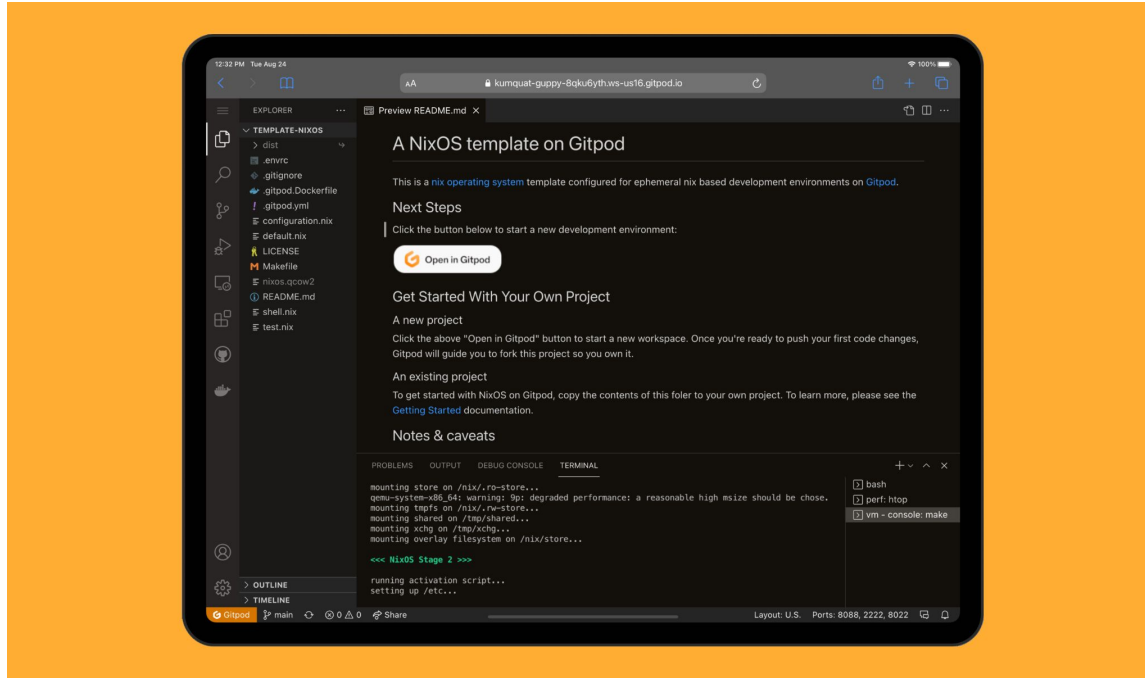


Web based IDE 

- Eclipse Theia → VS Code
- Remote
- Workspaces



But more than an IDE



An IDE is just one building block of a working cloud based developer environment



No overpowered laptop needed



- Low cost ultraportable laptop
- Chromebook
- iPad*
- Android tablet*



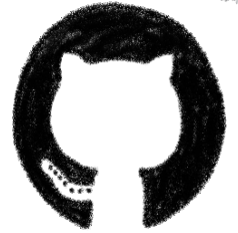
* The experience is still a bit lacking...





GitPod projects are based on Git

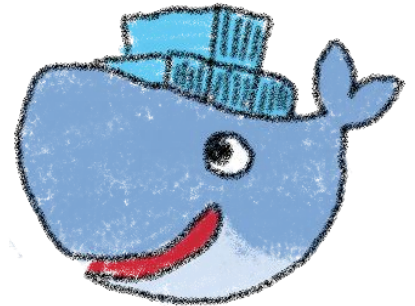
It can be used with:

- Any GitPod version:
 - GitLab
 - GitHub
 - BitBucket
- On-premises or open source version
 - Your own private Git repository




Anatomy of a GitPod project

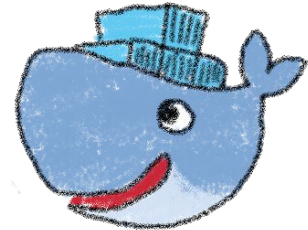
- A default  Docker image:
`gitpod/workspace-full`
- Two optional  configuration files:
`.gitpod.dockerfile`
`.gitpod.yml`



Projects & Workspaces



- A workspace is a full  Docker environment
- Multiple workspaces for every project
 - For example for branches or specific commits
- Workspaces are shareable
- Communication from workspace to workspace



How much does it cost?



- SaaS version



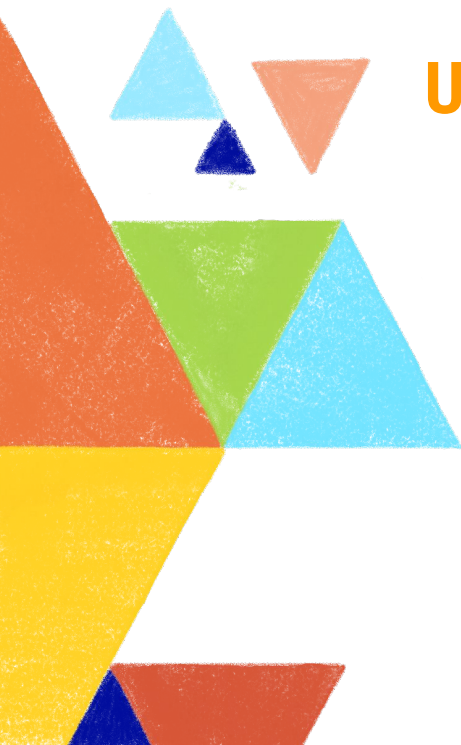
Basic Free	Personal €8 Per User/Month	Professional €23 Per User/Month	Unleashed €35 Per User/Month
<ul style="list-style-type: none">✓ 50 hours/month✓ Private & Public Repos✓ Unlimited Prebuilds✓ Shared Workspaces✓ Snapshots	<ul style="list-style-type: none">✓ 100 hours/month✓ 4 Parallel Workspaces✓ Unlimited Prebuilds✓ Shared Workspaces✓ Snapshots✓ 30min Timeout	<ul style="list-style-type: none">✓ All in Personal✓ 8 Parallel Workspaces✓ Unlimited Hours✓ Teams	<ul style="list-style-type: none">✓ All in Professional✓ 16 Parallel Workspaces✓ 1hr Timeout✓ 3hr Timeout boost
Try Now	Buy Now	Buy Now	Buy Now

- Free Professional Open Source plan: no limit (public projects)
- Self hosted (K8S) Open Source (Free) et Pro (29€)



Some other use-cases

Unexpected good matches for GitPod



Running workshops



Congratulations Horacio

From: Big Conference <organization@bigconference.com>
To: Horacio Gonzalez <horacio.gonzalez@gmail.com>



Hi Horacio!

We are happy to tell you that your workshop "Learn Web Components in two hours" has been accepted at Big Conference 2021.

As we are an hybrid conference, you will have 50 attendees physically in the room and 200 remote attendees. The onboarding is critical in this setup, please be sure that attendees can easily spawn a working environment in several minutes, even with a bad network or old computers.



Example: Stencil Beers tutorial



What do I need to use this tutorial?

The only tool strictly needed to do this tutorial is a modern web browser (ideally [Chrome](#) or [Chromium](#)). The whole tutorial can be done via the browser on [GitPod](#), without installing anything in your computer. Simply click [here](#) or in the *Open in GitPod* button bellow.

 Open in Gitpod

If you want to do the tutorial locally in your computer, you will need a modern web browser (ideally [Chrome](#) or [Chromium](#)), a text editor (we suggest the excellent [Visual Studio Code](#) or [Atom](#))) and [NodeJS](#).

Stencil requires a recent LTS version of NodeJS and `npm`. Make sure you've installed and/or updated Node before continuing.

<https://github.com/LostInBrittany/stencil-beers>



Setting up team environments



New team arrives on Monday

From: Boss <boss@mycompany.com>

To: Project Manager <pm@mycompany.com>

Hi Project Manager!

Your Shiny Project team will arrive next Monday. You will have 15 developers in the team, and they need to be productive from day one. A batch of 15 laptops and 3 servers has been sent by DHL to your office, please be sure that they are installed and working by Monday morning.

Have a great weekend!



Integrated learning platform



OVHcloud Managed Kubernetes course

From: Training Partner <organization@training@partner.com>

To: Horacio Gonzalez <horacio.gonzalez@ovhcloud.com>



Hi Horacio!

As explained by phone, we would like you to do an OVHcloud Managed Kubernetes course for our organisation. We need to be fully web based, attendees won't be able to install anything in their computers (not even kubectl, helm or any other tool).

Attendees will only have their browsers and their OVHcloud API credentials.



Making customers test new features



Customer X wants to test the feature

From: Boss <boss@mycompany.com>

To: Project Manager <pm@mycompany.com>

Hi Project Manager!

Customer X has asked to test the new feature your team is working on. I have pointed to the Git repository, but they aren't interesting in reading code, they want to test it!

I have tell them that you will send them a way to test by Monday.

Have a great weekend!



Code for the cloud, in the cloud



The screenshot shows a web-based IDE interface for GitLab. The browser address bar displays `aqua-earwig-wpty7g9l.ws-eu16.gitpod.io`. The interface is divided into three main sections: a file explorer on the left, a code editor in the center, and a terminal at the bottom.

File Explorer: Shows a project structure with folders like `.bundle`, `.github`, `.gitlab`, `ci`, `issue_templates`, `merge_request_templates`, `changelog_config.yml`, `CODEOWNERS`, `route-map.yml`, `.theia`, `app`, `assets`, `channels`, `controllers`, `admin`, `application_settings`, `clusters`, `serverless`, and several controller files including `background_migrations_controller.rb`.

Code Editor: Displays the content of `background_migrations_controller.rb`. The code is as follows:

```
1 # frozen_string_literal: true
2
3 class Admin::BackgroundMigrationsController < Admin::ApplicationController
4   feature_category :database
5
6   def index
7     @relations_by_tab = {
8       'queued' => batched_migration_class.queued.queue_order,
9       'failed' => batched_migration_class.failed.queue_order,
10      'finished' => batched_migration_class.finished.queue_order.reverse_order
11    }
12
13    @current_tab = @relations_by_tab.key?(params[:tab]) ? params[:tab] : 'queued'
14    @migrations = @relations_by_tab[@current_tab].page(params[:page])
15    @successful_rows_counts = batched_migration_class.successful_rows_counts(@migrations.map(&:id))
16  end
17
18  def pause
19    migration = batched_migration_class.find(params[:id])
20    migration.paused!
21  end
22 end
```

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

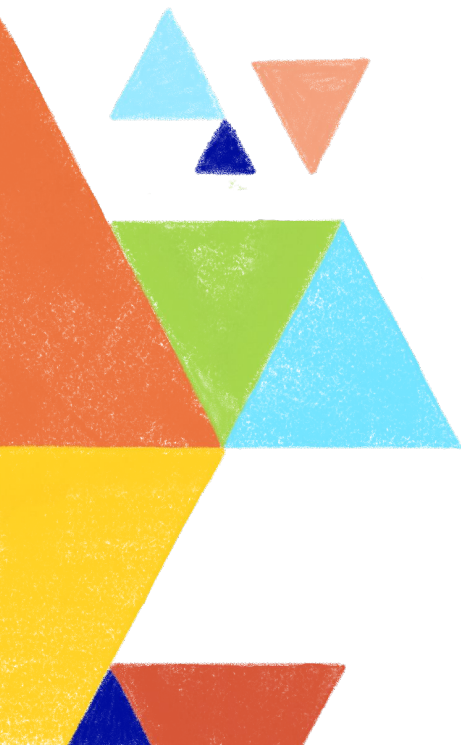
```
ok: run: /workspace/gitlab-development-kit/services/rails-background-jobs: (pid 2232) 0s, normally down
ok: run: /workspace/gitlab-development-kit/services/rails-web: (pid 2233) 0s, normally down
ok: run: /workspace/gitlab-development-kit/services/ssh: (pid 2234) 0s, normally down
ok: run: /workspace/gitlab-development-kit/services/webpack: (pid 2235) 0s, normally down

=> GitLab will be available at http://127.0.0.1:3000.
master
SYNCING lefthook.yml
SERVED HOOKS: pre-push, prepare-commit-msg
Updated 1 path from the index
Awaiting port 3000... ok
Waiting for GitLab at https://3000-aqua-earwig-wpty7g9l.ws-eu16.gitpod.io .....
Mon 30 Aug 2021 07:06:16 PM UTC - GitLab is up (took ~0.5 minutes)
gitpod /workspace/gitlab (master) $
```



Installing GitPod Open Source

You only need a Kubernetes...



Good and bad reasons



Good reasons to use GitPod Open Source:

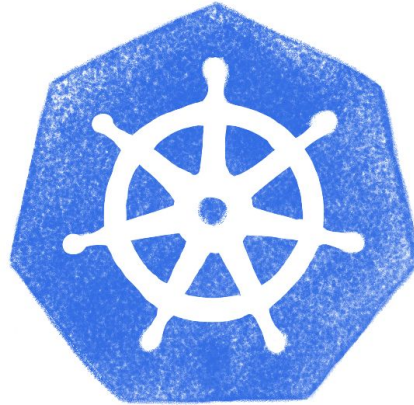
- I can't use a SaaS to deal with my source code
 - That also means no GitHub, GitLab or BitBucket...

Bad reasons to use GitPod Open Source:

- I am cheap and I don't want to pay the SaaS
 - It's going to cost you time and money to host it



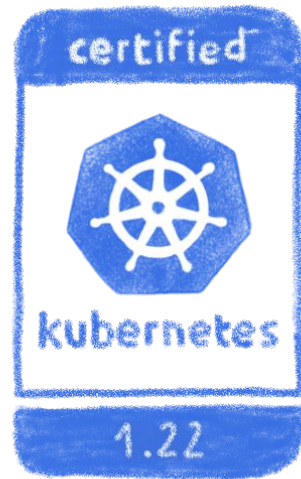
Not a straightforward task...



You need some Kubernetes skills...



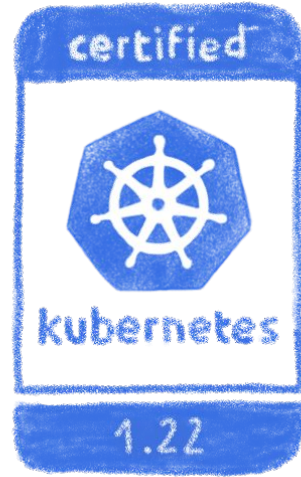
If you don't need to build it, choose a certified managed solution



You get the cluster,
the operator get the problems



Using OVHcloud Managed Kubernetes



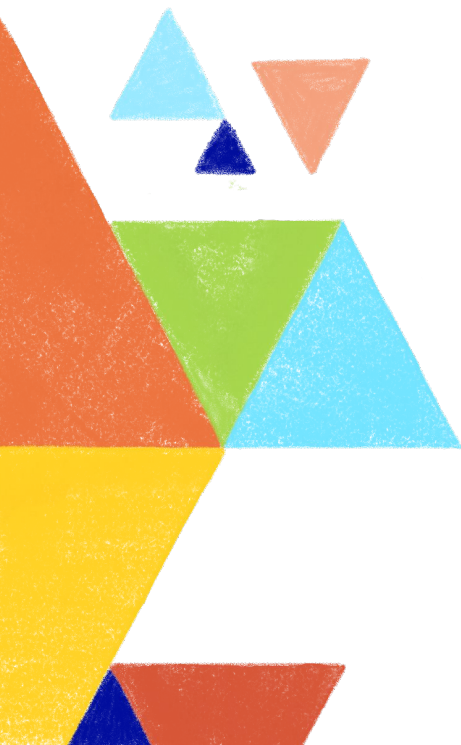
A easy, cost-effective solution



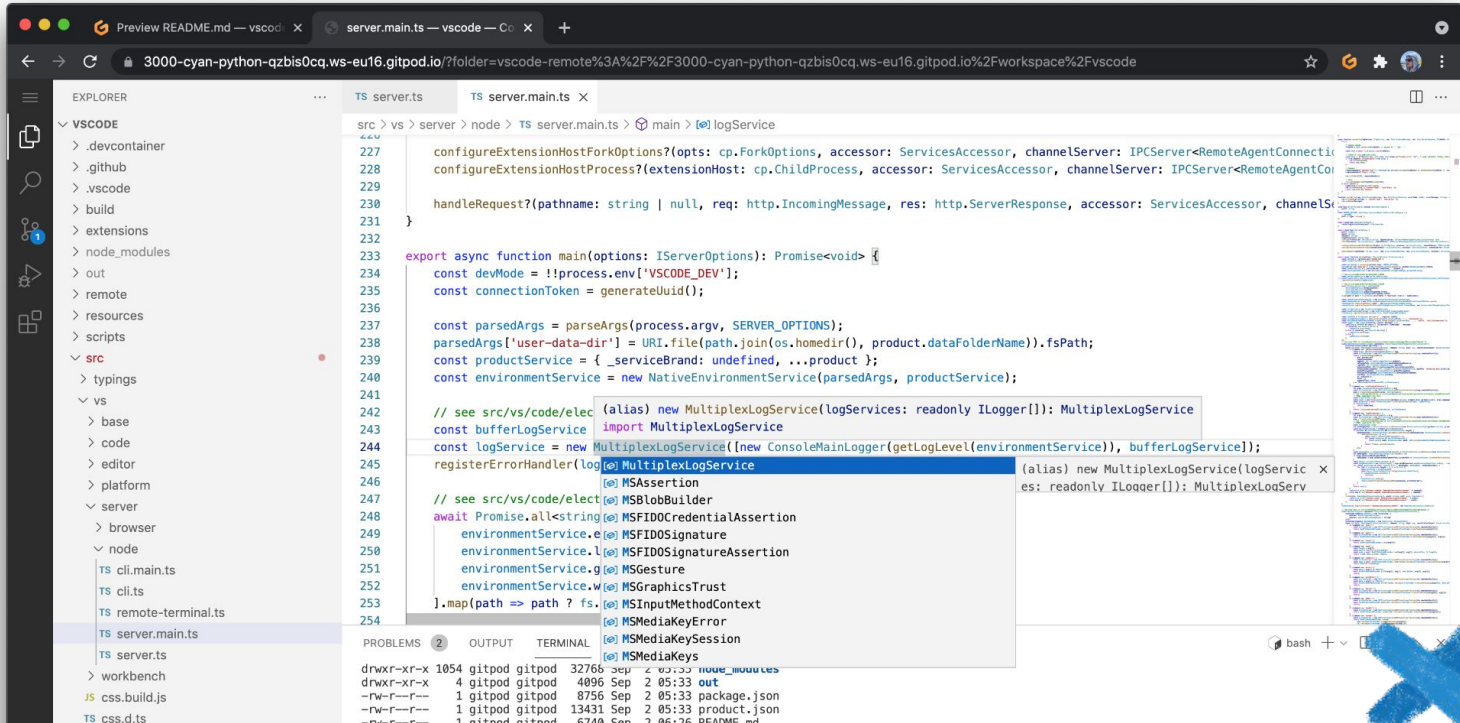


One more thing...

Let's copy from the master



VS Code in the browser for everyone



OpenVSCode Server

Open source project by GitPod



☰ README.md

OpenVSCode Server

Gitpod ready-to-code license MIT chat 129 online

What is this?

This project provides a version of VS Code that runs a server on a remote machine and allows access through a modern web browser. It's based on the very same architecture used by [Gitpod](#) or [GitHub Codespaces](#) at scale.

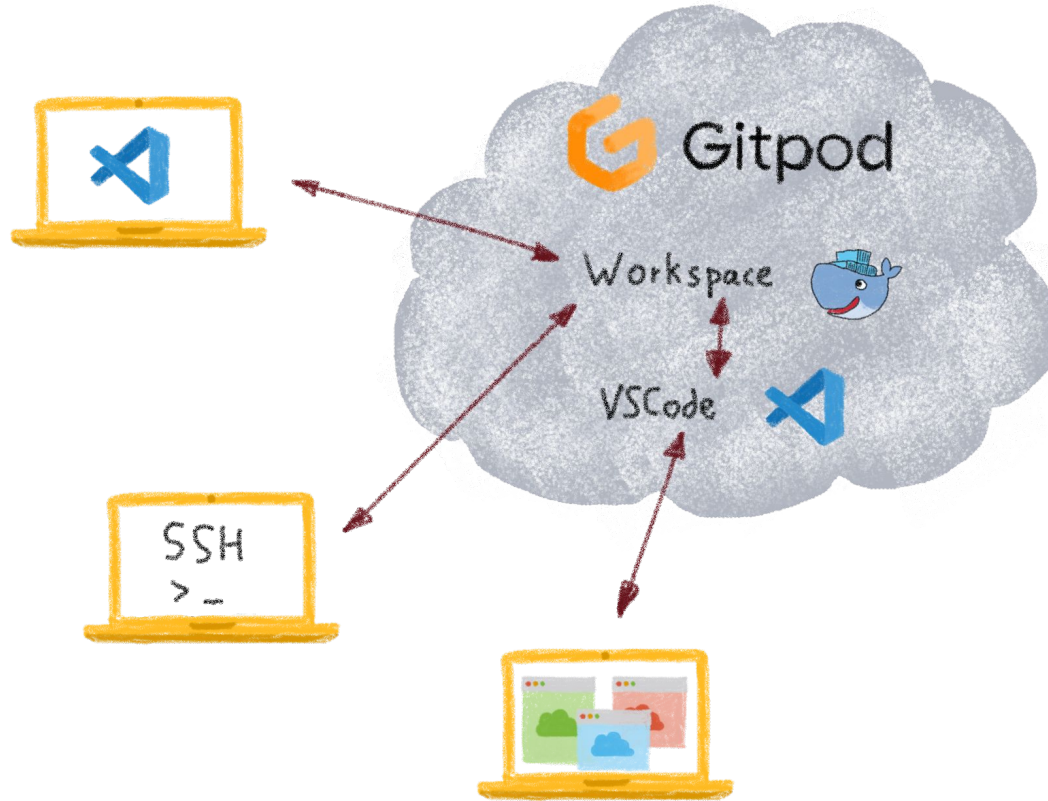
A screenshot of a web browser displaying the OpenVSCode Server interface. The browser address bar shows a URL starting with '3000-cyan-python-qzbis0cq.ws-eu16.gitpod.io'. The interface includes a file explorer on the left showing a directory structure with '.devcontainer', '.github', and '.vscode'. The main area shows a code editor with a file named 'server.main.ts' open, displaying TypeScript code. The code includes comments and function calls like 'logService' and 'configureExtensionHostForkOptions'.

Backed by GitLab, VMware, Uber, SAP, Sourcegraph, SUSE...

<https://github.com/gitpod-io/openvscode-server/>



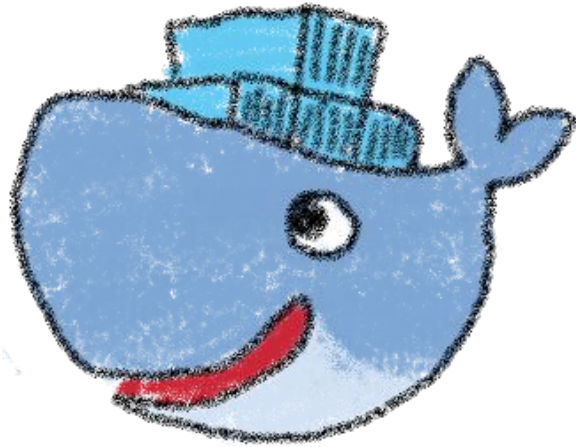
How is this different to Gitpod?



GitPod is more than an IDE



Very simple to deploy



```
docker run -it --init -p 3000:3000 -v  
"$ (pwd) :/home/workspace:cached" gitpod/openvscode-server
```



Disclaimer: a two people work



Many thanks to Philippe Charrière (@k33g_org)



