


DOCKER

WPROWADZENIE DO KONTENERÓW
DLA PROGRAMISTÓW

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- ♦ SysAdmin
- ♦ Linux and Open Source enthusiast

Dlaczego

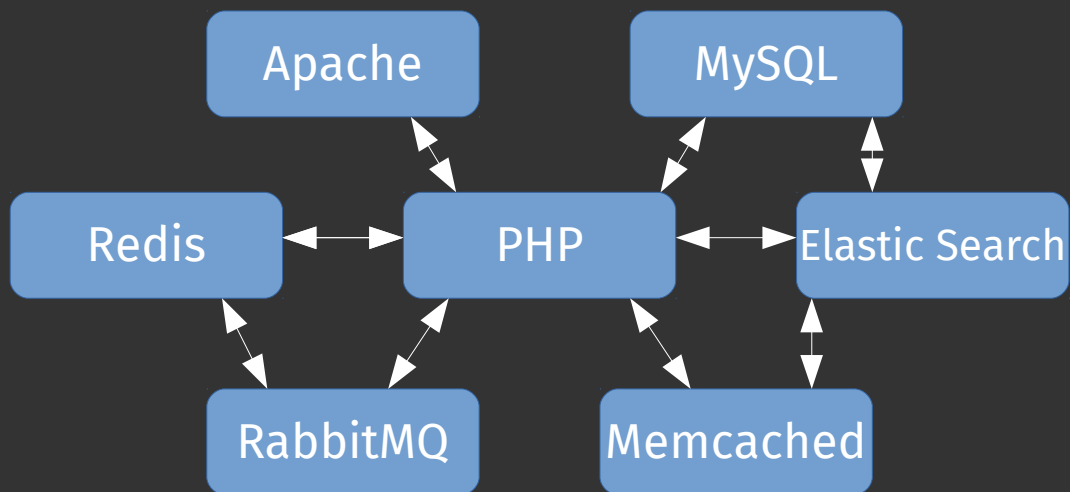
DOCKER?

Dlaczego **DOCKER**?



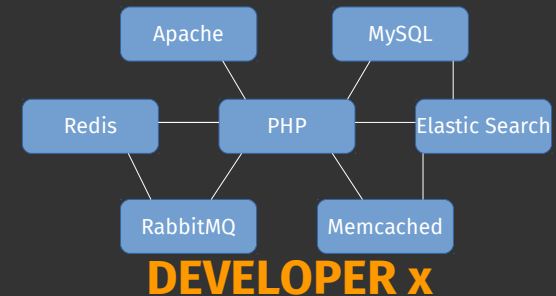
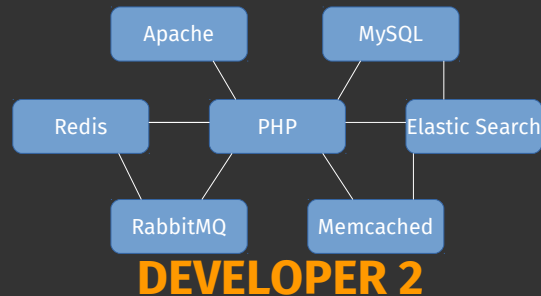
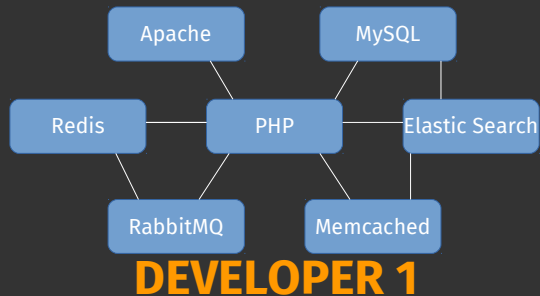
Dlaczego **DOCKER**?

ZŁOŻONE ZALEŻNOŚCI W PROJEKCIE

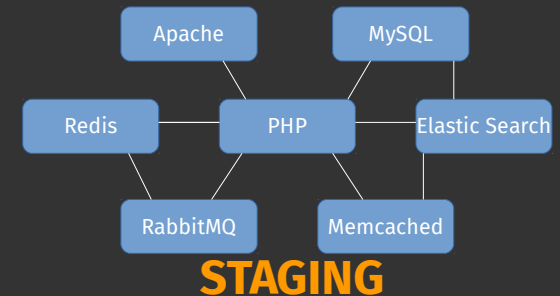
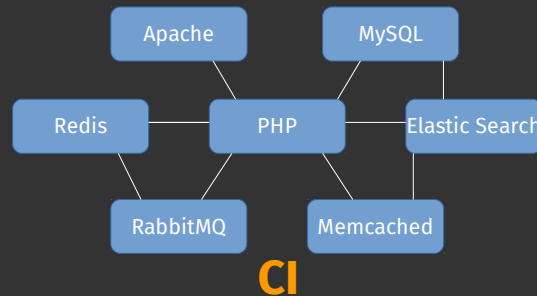
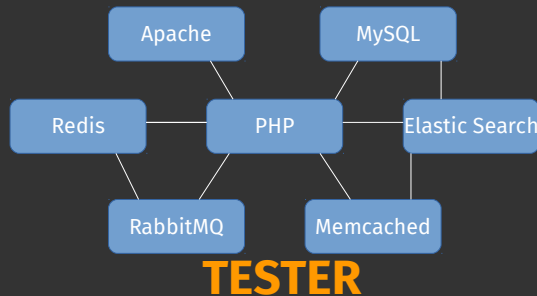


Dlaczego **DOCKER**?

























WIELE RÓWNOCZESNYCH PROJEKTÓW



***N projektów**



Dlaczego **DOCKER**?

	Dev	Stage	Prod	CI
nginx				
MySQL				
PHP				
Redis				
Elastic Search				
Rabbit MQ				

CO ZYSKUJEMY?

- ♦ **budujemy raz,
używamy gdzie chcemy**

CO ZYSKUJEMY?

- ♦ **nie występują problemy z zależnościami oraz z niekompatybilnością zależności**

CO ZYSKUJEMY?

- ♦ **brak narzutów VM**

CO ZYSKUJEMY?

- ♦ pełna automatyzacja

CO ZYSKUJEMY?

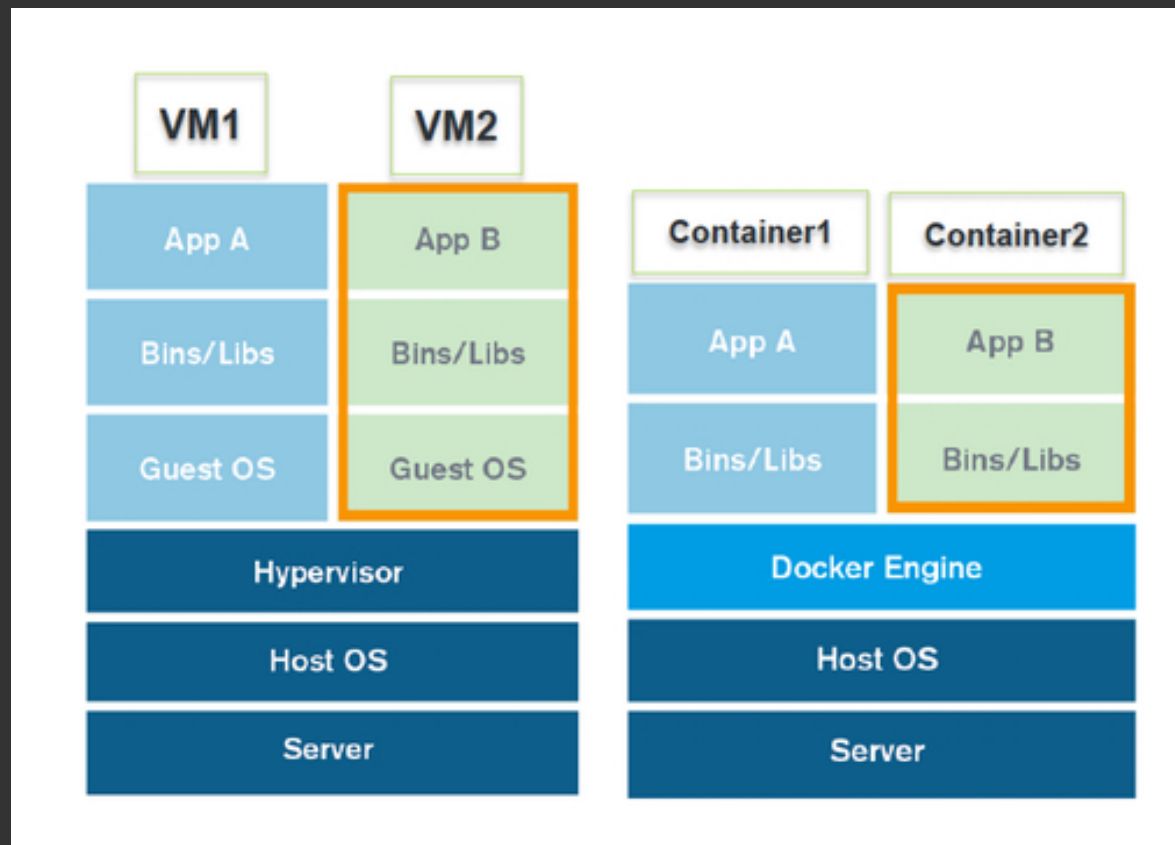
- ♦ łatwe skalowanie

Jak działa

DOCKER?

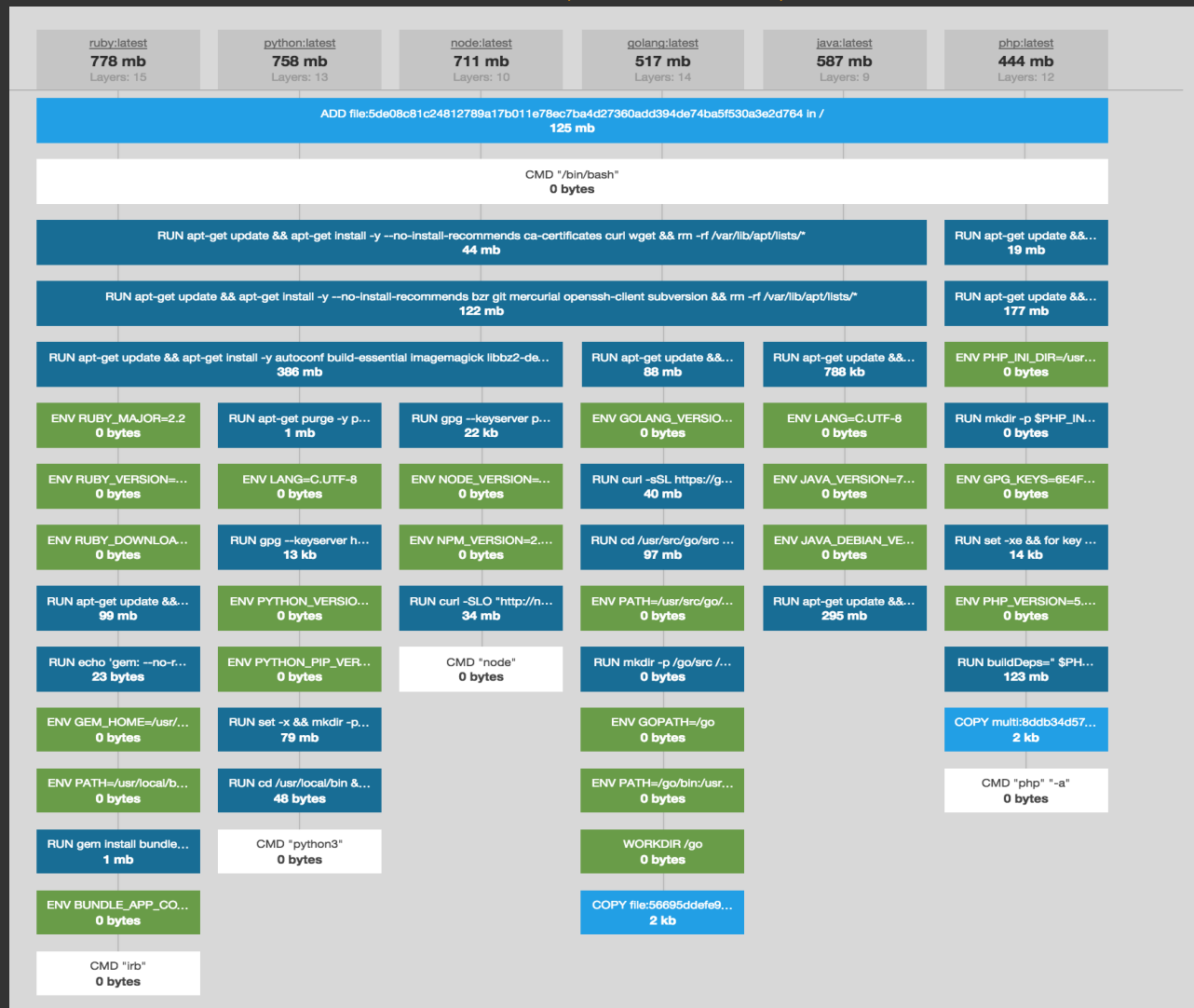
JAK DZIAŁA DOCKER?

Maszyna Wirtualna vs. Docker



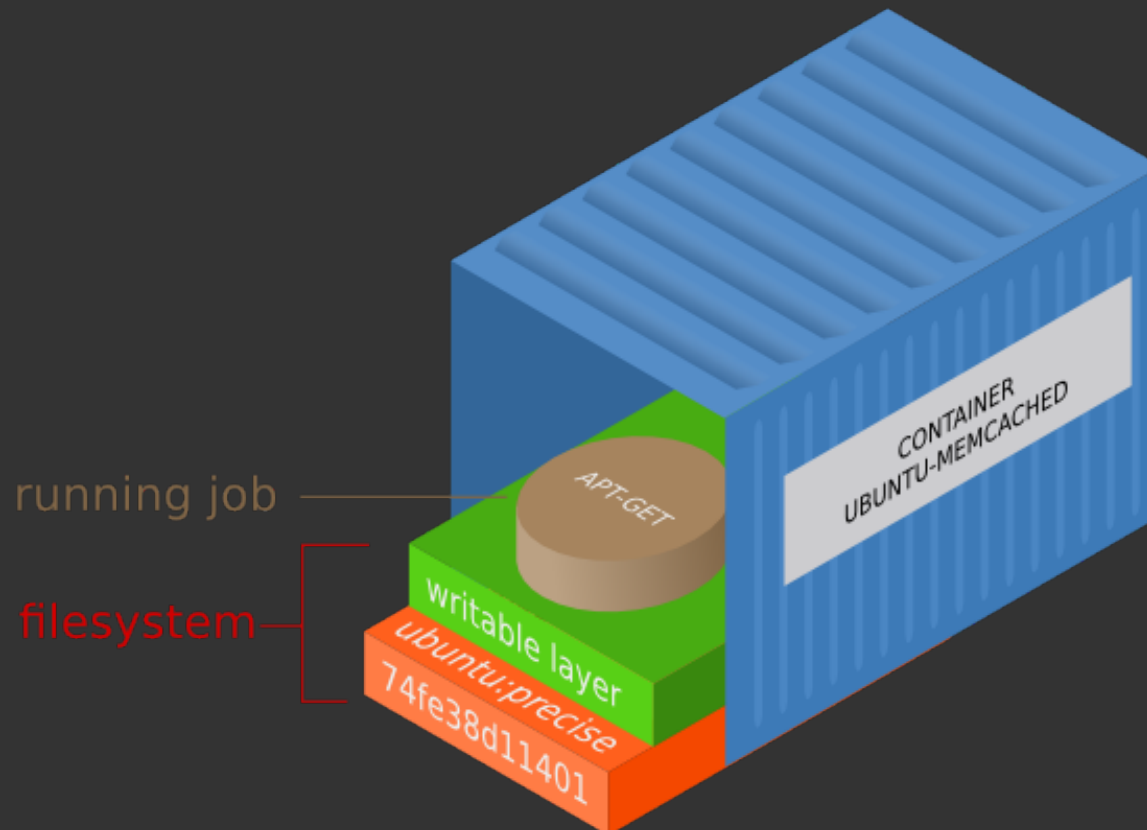
JAK DZIAŁA DOCKER?

Obraz (IMAGE)



JAK DZIAŁA DOCKER?

Kontener (CONTAINER)



JAK DZIAŁA DOCKER?

Repozytorium (REPOSITORY)

Oficjalne

DOCKER HUB

<https://hub.docker.com>

Prywatne

REGISTRY

registry:latest

DEMO

TIME

DOCKER – WPROWADZENIE DO KONTENERÓW

```
$ docker run -v $PWD:/var/www/html -p 8081:80 php:5.6-apache
```

DOCKER – WPROWADZENIE DO KONTENERÓW

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DOCKER – WPROWADZENIE DO KONTENERÓW

```
$ docker run -v $PWD:/var/www/html -p 8081:80 php:5.6-apache
```

DOCKER – WPROWADZENIE DO KONTENERÓW

```
$ docker run -v $PWD:/var/www/html -p 8081:80 php:5.6-apache  
php:7.1-apache
```

```
$ ls .  
index.php
```

```
$ cat index.php  
<?php  
phpinfo();
```

Supported tags and respective Dockerfile links

- [7.1.0RC3-cli](#), [7.1-cli](#), [7.1.0RC3](#), [7.1](#) ([7.1/Dockerfile](#))
- [7.1.0RC3-alpine](#), [7.1-alpine](#) ([7.1/alpine/Dockerfile](#))
- [7.1.0RC3-apache](#), [7.1-apache](#) ([7.1/apache/Dockerfile](#))
- [7.1.0RC3-fpm](#), [7.1-fpm](#) ([7.1/fpm/Dockerfile](#))
- [7.1.0RC3-fpm-alpine](#), [7.1-fpm-alpine](#) ([7.1/fpm/alpine/Dockerfile](#))
- [7.1.0RC3-zts](#), [7.1-zts](#) ([7.1/zts/Dockerfile](#))
- [7.1.0RC3-zts-alpine](#), [7.1-zts-alpine](#) ([7.1/zts/alpine/Dockerfile](#))
- [7.0.12-cli](#), [7.0-cli](#), [7-cli](#), [cli](#), [7.0.12](#), [7.0](#), [7](#), [latest](#) ([7.0/Dockerfile](#))
- [7.0.12-alpine](#), [7.0-alpine](#), [7-alpine](#), [alpine](#) ([7.0/alpine/Dockerfile](#))
- [7.0.12-apache](#), [7.0-apache](#), [7-apache](#), [apache](#) ([7.0/apache/Dockerfile](#))
- [7.0.12-fpm](#), [7.0-fpm](#), [7-fpm](#), [fpm](#) ([7.0/fpm/Dockerfile](#))
- [7.0.12-fpm-alpine](#), [7.0-fpm-alpine](#), [7-fpm-alpine](#), [fpm-alpine](#) ([7.0/fpm/alpine/Dockerfile](#))
- [7.0.12-zts](#), [7.0-zts](#), [7-zts](#), [zts](#) ([7.0/zts/Dockerfile](#))
- [7.0.12-zts-alpine](#), [7.0-zts-alpine](#), [7-zts-alpine](#), [zts-alpine](#) ([7.0/zts/alpine/Dockerfile](#))
- [5.6.26-cli](#), [5.6-cli](#), [5-cli](#), [5.6.26](#), [5.6](#), [5](#) ([5.6/Dockerfile](#))
- [5.6.26-alpine](#), [5.6-alpine](#), [5-alpine](#) ([5.6/alpine/Dockerfile](#))
- [5.6.26-apache](#), [5.6-apache](#), [5-apache](#) ([5.6/apache/Dockerfile](#))
- [5.6.26-fpm](#), [5.6-fpm](#), [5-fpm](#) ([5.6/fpm/Dockerfile](#))
- [5.6.26-fpm-alpine](#), [5.6-fpm-alpine](#), [5-fpm-alpine](#) ([5.6/fpm/alpine/Dockerfile](#))
- [5.6.26-zts](#), [5.6-zts](#), [5-zts](#) ([5.6/zts/Dockerfile](#))
- [5.6.26-zts-alpine](#), [5.6-zts-alpine](#), [5-zts-alpine](#) ([5.6/zts/alpine/Dockerfile](#))

Dockerfile

```
$ ls .  
Dockerfile  index.php  php.ini
```

```
$ cat Dockerfile  
FROM php:5.6-apache  
  
RUN apt-get update && apt-get -y install libcurl4-openssl-dev \  
    && docker-php-ext-install pdo \  
    && docker-php-ext-install pdo_mysql.  
  
COPY ./php.ini /usr/local/etc/php
```

```
$ docker build -t myphp .
```

```
$ docker run -v $PWD:/var/www/html -p 8081:80 myphp
```

DOCKER COMPOSE

```
$ docker run -v $PWD:/var/www/html -p 8081:80 php:5.6-apache
```


DOCKER COMPOSE

~~\$ docker run -v \$PWD:/var/www/html -p 8081:80 php:5.6-apache~~

docker-compose.yml

www:

image: php:7.0-apache

volumes:

- ./www:/var/www/html

ports:

- 8080:80

docker-compose.yml

www:

image: php:7.0-apache

volumes:

- ./www:/var/www/html

ports:

- 8080:80

\$ docker-compose up

```
➤ docker-compose up
Creating demo3_www_1
Attaching to demo3_www_1
www_1 | AH00558: apache2: Could not reliably determine the server's fully qualified domain name, using 172.19.0.2. Set the 'ServerName' directive globally to suppress this message
www_1 | AH00558: apache2: Could not reliably determine the server's fully qualified domain name, using 172.19.0.2. Set the 'ServerName' directive globally to suppress this message
www_1 | [Tue Oct 18 13:19:24.515830 2016] [mpm_prefork:notice] [pid 1] AH00163: Apache/2.4.10 (Debian) PHP/5.6.26 configured -- resuming normal operations
www_1 | [Tue Oct 18 13:19:24.515949 2016] [core:notice] [pid 1] AH00094: Command line: 'apache2 -D FOREGROUND'
^CGracefully stopping... (press Ctrl+C again to force)
Stopping demo3_www_1 ... done
```

DOCKER COMPOSE

Łączenie kontenerów



Docker-compose.yml

www:

image: php:7.0-apache

volumes:

- ./www:/var/www/html

ports:

- 8080:80

links:

- redis

redis:

image: redis

www/index.php

```
<?php
    require_once __DIR__.'/vendor/autoload.php';

    $client = new Predis\Client(['host'=>'redis']);

    $counter = $client->incr('counter');

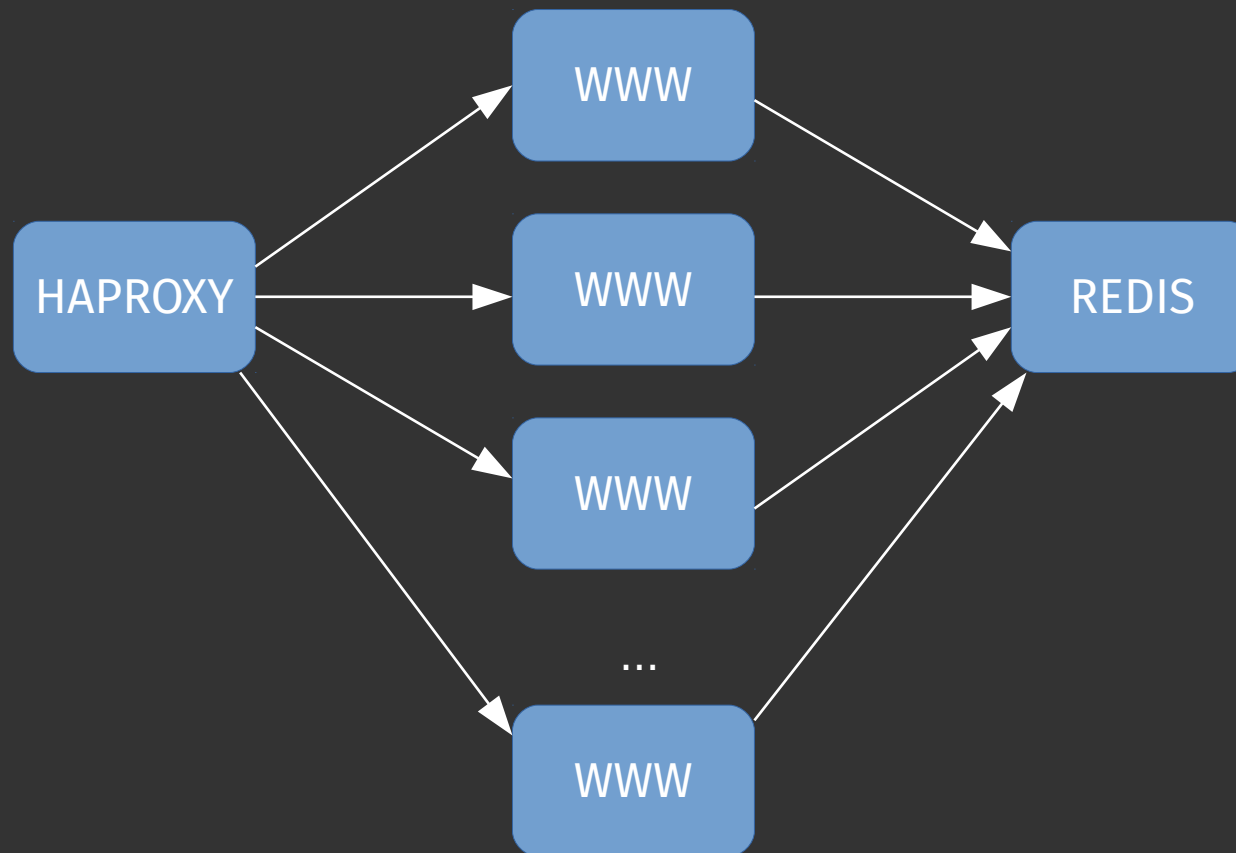
    echo 'Hostname:'.gethostname().'<br/>';
    echo 'Counter:'. $counter.'<br/>';
```

```
$ composer require predis/predis
```

```
$ docker-compose up -d
```

```
$ docker-compose ps
```

SKALOWANIE APLIKACJI



Docker-compose.yml

```
version: '2'
```

```
services:
```

```
  www:
```

```
    image: php:7.0-apache
```

```
    volumes:
```

```
      - ./www:/var/www/html
```

```
    ports:
```

```
      - 8080:80
```

```
    links:
```

```
      redis
```

```
  redis:
```

```
    image: redis
```


Docker-compose.yml

```
version: '2'
```

```
services:
```

```
  www: ...
```

```
  redis: ...
```

```
  haproxy:
```

```
    - image: haproxy:latest
```

Docker-compose.yml

```
version: '2'
```

```
services:
```

```
  www: ...
```

```
  redis: ...
```

```
  haproxy:
```

```
    - image: dockerccloud/haproxy:latest
```

```
  links:
```

```
    - www
```

Docker-compose.yml

```
version: '2'
```

```
services:
```

```
  www: ...
```

```
  redis: ...
```

```
  haproxy:
```

```
    - image: dockerccloud/haproxy:latest
```

```
  links:
```

```
    - www
```

```
  ports:
```

```
    - 80:80
```

Docker-compose.yml

version: '2'

services:

www: ...

redis: ...

haproxy:

- **image:** dockerccloud/haproxy:latest

links:

- **www**

ports:

- **80:80**
- **1936:1936**

volumes:

- **/var/run/docker.sock:/var/run/docker.sock**

environment:

- **STAT_AUTH='admin:password'**

Docker-compose.yml

```
$ docker-compose up -d
```

```
$ docker-compose scale www=3
```

```
$ docker-compose ps
```

CO DALEJ?

DOCKER SWARM

MESOSPHERE

KUBERNETES

PLIKI Z PRZYKŁADÓW

<https://github.com/multiart/croscondev/>

DZIĘKUJĘ ZA UWAGĘ
PYTANIA?