

1. Pierwszym krokiem było uruchomienie klastra Kubernetes

Działające Minicube Dashboard:

The image shows a terminal window and a web browser displaying the Minicube Dashboard. The terminal window, titled "Shell", shows the command `minikube dashboard` being executed, which opens the Kubernetes dashboard in the default browser. The browser window, titled "Overview - Kubernetes Dashboard", shows the dashboard's overview page. The URL bar displays `192.168.99.102:30000/#!/overview?namespace=default`. The dashboard interface includes a sidebar with navigation links for Cluster, Namespaces, Nodes, Persistent Volumes, Roles, and Storage Classes. The main content area, titled "Workloads", shows a "Workloads Statuses" section with a red circular progress indicator indicating 100.00% completion for Deployments.

```
suhar@Suhar-PC:~$ minikube dashboard
Opening kubernetes dashboard in default browser...
suhar@Suhar-PC:~$
```

Overview - Kubernetes Dashboard

MIFT2021/Lab12.txt at masi X LAB12 Bartosz Kozłowski Sj X Overview - Kubernetes Dasl X +

192.168.99.102:30000/#!/overview?namespace=default

kubernetes

Search

Overview

Cluster

- Namespaces
- Nodes
- Persistent Volumes
- Roles
- Storage Classes

Namespace

default

Workloads

Workloads Statuses

100.00%

Deployments

2. Drugim krokiem było utworzenie pliku z rozszerzeniem .yaml

Plik `suhar_deployment.yaml`:

```
~/Desktop/suhar_deployment.yaml - Sublime Text (UNREGISTERED)
File Edit Selection Find View Goto Tools Project Preferences Help

suhar_deployment.yaml x
1  apiVersion: apps/v1
2  kind: Deployment
3  metadata:
4    name: komunikator-deployment
5    labels:
6      app: komunikator
7  spec:
8    replicas: 4
9    selector:
10     matchLabels:
11       app: komunikator
12   template:
13     metadata:
14       labels:
15         app: komunikator
16     spec:
17     containers:
18     - name: komunikator-deployment
19       image: mrsuhar/komunikator-build:lab11
20     ports:
21     - containerPort: 3000
```






















3. Trzecim krokiem było wykorzystanie stworzonego pliku

Użycie pliku `.yaml` w w Kubernetes'ie:

```
suhar@Suhar-PC:~/Desktop$ touch suhar_deployment.yaml
suhar@Suhar-PC:~/Desktop$ kubectl apply -f suhar_deployment.yaml
deployment "komunikator-deployment" created
suhar@Suhar-PC:~/Desktop$ kubectl get deployments
```

NAME	DESIRED	CURRENT	UP-TO-DATE	AVAILABLE	AGE
kom2	1	1	1	0	18d
komunikator	1	1	1	0	19d
komunikator-build	1	1	1	0	18d
komunikator-deployment	4	4	4	0	3m

Utworzone pod'y:

Pods						
Name	Node	Status	Restarts	Age		
 komunikator-deployment-5f9cf9dd94-xpqc9 Back-off restarting failed container	minikube	Waiting: CrashLoopBackOff	5	5 minutes		
 komunikator-deployment-5f9cf9dd94-dgzx6 Back-off restarting failed container	minikube	Waiting: CrashLoopBackOff	5	5 minutes		
 komunikator-deployment-5f9cf9dd94-tc5hn Back-off restarting failed container	minikube	Waiting: CrashLoopBackOff	5	5 minutes		
 komunikator-deployment-5f9cf9dd94-x8r8n Back-off restarting failed container	minikube	Waiting: CrashLoopBackOff	5	5 minutes		
 komunikator-build-89f4b4c9b-7sqxv Back-off restarting failed container	minikube	Waiting: CrashLoopBackOff	27	18 days		
 kom2-7c96c8654c-5hrtk Back-off restarting failed container	minikube	Waiting: CrashLoopBackOff	28	18 days		
 komunikator-665dc5f6c6-s7dtl Error: ImagePullBackOff	minikube	Waiting: ImagePullBackOff	0	19 days		

Jak widać cztery najnowsze pod'y pochodzą sprzed pięciu minut. Niestety podobnie jak na poprzednich zajęciach nie działają. Wynika to z wykorzystania tego samego obrazu docker'owego co podczas zeszłych ćwiczeń.

4. Zmiana w pliku suhar_deployment.yaml

Nowy plik .yaml:

```
1  apiVersion: apps/v1
2  kind: Deployment
3  metadata:
4    name: komunikator-deploymentv2
5    labels:
6      app: komunikatorv2
7  spec:
8    replicas: 8
9    selector:
10     matchLabels:
11       app: komunikatorv2
12   template:
13     metadata:
14       labels:
15         app: komunikatorv2
16     spec:
17       containers:
18       - name: komunikator-deploymentv2
19         image: mrsuhar/komunikator-build:lab11
20         ports:
21         - containerPort: 3000
```

Wykorzystanie pliku w Kubernetes'ie:

```
suhar@Suhar-PC:~/Desktop$ kubectl apply -f suhar_deployment.yaml
deployment "komunikator-deploymentv2" created
suhar@Suhar-PC:~/Desktop$ kubectl get deployments
```

NAME	DESIRED	CURRENT	UP-TO-DATE	AVAILABLE	AGE
kom2	1	1	1	0	18d
komunikator	1	1	1	0	19d
komunikator-build	1	1	1	0	18d
komunikator-deployment	4	4	4	0	13m
komunikator-deploymentv2	8	8	8	0	15s

```
suhar@Suhar-PC:~/Desktop$
```
















Lista pod'ów w Dashboard'zie:

Pods

Name	Node	Status	Restarts	Age		
<div><div>!</div><div>komunikator-deploymentv2-5788df4bd6-b299p Back-off restarting failed container</div></div>	minikube	Terminated: Completed	3	a minute	<div></div>	<div></div>
<div><div>!</div><div>komunikator-deploymentv2-5788df4bd6-tw9wl Back-off restarting failed container</div></div>	minikube	Waiting: CrashLoopBackOff	3	a minute	<div></div>	<div></div>
<div><div>!</div><div>komunikator-deploymentv2-5788df4bd6-r6dlg Back-off restarting failed container</div></div>	minikube	Waiting: CrashLoopBackOff	3	a minute	<div></div>	<div></div>
<div><div>!</div><div>komunikator-deploymentv2-5788df4bd6-qvtxr Back-off restarting failed container</div></div>	minikube	Waiting: CrashLoopBackOff	3	a minute	<div></div>	<div></div>
<div><div>!</div><div>komunikator-deploymentv2-5788df4bd6-p226s Back-off restarting failed container</div></div>	minikube	Terminated: Completed	3	a minute	<div></div>	<div></div>
<div><div>!</div><div>komunikator-deploymentv2-5788df4bd6-ndwwx Back-off restarting failed container</div></div>	minikube	Terminated: Completed	3	a minute	<div></div>	<div></div>
<div><div>!</div><div>komunikator-deploymentv2-5788df4bd6-cnrmf Back-off restarting failed container</div></div>	minikube	Terminated: Completed	3	a minute	<div></div>	<div></div>
<div><div>!</div><div>komunikator-deploymentv2-5788df4bd6-vv8zm Back-off restarting failed container</div></div>	minikube	Waiting: CrashLoopBackOff	3	a minute	<div></div>	<div></div>
<div><div>!</div><div>komunikator-deployment-5f9cf9dd94-xpqc9 Back-off restarting failed container</div></div>	minikube	Waiting: CrashLoopBackOff	7	14 minutes	<div></div>	<div></div>
<div><div>!</div><div>komunikator-deployment-5f9cf9dd94-x8r8n Back-off restarting failed container</div></div>	minikube	Waiting: CrashLoopBackOff	7	14 minutes	<div></div>	<div></div>

Jak widać zarówno nazwa jak i ilość nowych pod'ów uległa zmianie zgodnie z oczekiwaniami.

Inna zakładka obrazująca działanie klastra:

Replica Sets					
Name ↕	Labels	Pods	Age ↕	Images	
 komunikator-deploymentv2-5788df4bd6 Back-off restarting failed container	app: komunikatorv2 pod-template-hash: 1344890682	8 / 8	2 minutes	mrsuhar/komunikator-build:lab11	 
 komunikator-deployment-5f9cf9dd94 Back-off restarting failed container	app: komunikator pod-template-hash: 1957958850	4 / 4	15 minutes	mrsuhar/komunikator-build:lab11	 
 komunikator-build-89f4b4c9b Back-off restarting failed container	app: komunikator-build pod-template-hash: 459060756	1 / 1	18 days	mrsuhar/komunikator-build:lab11	 
 kom2-7c96c8654c Back-off restarting failed container	app: kom2 pod-template-hash: 3752742107	1 / 1	18 days	mrsuhar/komunikator-build:lab11	 
 komunikator-665dc5f6c6 Error: ImagePullBackOff	app: komunikator pod-template-hash: 2218719272	0 / 1	19 days	build/build-komunikator	 

Wnioski:

Kubernetes stanowi bardzo łatwe w użyciu narzędzie do zarządzania zadaniami przydzielanymi klastrowi. Niestety w trakcie zajęć nie udało mi się wykorzystać pełni jego możliwości ze względu na błędy związane z wykorzystaniem docker'owego obrazu wybranej aplikacji. Utworzony plik .yaml działa poprawnie.