



kubernetes



OPENSIFT[™]
by Red Hat[™]



docker

Spinning up a micro-service

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<https://github.com/yaacov/AP-2017-OpenShift>

Technologies

oVirt - Virtual machine (VM) is an emulation of a computer system.

Docker - Containers are a way to package software in a format that can run isolated on a shared operating system.

Kubernetes - A system for management of containerized applications.

OpenShift - Built around a core of Docker container packaging and Kubernetes container cluster management, OpenShift is also augmented by application lifecycle management functionality and DevOps tooling.

Agenda

- [Quickly deploy an OpenShift cluster]
- The OpenShift console.
- Set up a microservice from code.
- Real-life useful service set.

The Demo Environment

VM: OpenShift master
IP: 192.168.122.164
master.example.com
nodejs.example.com
mservice.example.com
mohawk.exmple.com



Container

Micro Service:
e.g. nodejs-server

Deploy OpenShift cluster

- Bring your own (BYO) virtual machine (VM).
- Bootstrap, set network, ssh, software repositories.
- Use a deployment management tool.
- Ansible helps you describe machine configurations in a declarative language, bring machines to a desired state, and keep them there through automation.



ANSIBLE

Demo: The OpenShift console

The image displays two overlapping screenshots of the OpenShift console interface. The top-left screenshot shows the 'Welcome to OpenShift' page, which includes a 'Create Project' button and a link to the OpenShift documentation. The bottom-right screenshot shows a grid of technology options under the heading 'Technologies'. The grid contains six cards for programming languages: Java, JavaScript (JS), .NET, Perl, PHP, and Python, and three cards for other technologies: Continuous Integration & Deployment, Data Stores, and Uncategorized.

OPENSIFT ORIGIN admin








Welcome to OpenShift.

OpenShift helps you quickly develop, host, and scale applications.
Create a project for your application.

[Create Project](#)

To learn more, visit the OpenShift [documentation](#).

OPENSIFT ORIGIN admin

| | | |
|---|---|---|
|  Java |  JS JavaScript |  .NET .NET |
|  Perl |  PHP |  Python |
|  Ruby | | |

Technologies

| | | |
|---|---|----------------------|
| Continuous Integration & Deployment Automate the build, test, and deployment of your application with each new code revision. | Data Stores Store and manage collections of data. | Uncategorized |
|---|---|----------------------|

Demo: The OpenShift console

- Create a new project “example”
- Create a new service “Node.js + MongoDB”
- Show route to the service

Demo: microservice from code

Micro Server Code:

```
start_time = str(datetime.now())  
def do_GET(self):  
    # Send message back to client  
    message = "Started at {}\n".format(start_time)  
    # Write content as utf-8 data  
    self.wfile.write(bytes(message, "utf8"))
```


Demo: microservice from code

The new-app command:

- `oc new-app <source repository>`
- `oc new-app <container image>`
- `oc new-app <openshift template>`

Example:

- `oc new-app git://192.168.122.1/home/yzamir/Projects/mservice`
- `curl http://mservice.example.com`

Demo: useful service set

Template file ([mohawk.yaml](#)):

```
kind: Template
```

```
apiVersion: v1
```

```
metadata:
```

```
  name: mohawk
```

```
  annotations:
```

```
    "openshift.io/display-name": Mohawk Metrics
```

Demo: useful service set

- Spinning up microservices using a template.
- Setting a group of symbiotic microservices.
- Using this microservices as a part of a full application.



Links:

OpenShift Origin:

<https://www.openshift.org/>

Slides and Code snippets:

<https://github.com/yaacov/AP-2017-OpenShift>

Mohawk:

<https://github.com/yaacov/mohawk>

ManageIQ:

<http://manageiq.org/>

Questions ?

