

Banginis “žaliems” #Docker



Mažvydas Skuodas @NFQ
KaunasPHP v.24

Ačiū KaunasPHP

BuildStuff 2014 apžvalga



Trumpai apie BuildStuff 2014

- 3 dienos
- 17 išklausytų pranešimų



Opening Keynote: Greg Young

- The Old New Old New Things





Simonas Serlinskas - How to improve development productivity using Docker





Simonas Serlinskas - How to improve development productivity using Docker





Eric Evans - Good Design is Imperfect Design

There are Artists of Legacy Software





Stefan Tilkov - Fun Stories from an Architect's Life

"Better ask for forgiveness than for permission."

Closing Keynote: Mark Rendle -The Worst Programming Language Ever

PHP

PHP

Hates

Programmers

Klausimų bus ?

Pasportuokim

Pasportuokim

- Virtualbox/VMWare
- Docker / LXC
- Vagrant
- Puppet/Chef/Ansible/.../ Bash

<http://boot2docker.io/>

Play

https://registry.hub.docker.com

 docker

What is Docker? Use Cases Try It! Browse Install & Docs

[Log In](#) [Sign Up](#)

Repositories (290)

Users (0)

Organizations (1)

🔍

Show: All Sort by: Relevance Results: Size

 **rabbitmq** 

10 hours ago

RabbitMQ is a highly reliable enterprise messaging system based on the emerging AMQP standard

 35  9505

 **None**

Trusted automated RabbitMQ (<http://www.rabbitmq.com/>) Build

••• Dockerfile Project: <http://docke...>

 **tutum/rabbitmq** 

4 months ago

RabbitMQ Docker image – listens in ports 5672/15672 (admin). For the admin password, either set RABBITMQ_PASS environ...

 35  15838

Run Rabbit, Run

```
user@docker:~$ docker run -d -e RABBITMQ_NODENAME=my-rabbit --name some-rabbit -p 8080:15672 rabbitmq:3-management
Unable to find image 'rabbitmq:3-management' locally
36669626e49c: Pull complete
d5570ef1464a: Pull complete
101e543f8d95: Pull complete
c80b96cbf053: Pull complete
3bd282354573: Pull complete
8d5c373a0eff: Pull complete
d4e38e2c79e8: Pull complete
ddf5b698f8e3: Pull complete
02be565b8bc0: Pull complete
d8974a5c224a: Pull complete
8c0985f38364: Pull complete
ab266b30378e: Pull complete
3103c07edf41: Pull complete
b1515e1ca151: Pull complete
7aa444cbab2c: Pull complete
a4fbaad9f996: Pull complete
49ca289ced8a: Pull complete
9f153952cd6b: Pull complete
511136ea3c5a: Already exists
rabbitmq:3-management:1The image you are pulling has been verified. Important: image verification is a tech preview feature and should not be relied on to provide security.
```

```
RABBITMQ_NODENAME=my-rabbit --name some-rabbit -p 8080:15672 rabbitmq:3-management
Status: Downloaded newer image for rabbitmq:3-management
72e8a023cf0a1497847a42bb9d6db72c8ef1ff9376047f5632c53a4f4de8ad9a
user@docker:~$
```

Hello world! in PHP

```
user@docker:~$ docker run -it --rm php:5.6-cli php -r 'echo "hello world\n";'  
Unable to find image 'php:5.6-cli' locally  
3b3a4796eef1: Pull complete  
50ec2d202fe8: Pull complete  
5227f558e593: Pull complete  
48763d81b330: Pull complete  
8b802c4891bf: Pull complete  
4a233d2300a7: Pull complete  
5fcb56c41322: Pull complete  
f5d7f2c00c01: Pull complete  
73e762137806: Pull complete  
274ff72162ac: Pull complete  
c4e944b48251: Pull complete  
511136ea3c5a: Already exists  
php:5.6-cli: The image you are pulling has been verified. Important: image verification is a tech preview  
feature and should not be relied on to provide security.  
Status: Downloaded newer image for php:5.6-cli  
hello world  
user@docker:~$
```



How to use this image.

With Command Line

For PHP projects run through the command line interface (CLI), you can do the following.

Create a [Dockerfile](#) in your PHP project

Install composer

```
user@docker:/data/kaunasphp$ docker run -it --rm --name my-running-script -v $(pwd):/usr/src/myapp -w /usr/src/myapp php:5.6-cli /bin/bash
root@c01e9b1c266c:/usr/src/myapp# curl -sS https://getcomposer.org/installer | php
#!/usr/bin/env php
All settings correct for using Composer
Downloading...
Event Log
6:1  LF : UTF-8 : 0
Build Order
Composer successfully installed to: /usr/src/myapp/composer.phar
Use it: php composer.phar
root@c01e9b1c266c:/usr/src/myapp# exit
exit
user@docker:/data/kaunasphp$ ls
composer.phar  init.sh  run-producer.sh  send.php
user@docker:/data/kaunasphp$
```

composer install

```
user@docker:/data/kaunasphp$ docker run -it --name my-running-script -v $(pwd):/usr/src/myapp -w /usr/src/myapp php:5.6-cli php composer.phar install
Loading composer repositories with package information
Installing dependencies (including require-dev)
Your requirements could not be resolved to an installable set of packages.
```

Problem 1

- Installation request for videlalvaro/php-amqplib v2.1.0 -> satisfiable by videlalvaro/php-amqplib[v2.1.0].
- videlalvaro/php-amqplib v2.1.0 requires ext-bcmath * -> the requested PHP extension bcmath is missing from your system.

```
user@docker:/data/kaunasphp$ docker rm my-running-script
```

```
user@docker:/data/kaunasphp$ docker run -it -p 80:80 tutum/apache-php /bin/bash
Unable to find image 'tutum/apache-php:latest' locally
Pulling repository tutum/apache-php
3707e3579226: Download complete
511136ea3c5a: Download complete
27d47432a69b: Download complete
5f92234dcf1e: Download complete
51a9c7c1f8bb: Download complete
5ba9dab47459: Download complete
b688047d9c75: Download complete
5671fd1736ea: Download complete
50202f882219: Download complete
b7b3e07eed7e: Download complete
fbc3aacd84fc: Download complete
ab09403fa67f: Download complete
493fdfe9ff3b: Download complete
165e6bc73613: Download complete
f518acf507f8: Download complete
Status: Downloaded newer image for tutum/apache-php:latest
```

composer install 2

```
user@docker:/data/kaunasphp$ docker run -it --rm --name my-running-script -v $(pwd):/app -w /app tutum/apache-php
php composer.phar installLoading composer repositories with package information
Installing dependencies (including require-dev)
- Installing videlalvaro/php-amqplib (v2.1.0)
  Downloading: 100%  
Build Order
Writing lock file
Generating autoload files
user@docker:/data/kaunasphp$ ls
composer.json  composer.lock  composer.phar  init.sh  run-producer.sh  send.php  vendor
user@docker:/data/kaunasphp$
```

Test that RabbitMQ

```
user@docker:/data/kaunasphp$ docker run -it --rm --name my-running-script -v $(pwd):/app -w /app  
--link some-rabbit:rabbitmq tutum/apache-php php send.php  
[x] Sent 'Hello World!'  
user@docker:/data/kaunasphp$ docker run -it --rm --name my-running-script -v $(pwd):/app -w /app  
--link some-rabbit:rabbitmq tutum/apache-php php receive.php  
[*] Waiting for messages. To exit press CTRL+C  
[x] Received Hello World!  
^C
```

Spin up Mysql

```
user@docker:~$ docker run --name some-mysql -e MYSQL_ROOT_PASSWORD=root -d -p 3306:3306 mysql
Unable to find image 'mysql:latest' locally
170ff2cfa64a: Pull complete
ef7c16d26957: Pull complete
3749ee37c2a6: Pull complete
c78a194cd2cb: Pull complete
c066130d18bc: Pull complete
08cb5d6a3eea: Pull complete
3ca93316c58b: Pull complete
e3f4143d4844: Pull complete
a81965d5ac77: Pull complete
be7d80f12dd8: Pull complete
54c55eca1c4c: Pull complete
45dd68192dba: Pull complete
461d07d927e6: Pull complete
511136ea3c5a: Already exists
36669626e49c: Already exists
d5570ef1464a: Already exists
mysql:latest: The image you are pulling has been verified. Important: image verification is a tech preview feature and should not be relied on to provide security.
Status: Downloaded newer image for mysql:latest
some-app --link some-mysql:mysql -d application-that-uses-mysql
6af233552190b33ef5023ab1baac2824bdf7f1e7c1237c7e5cb46e7d0d1cc0d9
user@docker:~$
```

How to use this image

start a mysql server instance

```
docker run --name some-mysql -e MYSQL_ROOT_PASSWORD=mysecretpassword -d mysql
```

This image includes `EXPOSE 3306` (the standard MySQL port), so container linking will make it automatically available to the linked containers (as the following examples illustrate).

connect to it from an application

mysql:latest: The image you are pulling has been verified. Important: image verification is a tech preview feature and should not be relied on to provide security.

```
some-app --link some-mysql:mysql -d application-that-uses-mysql
6af233552190b33ef5023ab1baac2824bdf7f1e7c1237c7e5cb46e7d0d1cc0d9
```

Test Rabbit with SQL

```
user@docker:/data/kaunasphp$ docker run -it --rm --name my-running-script -v $(pwd):/app -w /app --link some-rabbit:rabbitmq  
--link some-mysql:mysql tutum/apache-php php send-mysql.php  
[x] Sent 100 messages  
user@docker:/data/kaunasphp$ docker run -it --rm --name my-running-script -v $(pwd):/app -w /app --link some-rabbit:rabbitmq  
--link some-mysql:mysql tutum/apache-php php receive-mysql.php  
[*] Waiting for messages. To exit press CTRL+C  
[x] Received ("some", "data")  
[x][x][x][x] FLUSH  
[x] Received ("some", "data")
```

New GUI for Mac OS X

The screenshot shows the Kitematic Docker interface running on Mac OS X. The window has a clean, modern design with a light gray background and rounded corners. At the top left, there are three colored window control buttons (red, yellow, green). To the right of these are the standard Mac OS X window controls: a red close button, a yellow minimize button, and a green maximize button. Below the window controls, the word "Containers" is displayed next to a small icon, and a blue "+" button is positioned to the right.

In the center of the interface, there is a large search bar with the placeholder text "Find an Image from Docker Hub". Above the search bar, the text "Select an image to create a new container." is displayed. To the right of the search bar, the Kitematic logo (a stylized "K" inside a square) is visible.

A prominent blue button labeled "New Container" is located on the left side of the main content area. The main content area is divided into several sections:

- Recommended:** This section displays six recommended Docker images in a grid format. Each item includes a thumbnail image, the repository name, a brief description, a star rating, a "latest" tag indicator, and a "Create" button.
 - hello-world-nginx** by **kitematic**: Hello World Nginx server for Kitematic. Rating: 0 stars, latest tag, Create button.
 - ghost** by **kitematic**: Ghost is a simple publishing platform that allows you to share your stories with the world. Rating: 1 star, latest tag, Create button.
 - jenkins** by **official**: Official Jenkins Docker image. Rating: 275 stars, latest tag, Create button.
 - redis** by **official**: Redis is an open source key-value store that functions as a data structure server. Rating: 523 stars, latest tag, Create button.
 - rethinkdb** by **official**: RethinkDB is an open-source, document database that makes it easy to build and scale realtime... Rating: 8 stars, latest tag, Create button.
 - minecraft** by **kitematic**: The Minecraft multiplayer server allows two or more players to play Minecraft together. Rating: 1 star, latest tag, Create button.

New GUI for Mac OS X

jenkins RUNNING



Home Logs

Settings

General

Ports

Volumes

Container Name

jenkins

Save

Environment Variables

KEY

PATH

JAVA_VERSION

JENKINS_HOME

JENKINS_VERSION

JENKINS_UC

VALUE

/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin

7u65

/var/jenkins_home

1.580.2

https://updates.jenkins-ci.org



Klausimai?

AčiŪ