



Finanziato
dall'Unione europea
NextGenerationEU



Ministero
dell'Università
e della Ricerca



Italiadomani
PIANO NAZIONALE
DI RIPRESA E RESILIENZA



INFN Cloud Dashboard

Redesign and Modernization: improving efficiency, user-experience, and security

Ettore Serra, Marica Antonacci

Taipei, Academia Sinica – 26/03/24

International Symposium on Grids & Clouds (ISGC) 2024



Finanziato
dall'Unione europea
NextGenerationEU



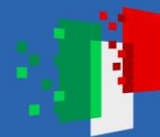
Ministero
dell'Università
e della Ricerca



Italiadomani
PIANO NAZIONALE
DI RIPRESA E RESILIENZA



**A national cloud dashboard
to deploy, manage and utilize computing
and storage resources**



Code structure

Frontend

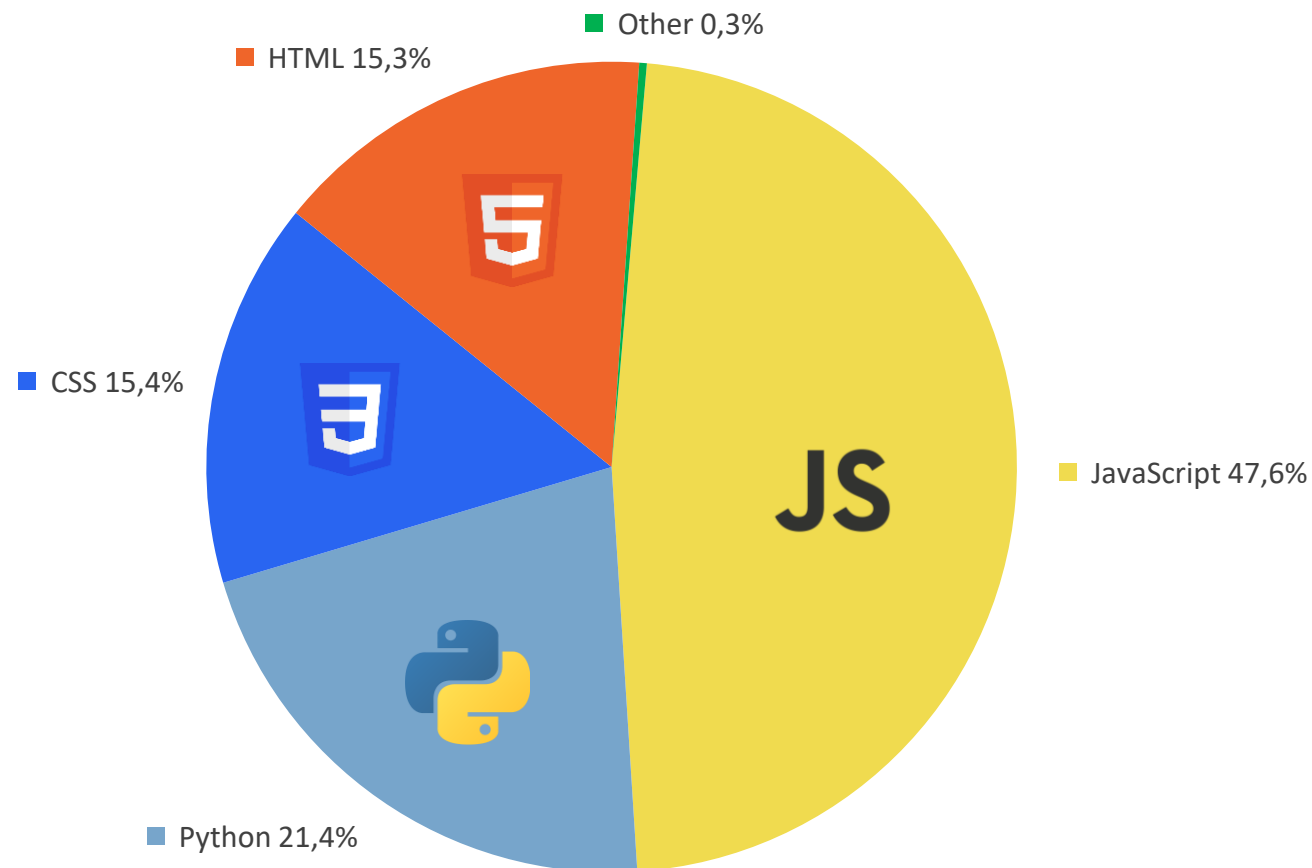
HTML, CSS, JavaScript

Backend

Python

Database

MySQL



Redesign and modernization of the INFN Cloud Dashboard



FAST



SAFE



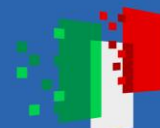
SIMPLE



Finanziato
dall'Unione europea
NextGenerationEU



Ministero
dell'Università
e della Ricerca



Italiadomani
PIANO NAZIONALE
DI RIPRESA E RESILIENZA



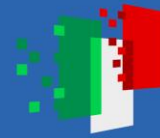
Improved **performance** and **efficiency**,
optimizing the engine
for **speed** and **scalability**



Finanziato
dall'Unione europea
NextGenerationEU



Ministero
dell'Università
e della Ricerca



Italiadomani
PIANO NAZIONALE
DI RIPRESA E RESILIENZA



Enhanced security,
detecting **vulnerabilities**
using **analysis tools** like
SonarCloud and **BurpSuite**



Finanziato
dall'Unione europea
NextGenerationEU



Ministero
dell'Università
e della Ricerca



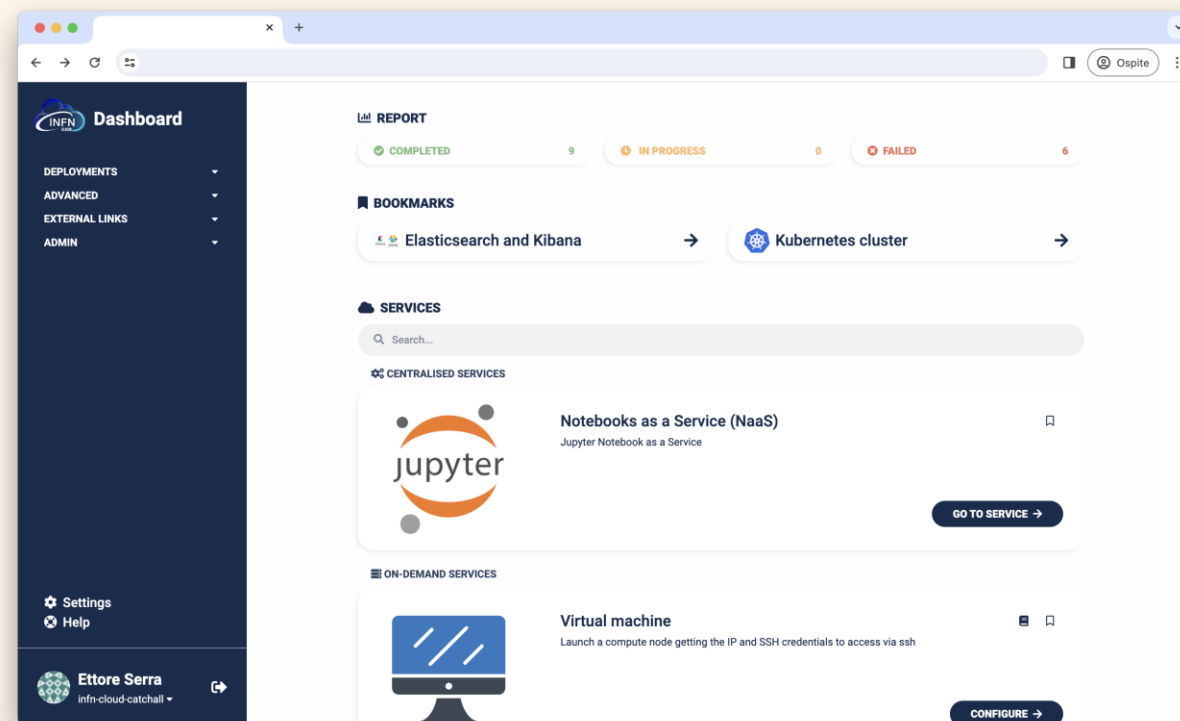
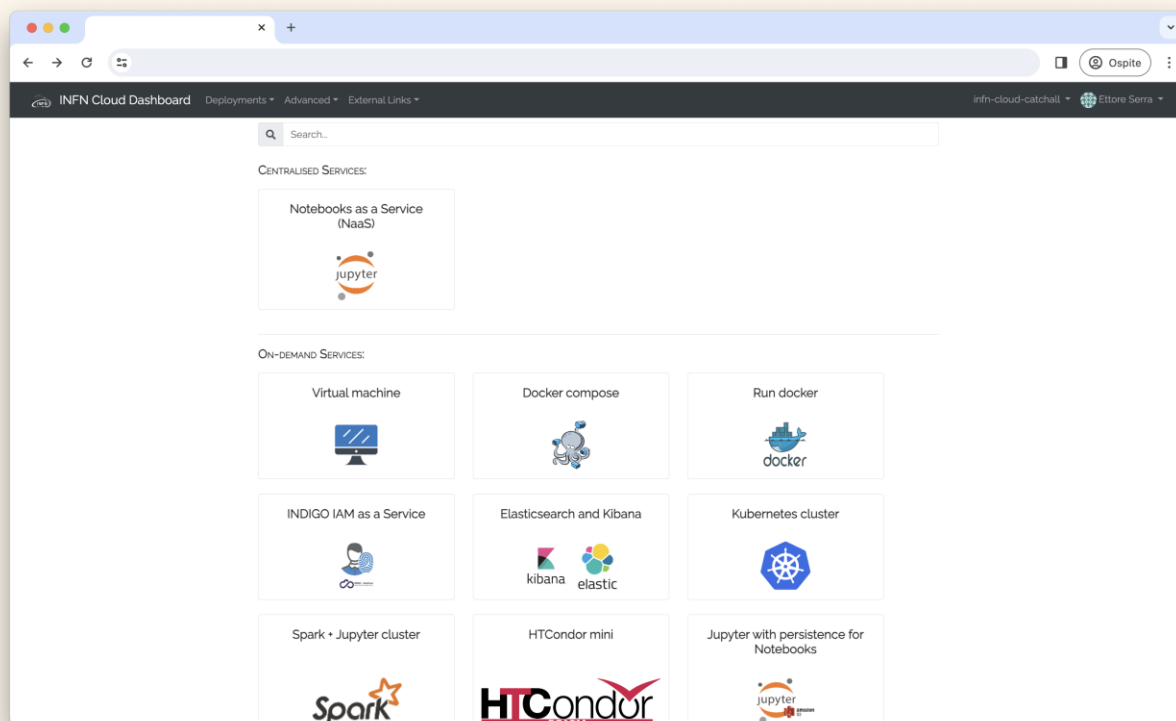
Italiadomani
PIANO NAZIONALE
DI RIPRESA E RESILIENZA



**UX & UI strategy that
aligns with the needs and
preferences of the target
audience**



Updated the user interface with a **modern design**






Increased legibility and clarity

Search...

CENTRALISED SERVICES:

Notebooks as a Service (NaaS)




ON-DEMAND SERVICES:

Virtual machine


Launch a compute node getting the IP and SSH credentials to access via ssh

[Configure](#)


Docker compose




Run docker




INDIGO IAM as a Service



Elasticsearch and Kibana




Kubernetes cluster



SERVICES

Search...

CENTRALISED SERVICES




Notebooks as a Service (NaaS)

Jupyter Notebook as a Service

[GO TO SERVICE →](#)

ON-DEMAND SERVICES



Virtual machine

Launch a compute node getting the IP and SSH credentials to access via ssh

[CONFIGURE →](#)



Boosting efficiency with better **user experience**

REPORT

 COMPLETED

9

 IN PROGRESS

0

 FAILED

6

BOOKMARKS



Elasticsearch and Kibana



Kubernetes cluster

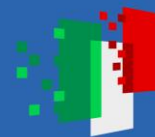




Finanziato
dall'Unione europea
NextGenerationEU



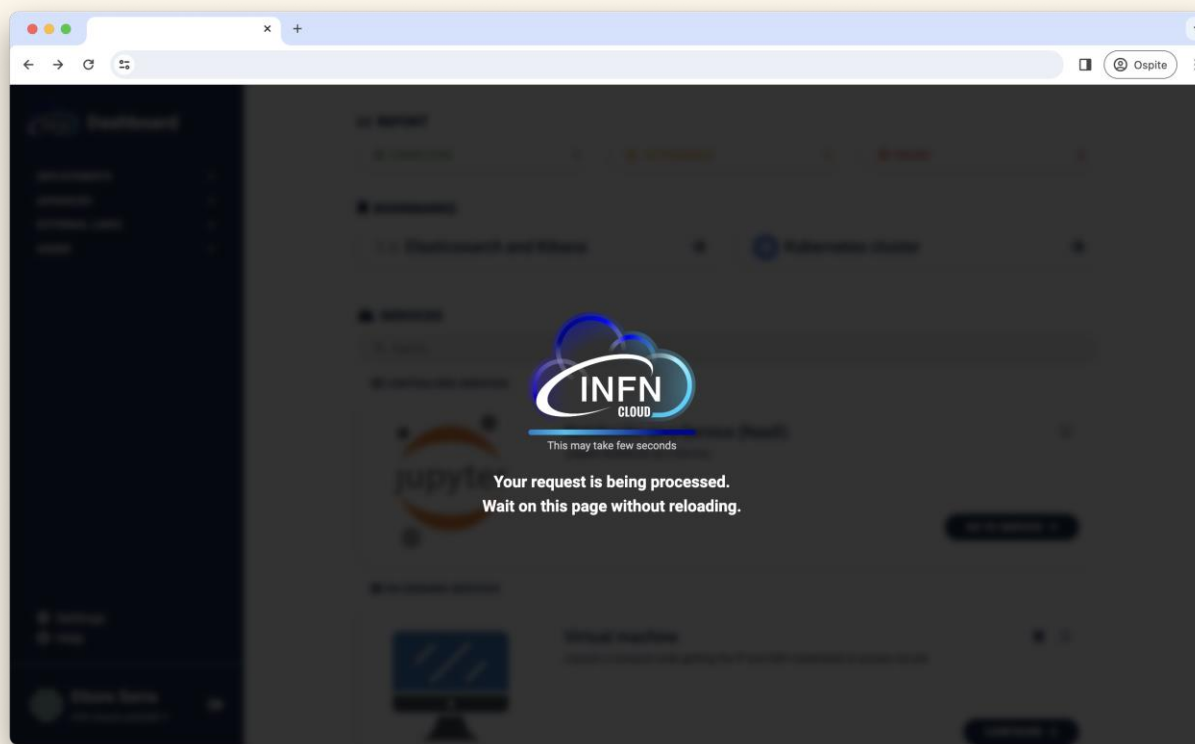
Ministero
dell'Università
e della Ricerca



Italiadomani
PIANO NAZIONALE
DI RIPRESA E RESILIENZA



Boosting efficiency with better **user experience**





Boosting efficiency with better **user experience**



Spark + Jupyter cluster

STEP 2/2

✓ CHECK DATA

DEPLOYMENT DESCRIPTION: Service Test

ADMIN_TOKEN: 👁

CERTIFICATE_TYPE: letsencrypt-prod

IAM_ADMIN_GROUPS:

- admins

IAM_GROUPS:

- users
- infn-cloud-catchall

MASTER_FLAVOR: large: 4 VCPUs, 8 GB RAM

NODE_FLAVOR: medium: 2 VCPUs, 4 GB RAM

NUMBER_OF_SLAVES: 1

S3_ENDPOINT: https://minio.cloud.infn.it/

CANCEL

← Back

SUBMIT →



“

“Change is the only constant in life”

Heraclitus”

TeRABIT in a nutshell

Applicant	: INFN (Istituto Nazionale di Fisica Nucleare)
Coapplicant	: OGS (Istituto Nazionale di Oceanografia e di Geofisica Sperimentale - OGS)
Unfunded participants	: Consortium GARR, CINECA
Principal Investigator INFN	: Mauro Campanella
Principal Investigator OGS	: Stefano Salon
Duration	: 30 month (end date 30 June 2025)

<https://www.terabit-project.it/>





Finanziato
dall'Unione europea
NextGenerationEU



Ministero
dell'Università
e della Ricerca



Italiadomani
PIANO NAZIONALE
DI RIPRESA E RESILIENZA



Thank you

ettore.serra@ba.infn.it

marica.antonacci@ba.infn.it

