

BUILDING A CHE STACK

The art of...

An Example

The SPECS

Languages support:

- Python
- JavaScript

Runtime:

- Front: Angular
- Back: Python Service

DataBase:

- PostgreSQL

Source Code:

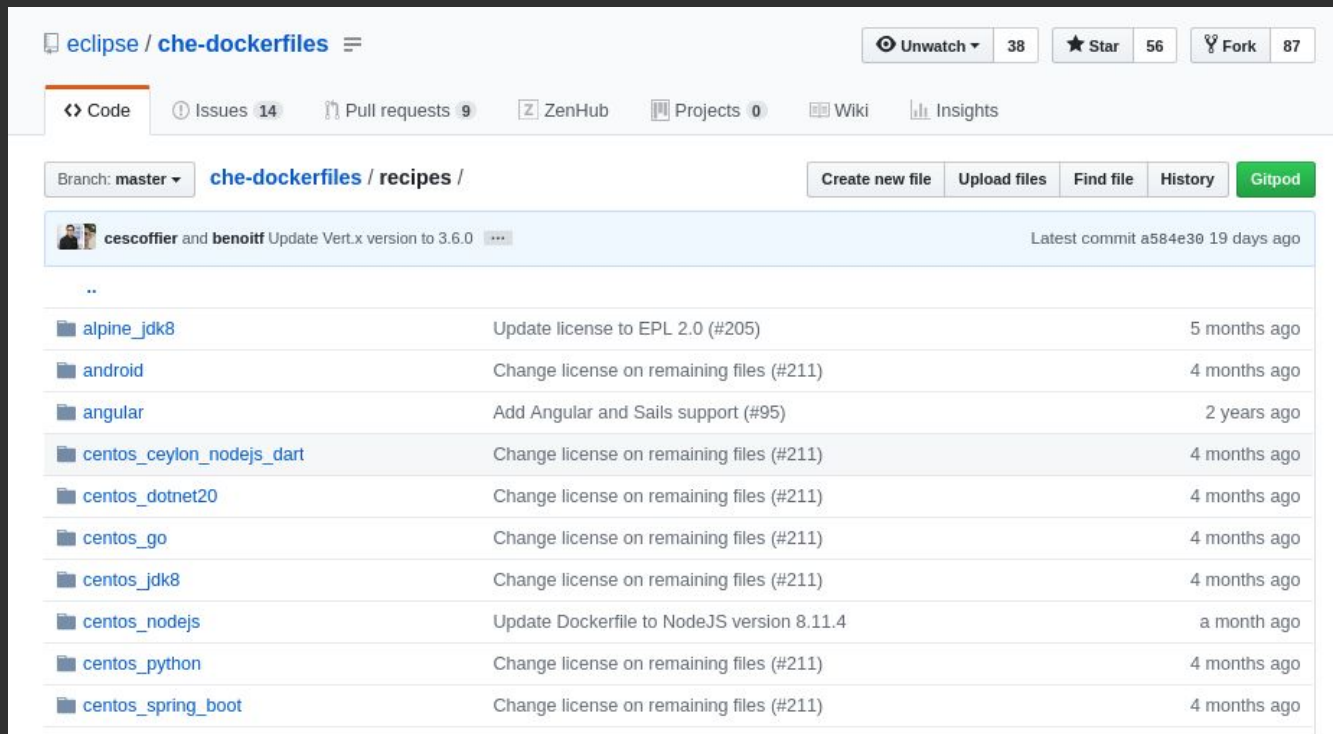
[Frontend: gothinkster/angular-realworld-example-app](#)

[Backend: gothinkster/flask-realworld-example-app](#)

STEPS

Choose a base image for the “DEV” container
Customize the “DEV” container base image
Select an existing Che stack
Customize the Che stack

STEP 1 - Choose a base image for the “DEV” container



The screenshot shows the GitHub repository for Eclipse Che Dockerfiles. The repository is named 'eclipse / che-dockerfiles' and has 38 Unwatch, 56 Star, and 87 Fork actions. The main branch is 'master'. The repository contains a directory named 'recipes' which lists various Dockerfiles for different operating systems and languages. The latest commit is by cescoffier and benoitf, updating the Vert.x version to 3.6.0, committed 19 days ago.

Branch: master **che-dockerfiles / recipes /** Create new file Upload files Find file History Gitpod

cescoffier and benoitf Update Vert.x version to 3.6.0 Latest commit a584e30 19 days ago

File	Description	Time
alpine_jdk8	Update license to EPL 2.0 (#205)	5 months ago
android	Change license on remaining files (#211)	4 months ago
angular	Add Angular and Sails support (#95)	2 years ago
centos_ceylon_nodejs_dart	Change license on remaining files (#211)	4 months ago
centos_dotnet20	Change license on remaining files (#211)	4 months ago
centos_go	Change license on remaining files (#211)	4 months ago
centos_jdk8	Change license on remaining files (#211)	4 months ago
centos_nodejs	Update Dockerfile to NodeJS version 8.11.4	a month ago
centos_python	Change license on remaining files (#211)	4 months ago
centos_spring_boot	Change license on remaining files (#211)	4 months ago



STEP 1 - Choose a base image for the “DEV” container

angular

Add Angular and Sails support (#95)

2 years ago

centos_nodejs

Update Dockerfile to NodeJS version 8.11.4

a month ago

centos_python

Change license on remaining files (#211)

4 months ago

stack-base





Change license on remaining files (#211)

4 months ago



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STEP 1 - Choose a base image for the “DEV” container

 angular	Add Angular and Sails support (#95)	2 years ago
 centos_nodejs	Update Dockerfile to NodeJS version 8.11.4	a month ago
 centos_python	Change license on remaining files (#211)	4 months ago
 stack-base	Change license on remaining files (#211)	4 months ago





































STEP 2 - Customize the image

```
1 FROM registry.centos.org/che-stacks/centos-nodejs
2
3 USER root
4 RUN npm install -g @angular/cli
5 USER user
6 |
```

```
$ docker build -t mariolet/che-stack-angular-python .
(...)
Successfully built ae9cb1b9a415
$ docker push mariolet/che-stack-angular-python
(...)
c1533a28b1a9: Pushed
```


STEP 3 - Select an existing Che stack

	NAME	DESCRIPTION	COMPONENTS	ACTIONS
<input type="checkbox"/>	.NET	Default .NET 2.0.0 Stack with .NET Core SDK	Ubuntu, Dotnet	 
<input type="checkbox"/>	Android	Default Android Stack with Java 1.8 and Android SDK	Centos, JDK, Maven, Android API	 
<input type="checkbox"/>	Apache Camel based projects	Stack with environment ready to develop Integration projects with Apache Camel ...	CentOS, OpenJDK, RH-Maven	 
<input type="checkbox"/>	Blank	Default Blank Stack.	Ubuntu, JDK, Maven, Tomcat	 
<input type="checkbox"/>	C++	Default C++ Stack with C++, gcc 4.8.4, GNU Make 3.81.	Ubuntu, JDK, G++, GCC, Make	 
<input type="checkbox"/>	CentOS blank	CentOS Blank Stack	Centos, OpenJDK	 
<input type="checkbox"/>	CentOS Go	CentOS based Go Stack	Centos, Golang	 
<input type="checkbox"/>	CentOS nodejs	CentOS Node Stack	CentOS, OpenJDK, RH-Maven, NodeJS, NPM	 
<input type="checkbox"/>	CentOS WildFly Swarm	Eclipse WildFly Swarm Stack on CentOS.	CentOS, OpenJDK, RH-Maven	 
<input type="checkbox"/>	Ceylon with Java JavaScript Dart on CentOS	Ceylon stack with Java, JavaScript and Dart backends on CentOS.	Centos, Ceylon	 
<input type="checkbox"/>	Che 7	Workspace.next sidecars and Theia as IDE	Centos, OpenJDK, NodeJS, NPM	 
<input type="checkbox"/>	Che 7 Dev	Workspace.next sidecars and Theia as IDE with the tooling for plugin development	Centos, OpenJDK, NodeJS, NPM	 
<input type="checkbox"/>	Eclipse Che	Utilities to build Che in Che with JDK 8 and Maven.	JDK, Maven	 
<input type="checkbox"/>	Eclipse Vert.x	Eclipse Vert.x Stack on CentOS with OpenJDK and Maven	CentOS, OpenJDK, RH-Maven	 
<input type="checkbox"/>	Go	Default Go Stack with Go 1.10.2	Ubuntu, Go	 
<input type="checkbox"/>	Java	Default Java Stack with JDK 8, Maven and Tomcat.	Ubuntu, JDK, Maven, Tomcat	 
<input type="checkbox"/>	Java and MySQL with Theia IDE on Kubernetes	Multi Container Workspace - Java with MySQL database in Theia IDE		 



STEP 3 - Select an existing Che stack

Nodejs and Postgres Stack

Nodejs stack with Postgres

Node.js, NPM, Postgres



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STEP 4 - Customize the Che stack

- Duplicate the original stack
- Modify the original recipe

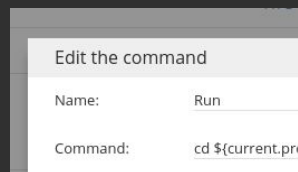
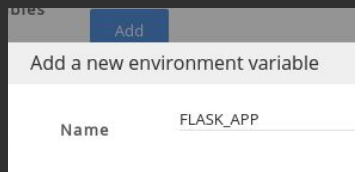
```
containers:  
-  
  image: quay.io/openshiftio/che-centos-nodejs  
  name: nodejs
```

```
containers:  
-  
  image: mariolet/che-stack-angular-python  
  name: nodejs
```

- Add language support (activate agents)



- And other configurations...



STEP 5 - Create the Workspace

New Workspace

CREATE & OPEN

SELECT STACK ?

AllQuick StartSingle MachineMulti Machine

FiltersAdd StackSearch

NAME	RAM
<div>Custom Angular Python Postgres... Angular Python stack with Postgres</div> <div><div>nodesjs1.1 GB</div><div>database0.5 GB</div></div>	
<div>Java and MySQL with Theia IDE on...Multi Container Workspace - Java with MySQL database in Theia IDE</div> <div><div>web/dev0.5 GB</div><div>web/mysql0.3 GB</div></div>	
<div>THEIAJava Theia on Kubernetes Che development + Theia in a sidecar container (kubernetes)</div> <div><div>ws/theia1 GB</div><div>ws/dev1.5 GB</div><div>ws/machine-exec0.5 GB</div></div>	

RAM ?

database	0.5 GB
nodesjs	1.1 GB

PROJECTS

+ Add or Import Project

flask-realworld-exa...

angular-realworld-e...

Project Nameangular-realworld-example-app

DescriptionDescription of the project

Repository URLhttps://github.com/gothinkster/angular-realworld-example-app.git

Remove

CancelSave

CREATE & OPEN



When you want to start from scratch

“DEV” Container Prerequisites

- Packages to install:
 - Always: JDK 8, Git, Wget, cURL, sudo, unzip
 - Based on the agents activated in the Workspace:

Workspace API	Java LS	TypeScript LS	Python LS	PHP LS	GO LS
JDK 8	<ul style="list-style-type: none">- JDK- maven	<ul style="list-style-type: none">- NodeJS	<ul style="list-style-type: none">- Python 3.6- pip		

- The entrypoint should be non terminating
- Ready to run as an arbitrary user
 - Set the right folder permissions
 - Dynamically patch /etc/passwd and /etc/groups when the container starts
- In general have a look at the [base stacks](#)

Gotchas - Exposing a Service

Add a new server

Reference

Server reference *

Port

1

✓

Protocol

http

✓

Add

Close

Gotchas - Memory Tweaking

-

Gotchas - Volumes

-

