

Always Ready To Code

# Getting productive with Ephemeral Developer Environments

Sven Efftinge - Co-Founder of Gitpod

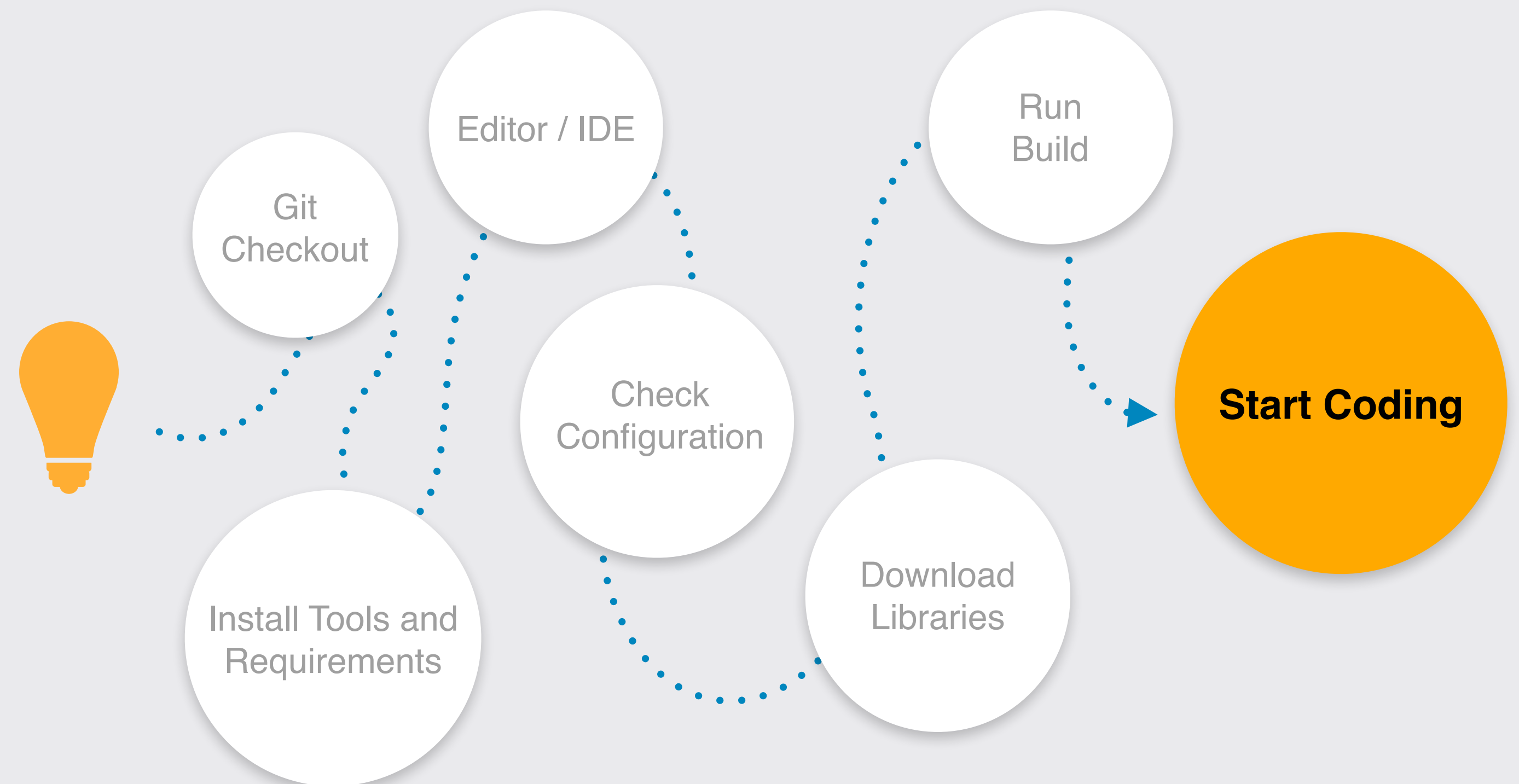






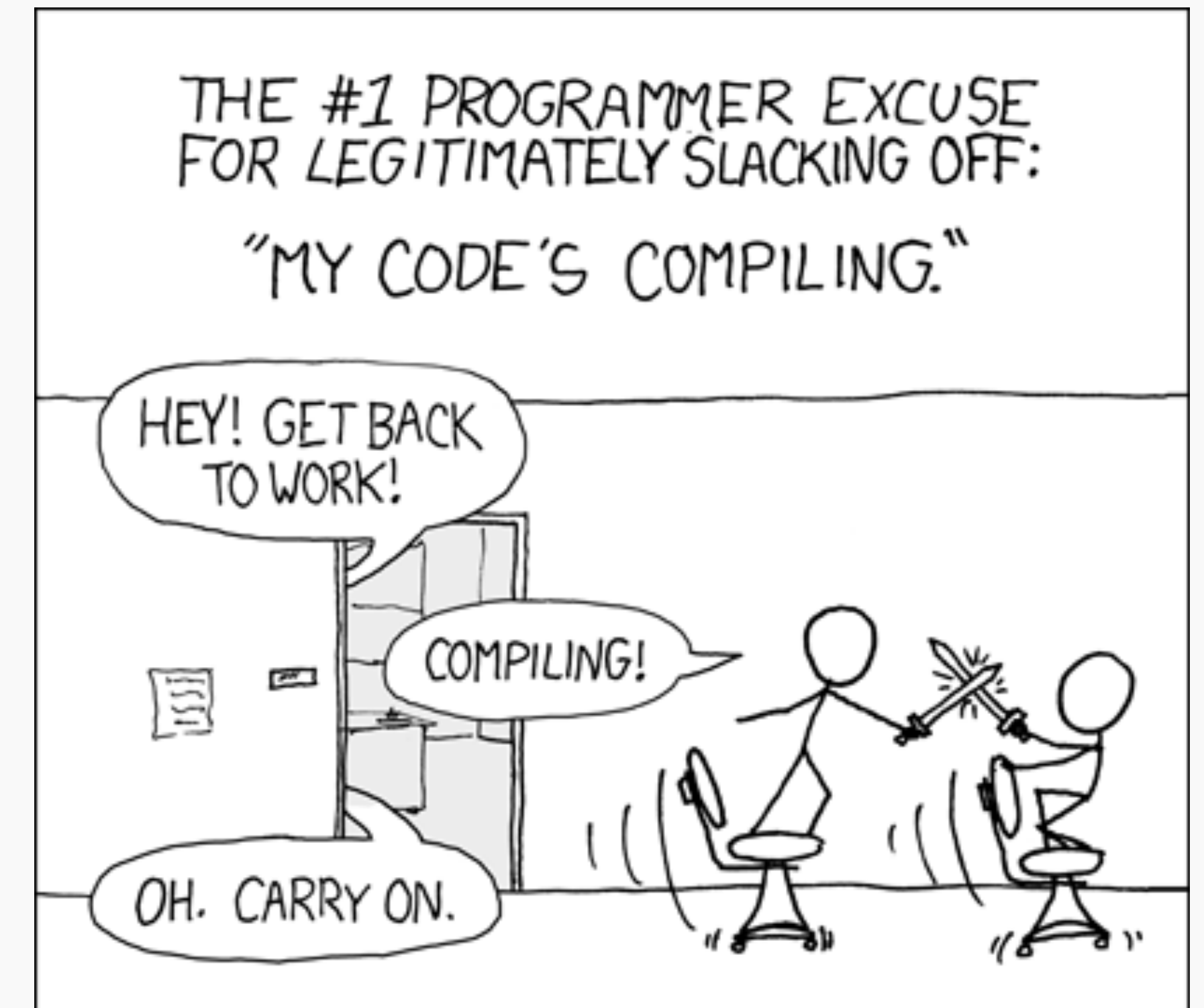
## Problem

- It is 2022 and developers still
- **Manually manage** their dev environments on local machines and
  - **Wait for builds and tests to complete** before coding.



Every week ...

“ Software engineers spend  
**3.7 hours waiting for tests** [...],  
**3.5 hours waiting for builds** [...],  
and **2.7 hours on dev environment**  
management.<sup>1</sup> ”



<sup>1</sup><https://www.infoworld.com/article/2613762/software-engineers-spend-lots-of-time-not-building-software.html>



Solution

- **Describe** dev environments as code.
- Continuously prepare **ephemeral dev environments** for every branch.

*Think CI/CD applied to dev environments.*



Start coding



**Automated**







Demo Time

Person.java — spring-petclinic

Gitpod - Dashboard

+

https://gitpod.io/workspaces

Workspaces

Settings

Admin

Docs

Community

Workspaces

Manage recent and stopped workspaces.

Search Workspaces

Filter: Active

Limit: 50

New Workspace

Name	Context	Pending Changes	Last Start	
<div><div></div><div>blush-aardvark-jzbjtye9</div><div>github.com/gitpod-io/spring-petclinic</div></div>	<div>gitpod-io/spring-petclinic - master</div> <div>https://github.com/gitpod-io/spring-petclinic</div>	<div>master</div> <div>No Changes</div>	<div>8 minutes ago</div>	<div>⋮</div> <div>Open</div>

Person.java — spring-petclinic

+

https://blush-aardvark-jzbjtye9.ws-eu03.gitpod.io

EXPLORER

...

Person.java

OPEN EDITORS

Person.java

SPRING-PETCLINIC

...

Person.java

src > main > java > org > springframework > samples > petclinic > model > Person.java

17 import javax.persistence.Column;

18 import javax.persistence.MappedSuperclass;

19 import javax.validation.constraints.NotEmpty;

20

21

22 /\*\*

23 \* Simple JavaBean domain object representing an person.

24 \*

25 \* @author Ken Krebs

26 \*/

27 @MappedSuperclass

28 public class Person extends BaseEntity {

29

30 @Column(name = "first\_name")

31 private String firstName;

32

33 @Column(name = "last\_name")

34 @NotEmpty

35 private String lastName;

36

37 public String getFirstName() {

38 return this.firstName;

39 }

40

41 public void setFirstName(String firstName) {

42 this.firstName = firstName;

43 }

44

45 public String getLastName() {

46 return this.lastName;

47 }

48

49 public void setLastName(String lastName) {

50 this.lastName = lastName;

51 }

PROBLEMS

OUTPUT

DEBUG CONSOLE

TERMINAL

actions. (feature not supported)

2021-04-21 09:41:05.649 INFO 590 [main] org.springframework.hikari.HikariDataSource : HikariPool-1 - Start completed.

2021-04-21 09:41:06.282 INFO 590 [main] org.hibernate.jpa.internal.util.LogHelper : HHH000204: Processing PersistenceUnitInfo [

name: default

...]

2021-04-21 09:41:06.442 INFO 590 [main] org.hibernate.Version : HHH000412: Hibernate Core (5.3.10.Final)

2021-04-21 09:41:06.445 INFO 590 [main] org.hibernate.cfg.Environment : HHH000206: hibernate.properties not found

2021-04-21 09:41:06.679 INFO 590 [main] org.hibernate.annotations.common.Version : HCANN000001: Hibernate Commons Annotations (5.0.4.Final)

2021-04-21 09:41:06.982 INFO 590 [main] org.hibernate.dialect.Dialect : HHH000400: Using dialect: org.hibernate.dialect.HSQLDialect

2021-04-21 09:41:08.135 INFO 590 [main] j.LocalContainerEntityManagerFactoryBean : Initialized JPA EntityManagerFactory for persistence unit 'default'

2021-04-21 09:41:08.547 INFO 590 [main] org.springframework.orm.jpa.LocalContainerEntityManagerFactoryBean : Initializing EntityManagerFactory

2021-04-21 09:41:09.173 INFO 590 [main] org.springframework.orm.jpa.LocalContainerEntityManagerFactoryBean : Initializing ExecutorService 'applicationTaskExecutor'

2021-04-21 09:41:09.238 WARN 590 [main] org.springframework.orm.jpa.LocalContainerEntityManagerFactoryBean : spring.jpa.open-in-view is enabled by default. Therefore, database quer

ies may be performed during view rendering. Explicitly configure spring.jpa.open-in-view to disable this warning

2021-04-21 09:41:09.778 INFO 590 [main] org.springframework.web.servlet.mvc.annotation.AnnotationMethodHandlerAdapter : Exposing 15 endpoint(s) beneath base path '/manage'

2021-04-21 09:41:09.885 INFO 590 [main] org.springframework.web.servlet.mvc.annotation.AnnotationMethodHandlerAdapter : Tomcat started on port(s): 8080 (http) with context path ''

2021-04-21 09:41:09.897 INFO 590 [main] org.springframework.scheduling.annotation.AsyncConfigurer : Started PetClinicApplication in 8.858 seconds (JVM running for 9.561)

2021-04-21 09:41:19.613 INFO 590 [nio-8080-exec-1] org.springframework.web.servlet.mvc.annotation.AnnotationMethodHandlerAdapter : Initializing Spring DispatcherServlet 'dispatcherServlet'

2021-04-21 09:41:19.813 INFO 590 [nio-8080-exec-1] org.springframework.web.servlet.mvc.annotation.AnnotationMethodHandlerAdapter : Initializing Servlet 'dispatcherServlet'

2021-04-21 09:41:19.827 INFO 590 [nio-8080-exec-1] org.springframework.web.servlet.mvc.annotation.AnnotationMethodHandlerAdapter : Completed initialization in 14 ms

Ln 15, Col 4

Spaces: 4

UTF-8

LF

Java

Ports: 8080, 4101

Layout: German





# Automated Dev Environments

</> Dev Environment As Code



Versioned



Reproducible (No more “works on my machine”)

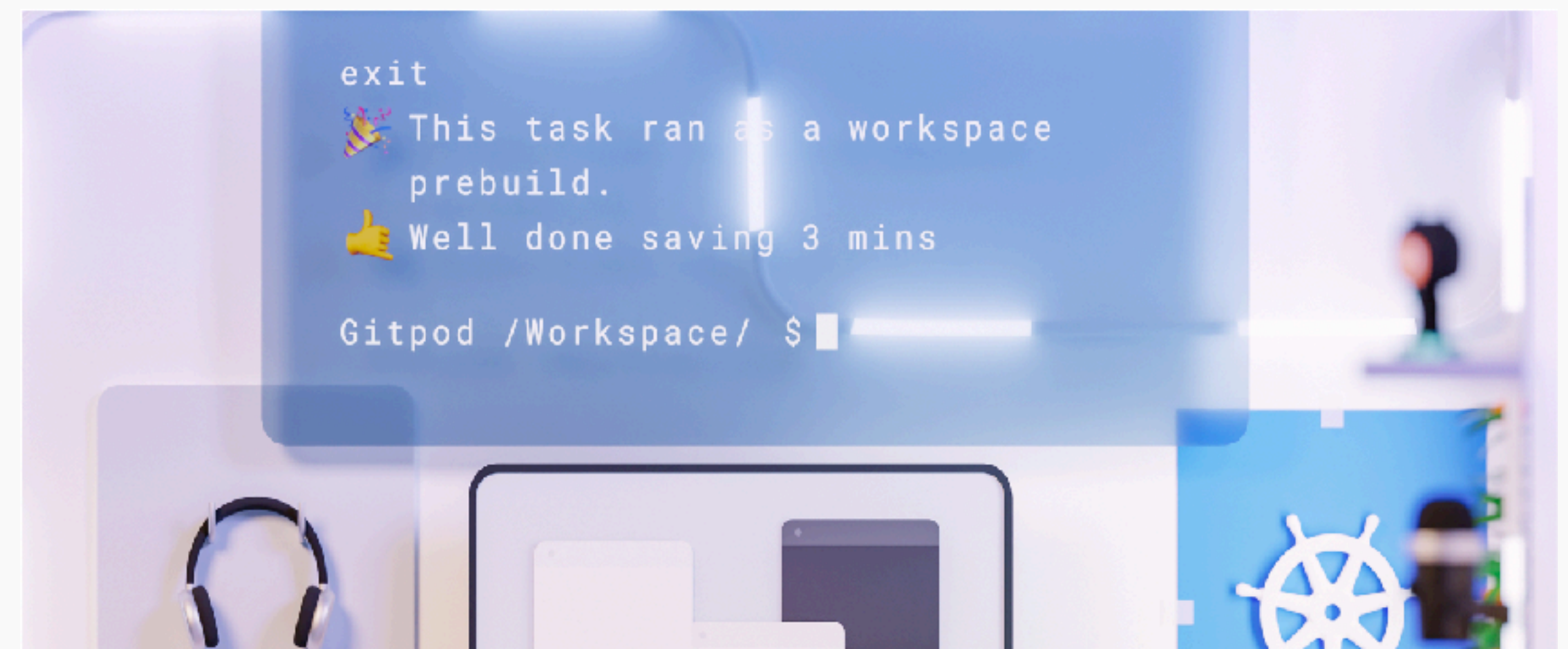
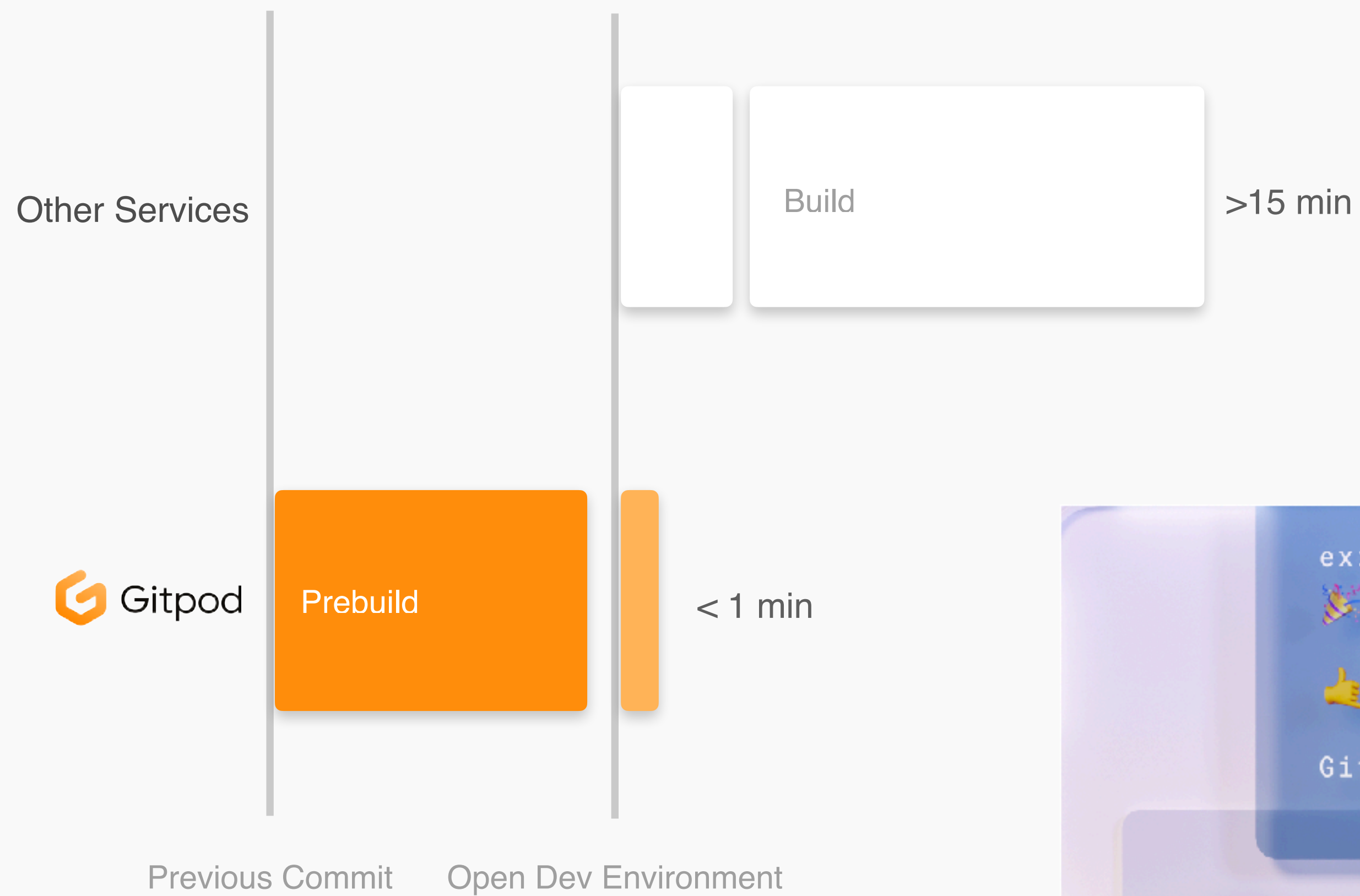


# Ephemeral Dev Environments

- ✨ Always Start Fresh
- ⚙️ Continuously Applied Automation
- 🔄 Work in Parallel



# Prebuilt Dev Environments







# Secure Dev Environments



Centralized Data Storage



Access Audits



SSH connections





# Contextual Dev Environments

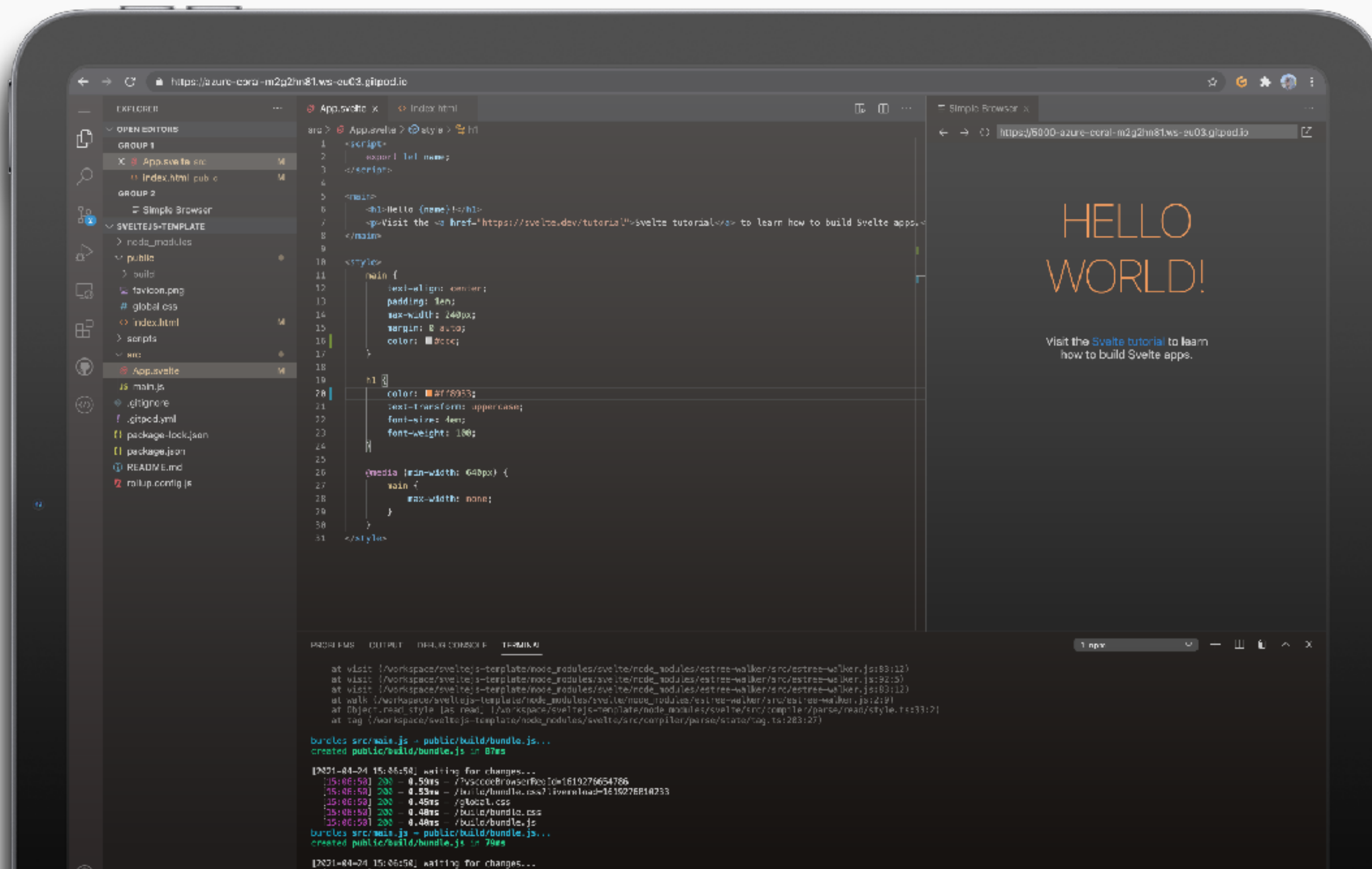
- 🔍 Bug Fix
- 🔗 Code Review
- ... File, Branch, Commit, etc.





# Accessible Dev Environments

Code from any device.



# Collaborative Dev Environments



Live Share Workspaces

Asynchronous Snapshots







# My Dev Environments

My Extensions

My Themes

User Configuration

My Configuration

Project Configuration

Project A

Project B

Project C





# Are You Ready to Code?

Learn more at

 [gitpod.io](https://gitpod.io)

 [github.com/gitpod-io/gitpod](https://github.com/gitpod-io/gitpod)

 [community.gitpod.io](https://community.gitpod.io)

 [@gitpod](https://twitter.com/gitpod)

