



GIORNATA DI INCONTRO BORSE DI STUDIO GARR "ORIO CARLINI"
MARTEDI' 12 DICEMBRE 2017 - ROMA



V-LABS

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V-LABS

Progettazione e realizzazione di una piattaforma
per il provisioning in autonomia di aule virtuali

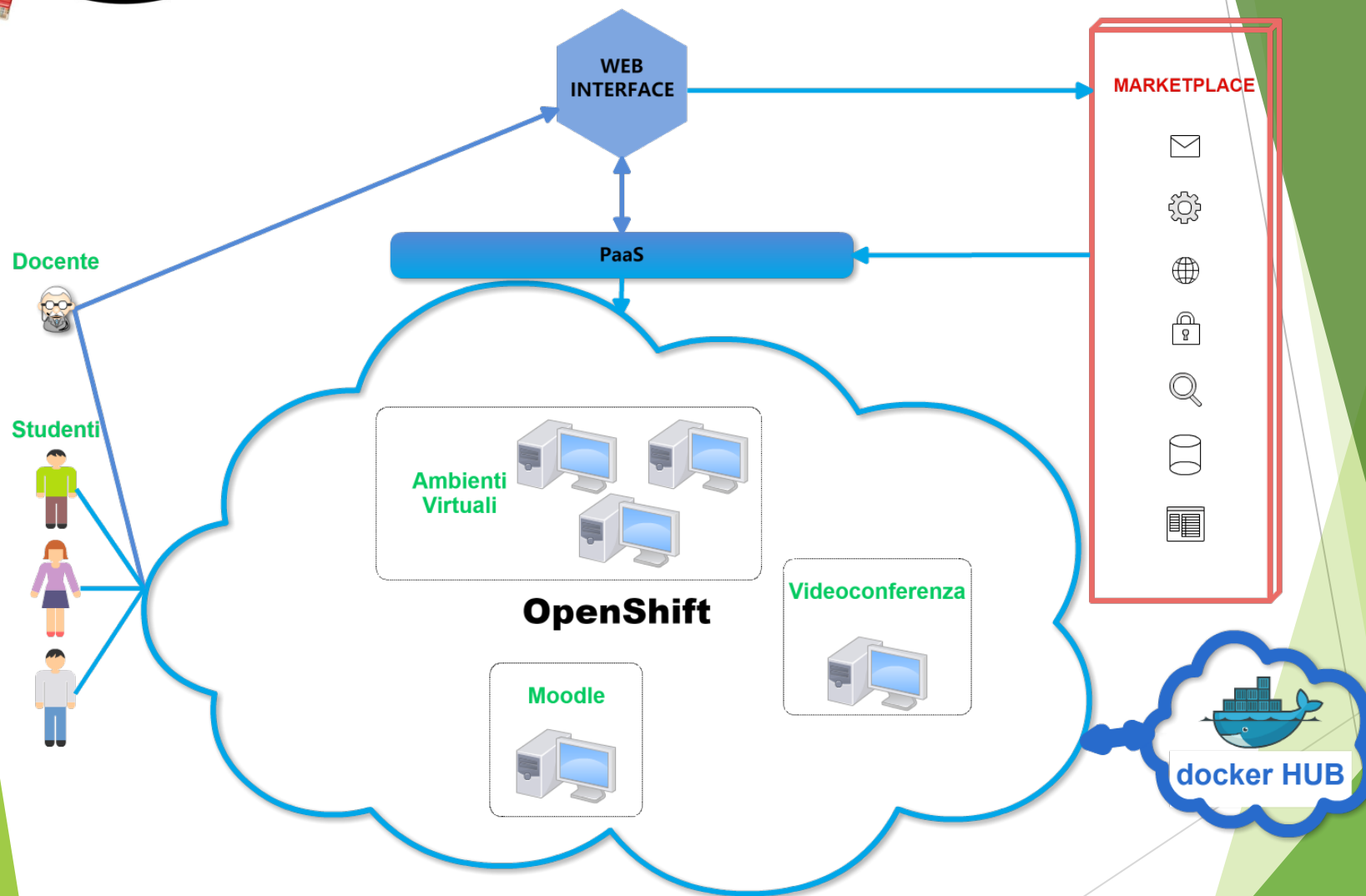
- ◎ 100% Open source
- ◎ Basato su OpenShift
- ◎ Gestibile completamente via browser



V-LABS

Features

- ◎ Multidisciplinarietà
- ◎ Flessibilità della struttura delle aule, degli ambienti virtuali e dei servizi
- ◎ Marketplace espandibile dalle comunità
- ◎ Completamente stateless (no db)





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Tecnologie

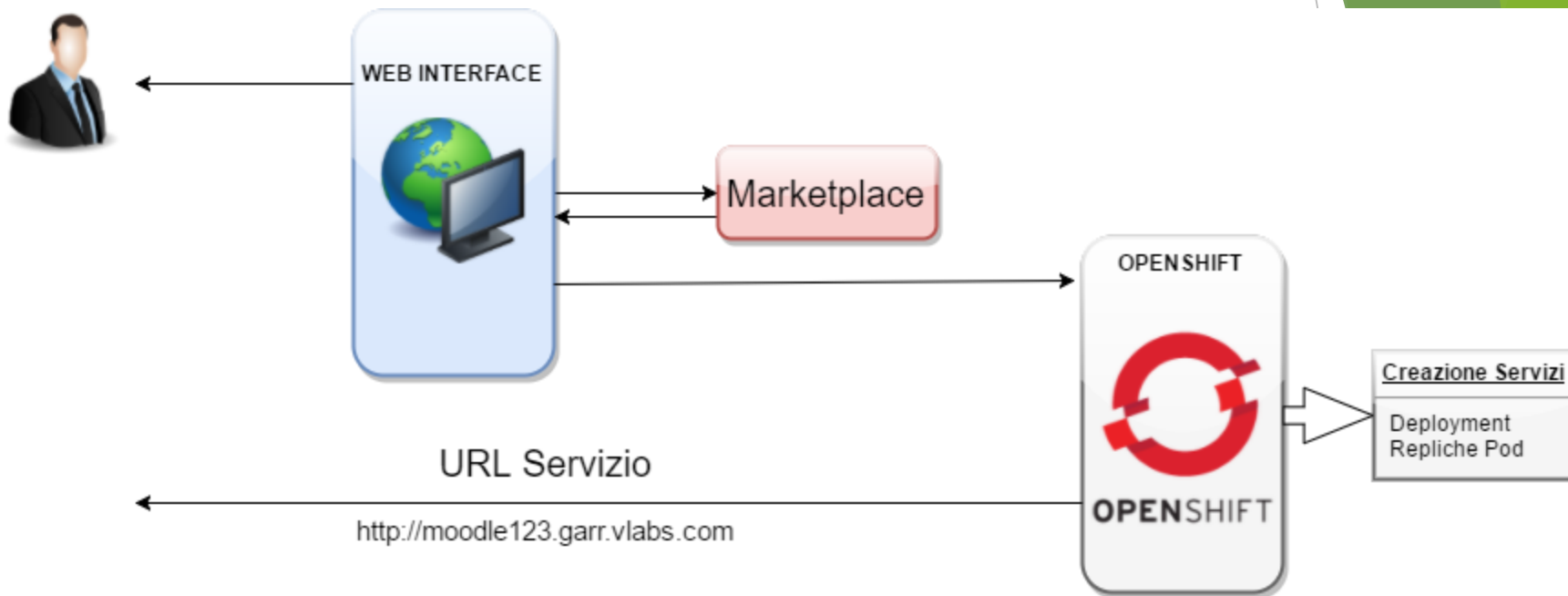
- ◎ Linux container
- ◎ OpenShift
- ◎ Python
- ◎ Django
- ◎ Ajax



Stock Marketplace

- ◎ Learning Management system
 - Moodle
- ◎ Ambienti di esercitazione
 - Programmazione (C++, Java, Python, ...)
 - Relational e NoSql databases
 - CAD elettronici
 - ambienti per analisi dati root e geant4
 - Strumenti di analisi matematico statistica (SageMath, R, ...)
- ◎ Sistemi per la videoconferenza
 - RocketChat

Esempio interazione





Creazione Rotte

- ◎ Wildcard DNS
- ◎ Frontend TLS per tutti i possibili indirizzi che appartengono a un dominio o un sottodominio
- ◎ http://*.garr.vlabs.it
- ◎ Es.: <http://moodle-fisica.garr.vlabs.it>



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V-LABS

username:

password:

OpenShift Web Console

test-project

Deployments [Learn More](#)

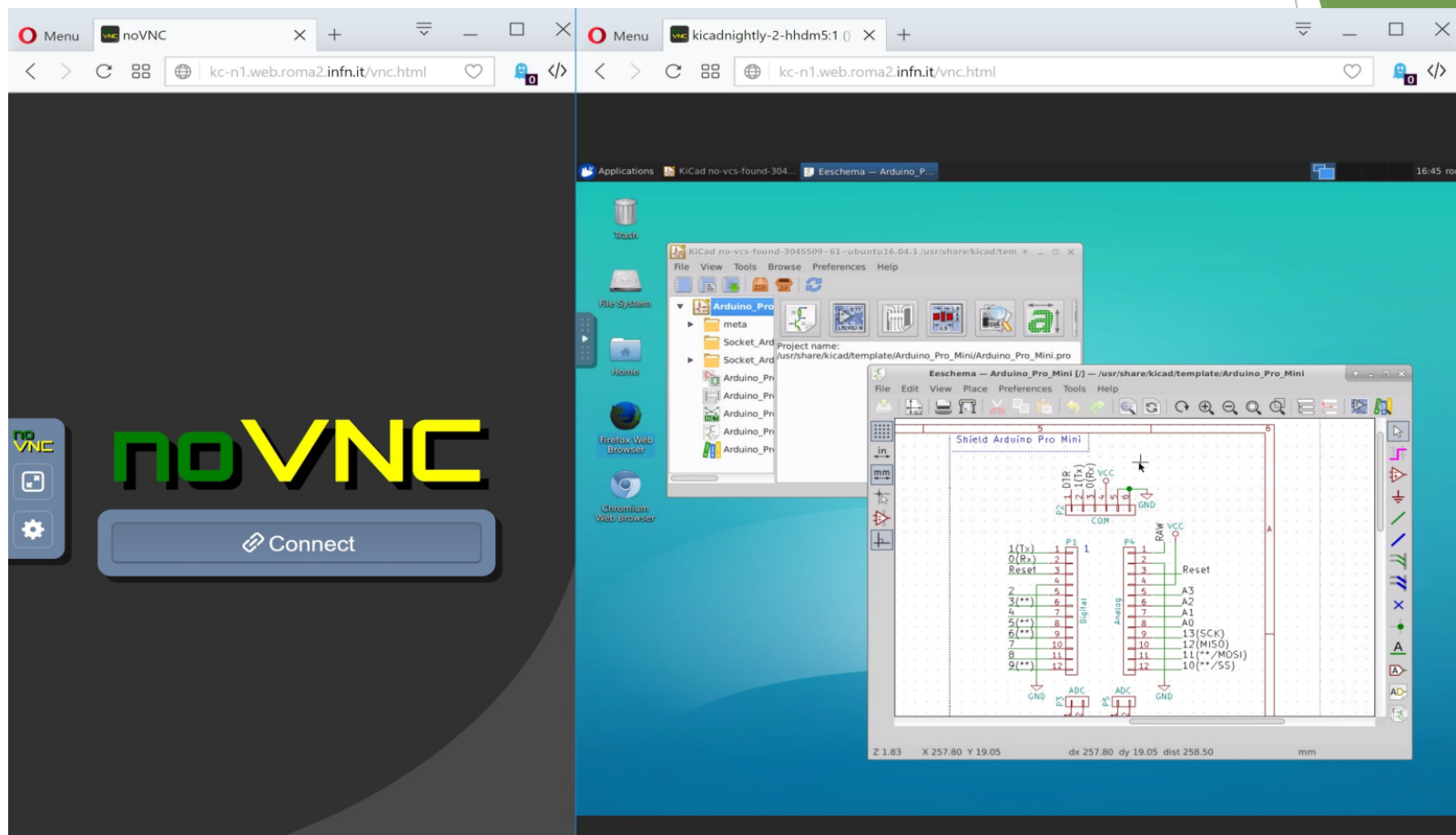
Filter by label

Name	kicadnightly
Last Version	#2
Status	Active, 1 replica
Created	3 days ago
Trigger	Manual
Name	sxvlabs-mongo
Last Version	#1
Status	Active, 1 replica
Created	16 days ago
Trigger	Config change
Name	sxvlabs-redis
Last Version	#1
Status	Active, 1 replica
Created	16 days ago
Trigger	Config change



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Ubuntu 17.04 - Kicad





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ShareLaTeX

The screenshot displays the ShareLaTeX web interface in a browser window. The address bar shows the URL: `svxvlab-sharelatex-0.web.roma2.infn.it/project/5a29697054bbee007a595fae`. The interface includes a menu, a file explorer on the left, a code editor in the center, and a preview window on the right.

File Explorer: Shows files `main.tex`, `references.bib`, and `universe.jpg`.

Code Editor: Contains LaTeX source code for a document titled "esempio". The code includes package loading, document structure, and a figure inclusion.

```
1 \documentclass{article}
2 \usepackage[utf8]{inputenc}
3
4 \title{esempio}
5 \author{mario}
6 \date{December 2017}
7
8 \usepackage{natbib}
9 \usepackage{graphicx}
10
11 \begin{document}
12
13 \maketitle
14
15 \section{Introduction}
16 There is a theory which states that if ever anyone discovers exactly what the Universe is
17 for and why it is here, it will instantly disappear and be replaced by something even
18 more bizarre and inexplicable.
19 There is another theory which states that this has already happened.
20
21 \begin{figure}[h]
22 \centering
23 \includegraphics[scale=1.7]{universe.jpg}
24 \caption{The Universe}
25 \label{fig:universe}
26 \end{figure}
27
28 \section{Conclusion}
29 ``I always thought something was fundamentally wrong with the universe''
30 \citep{adams1995Hitchhiker}
31
32 \bibliographystyle{plain}
33 \bibliography{references}
34 \end{document}
```

Preview Window: Shows the rendered document. It includes the title "esempio", author "mario", and date "December 2017". The content includes an "Introduction" section with a paragraph about the universe, a figure of a galaxy (labeled "Figure 1: The Universe"), and a "Conclusion" section with a quote from Adams. The "References" section lists "D. Adams. The Hitchhiker's Guide to the Galaxy. San Val, 1995."

Marketplace

◎ File YAML

◎ Definisce:

- Servizi
- Variabili
- Porte e Rotte
- DataPath

- name: 'moodle'

services:

- nameservice: 'moodle'

ports:

- port: 'moodle'

tcp: 80

route: 'yes'

imagename: 'virtuallabs/moodlelabs'

env:

- name: 'DB_NAME'

value: \$variable[mysql:MYSQL_DATABASE]

- name: 'WWW_ROOT'

value: \$route[moodle:moodle]

[...]

volumes:

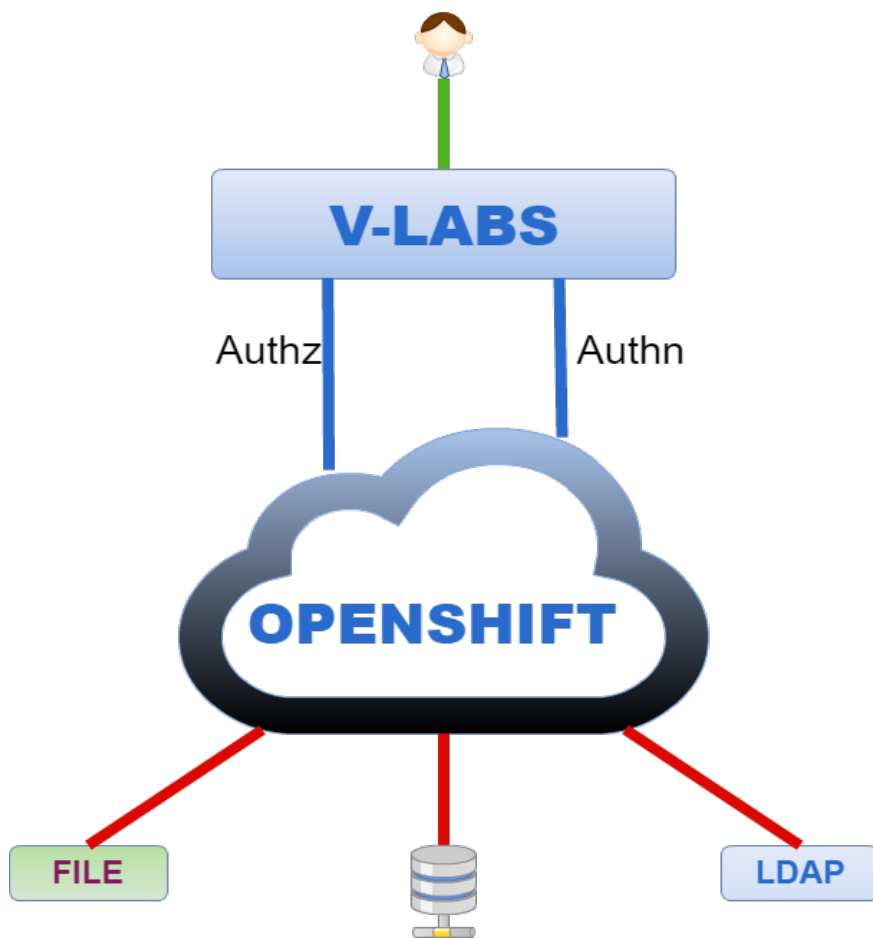
persistentvolumeclaim: 'yes'

datadir: '/data'

- nameservice: 'mysql'

...

Authz/Authn





Proposta di proroga

- ◎ Ampliamento interfaccia web
 - Gestione deleghe dei permessi
- ◎ Web Admin Page
- ◎ Ampliamento Marketplace
- ◎ Scalabilità automatica Pod
- ◎ Supporto rotte multiple per app



Proposta di proroga

- ◎ Gestione certificati per hostname multipli
- ◎ Installazione di V-Labs
 - Ansible Playbook
 - Docker Container
- ◎ Deploy, supporto e produzione presso Roma
Tor Vergata e Roma3