



CSS Team

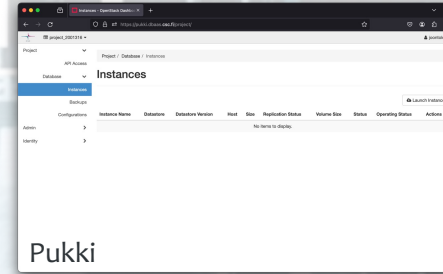
Cloud Services for users: A couple of use cases

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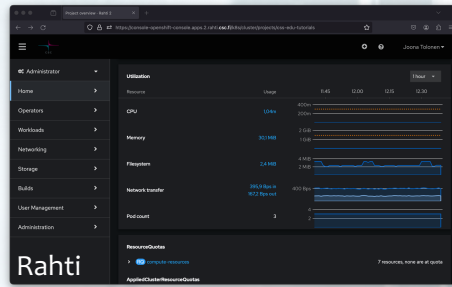


Cloud services at CSC – what are they?

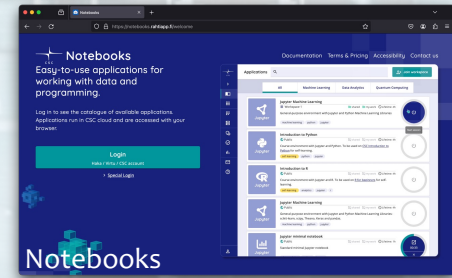
- HPC vs Cloud?
- HPC == Puhti, Mahti and LUMI
- Cloud == Allas, Pouta and Rahti
 - Newcomer: Pukki (04/24)
 - Also Notebooks and Chipster
- <https://research.csc.fi/cloud-computing>
<http://dy.fi/dn3>



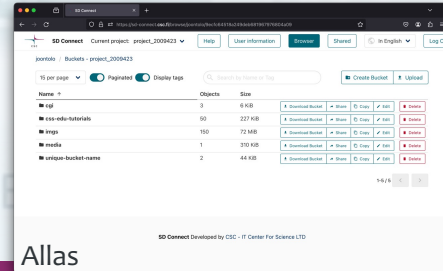
Pukki



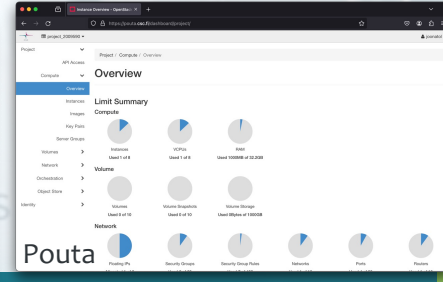
Rahti



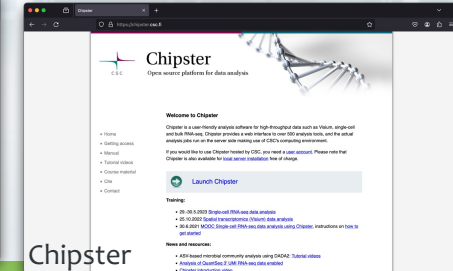
Notebooks



Allas



Pouta

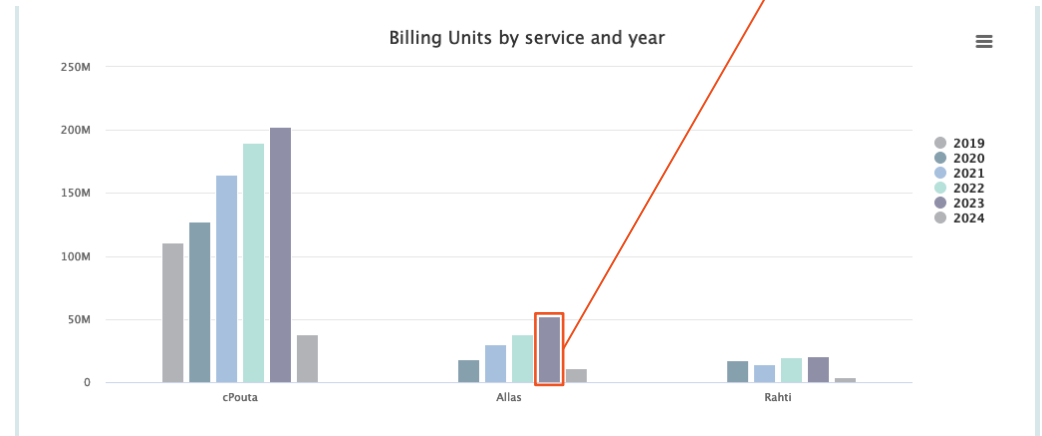


Chipster

Cloud services in My CSC projects – year 2023 statistics

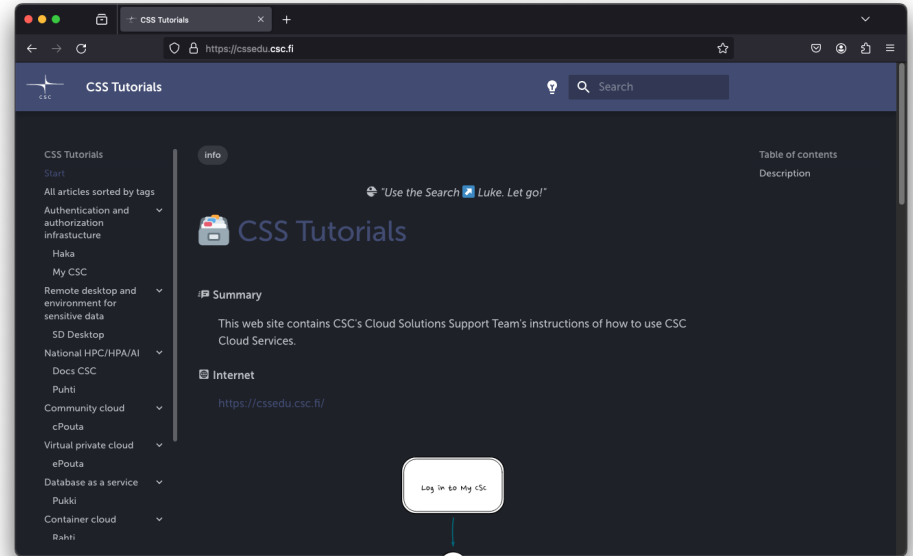
- Projects having services:
 - Allas: 1650
 - cPouta: 1641
 - Rahti: 353
- Research and Education
My CSC Project Types:
 - Academic
 - Course
 - Student
- Free-of-charge vs continuous use

7,2 PiB



CASE: CSS Edu – part 1

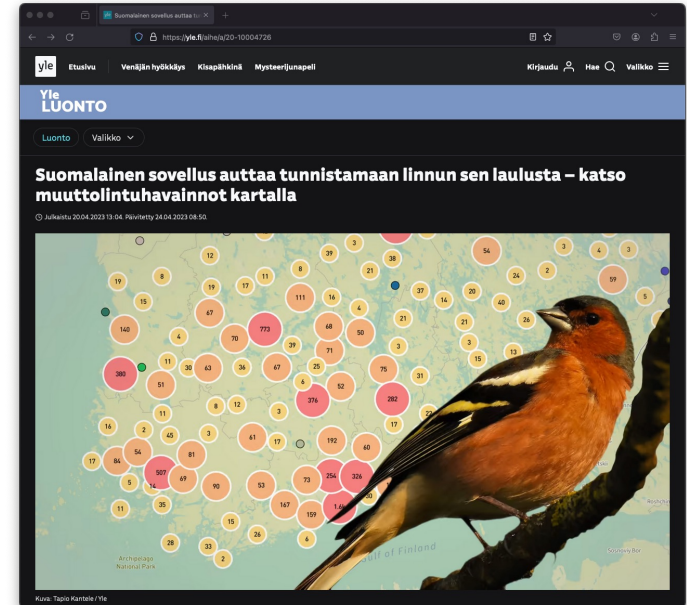
- CSC services “for dummies™”
 - Aka for myself
- Rahti + Allas
 - Mkdocs and loads of screenshots



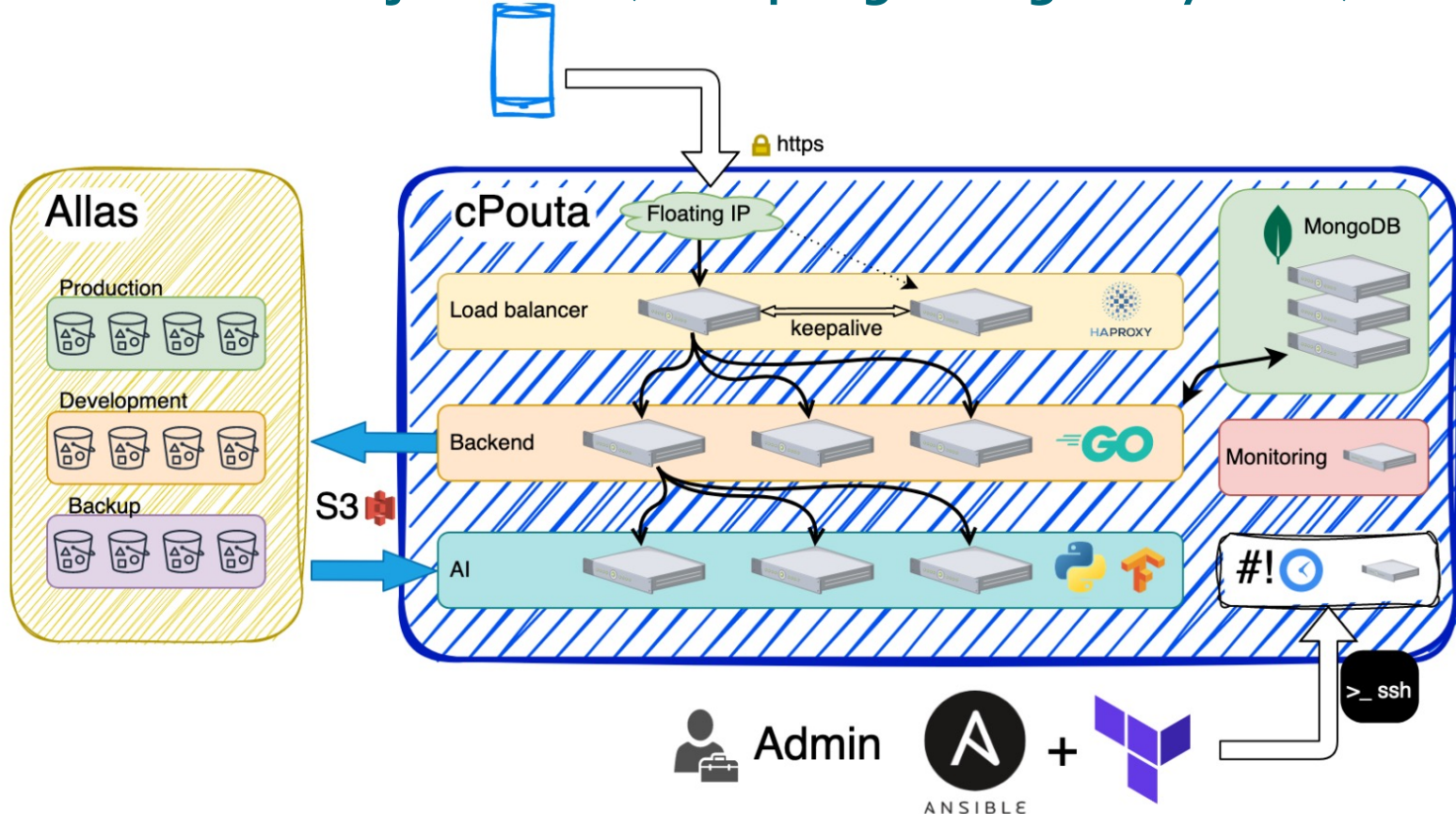
CASE: Muuttolintujen kevät (The spring of migratory birds)

- Mobile application (04/23): over 250 000 downloads
- [FI] YLE: Suomalainen sovellus auttaa tunnistamaan linnun sen laulusta – katso muuttolintuhavainnot kartalla

<http://dy.fi/dnm>



CASE: Muuttolintujen kevät (The spring of migratory birds)



CASE: Muuttolintujen kevät (The spring of migratory birds)

project_XXXXX John Doe

Project / Compute / Instances

Instances

Instance ID = Filter Launch Instance Delete Instances More Actions

Displaying 13 items

<input type="checkbox"/>	Instance Name	Image Name	IP Address	Flavor	Key Pair	Status	Availability Zone	Task	Power State	Time since created	Actions
<input type="checkbox"/>	carbonero-monitoring-prod	-	192.168.1.6	standard.xlarge	bird-key	Active	nova	None	Running	7 months, 4 weeks	Create Snapshot
<input type="checkbox"/>	carbonero-ai-prod-1	-	192.168.1.32	hpc.5.16core	bird-key	Active	nova	None	Running	10 months, 3 weeks	Create Snapshot
<input type="checkbox"/>	carbonero-ai-prod-2	-	192.168.1.25	hpc.5.16core	bird-key	Active	nova	None	Running	10 months, 3 weeks	Create Snapshot
<input type="checkbox"/>	carbonero-ai-prod-0	-	192.168.1.26	hpc.5.16core	bird-key	Active	nova	None	Running	10 months, 3 weeks	Create Snapshot
<input type="checkbox"/>	carbonero-loadbalancer-prod-2	-	192.168.1.28	standard.xlarge	bird-key	Active	nova	None	Running	10 months, 3 weeks	Create Snapshot
<input type="checkbox"/>	carbonero-backend-prod-2	-	192.168.1.34	standard.xlarge	bird-key	Active	nova	None	Running	11 months, 2 weeks	Create Snapshot
<input type="checkbox"/>	carbonero-backend-prod-0	-	192.168.1.17	standard.xlarge	bird-key	Active	nova	None	Running	11 months, 2 weeks	Create Snapshot
<input type="checkbox"/>	carbonero-backend-prod-1	-	192.168.1.13	standard.xlarge	bird-key	Active	nova	None	Running	11 months, 2 weeks	Create Snapshot
<input type="checkbox"/>	carbonero-jumphost-prod	-	192.168.1.12 Floating IPs: 0.0.0.0	standard.xlarge	bird-key	Active	nova	None	Running	11 months, 3 weeks	Create Snapshot
<input type="checkbox"/>	carbonero-mongodb-prod-2	-	192.168.1.22	standard.3xlarge	bird-key	Active	nova	None	Running	11 months, 3 weeks	Create Snapshot
<input type="checkbox"/>	carbonero-loadbalancer-prod	-	192.168.1.24 Floating IPs: 0.0.0.0	standard.xlarge	bird-key	Active	nova	None	Running	11 months, 3 weeks	Create Snapshot
<input type="checkbox"/>	carbonero-mongodb-prod-1	-	192.168.1.14	standard.3xlarge	bird-key	Active	nova	None	Running	11 months, 3 weeks	Create Snapshot
<input type="checkbox"/>	carbonero-mongodb-prod-0	-	192.168.1.7	standard.3xlarge	bird-key	Active	nova	None	Running	11 months, 3 weeks	Create Snapshot

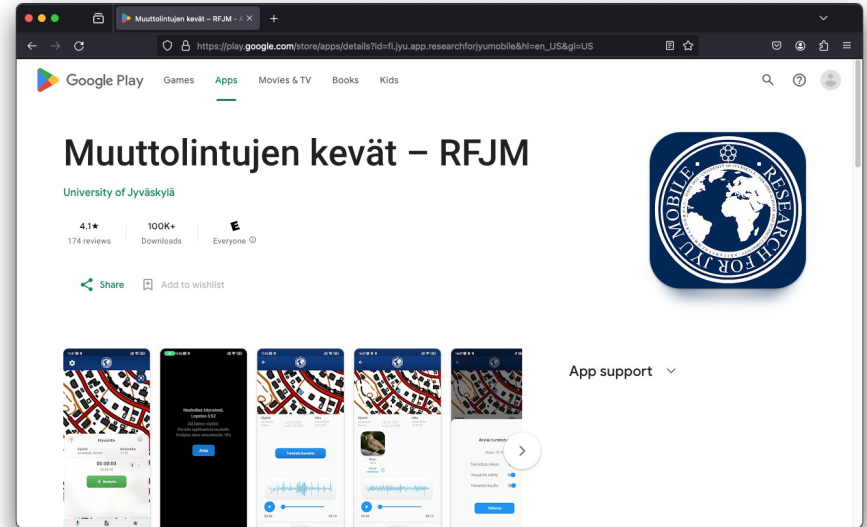
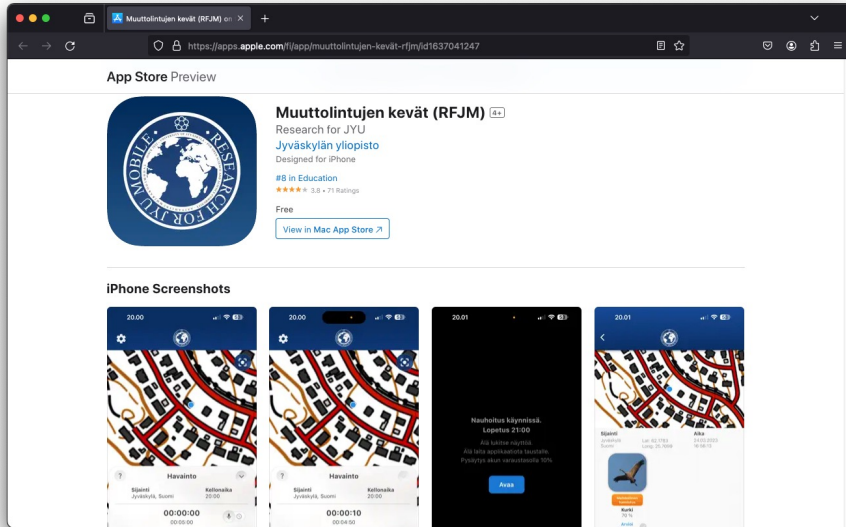
Displaying 13 items

CASE: Muuttolintujen kevät (The spring of migratory birds)



3,5 million songs
stored in Allas

CASE: Muuttolintujen kevät (The spring of migratory birds)



CASE: CSS Edu – part 2



```
Code Blame 30 Lines (25 Loc) · 1.24 KB Code 55% faster with GitHub Copilot
1 FROM alpine:3.19 as builder
2
3 WORKDIR /edudocs/deployment
4
5 COPY mkdocs /edudocs/deployment
6
7 RUN mkdir -p ~/config/rc/clone /edudocs/deployment/docs; \
8 echo -e "[alias]\ntype = swift\nenv_auth = true" > ~/config/rc/clone.conf; \
9 apk add --update rclone \
10 python3; \
11 python3 -m venv /edudocs; \
12 source /edudocs/bin/activate; \
13 pip install --upgrade pip; \
14 pip install mkdocs mkdocs-material; \
15 rclone sync all:css-edu-tutorials /edudocs/deployment/docs; \
16 find /edudocs/deployment/docs -name "*.md" -exec sed -i 's/\.\.\./https:\/\/a3s.f1\/imgs\/g\/{ } /; \
17 mkdocs build -f /edudocs/deployment/mkdocs.yml
18
19 FROM nginx
20 RUN chmod g+rwx /var/cache/nginx /var/run /var/log/nginx && \
21 chown nginx:root /var/cache/nginx /var/run /var/log/nginx && \
22 # users are not allowed to listen on privileged ports
23 sed -i.bak 's/Listen(\.\*\:)\d\d;/Listen 8081;/' /etc/nginx/conf.d/default.conf && \
24 # Make /etc/nginx/html/ available to use
25 mkdir -p /etc/nginx/html/ && chmod 777 /etc/nginx/html/ && \
26 # comment user directive as master process is run as user in OpenShift anyhow
27 sed -i.bak 's/user/user/' /etc/nginx/nginx.conf
28
29 COPY --from=builder /edudocs/deployment/site /usr/share/nginx/html
30 EXPOSE 8081
```

“Instructions”

The screenshot shows the OpenShift console interface for a project named 'css-edu-tutorials'. The 'BuildConfigs' page is displayed, listing a single BuildConfig named 'css-edu'. The table has columns for Name, Labels, and Created. The 'css-edu' entry has several labels including 'app=css-edu', 'app.kubernetes.io/component=css-edu', 'app.kubernetes.io/instance=css-edu', 'app.kubernetes.io/name=css-edu', and 'app.kubernetes.io~css-team-tutorial-builde...'. A context menu is open over the 'css-edu' entry, showing options like 'Start build', 'Edit labels', 'Edit annotations', 'Edit BuildConfig', and 'Delete BuildConfig'. The left sidebar shows navigation options like Administrator, Home, Operators, Workloads, Networking, Storage, Builds, BuildConfigs, ImageStreams, User Management, and Administration.

“Engine”

The screenshot shows the OpenShift console interface for a project named 'project_2009423'. The 'Containers' page is displayed, showing a list of containers. The table has columns for Name and Size. The containers listed are: 'allias' (Folder), 'cli-tools.md' (1.80 KB), 'cpoutla' (Folder), 'docs-csc.md' (952 bytes), 'epoutla.md' (1.52 KB), 'haka.md' (1.49 KB), 'index.md' (53.73 KB), and 'install-cli-tools.md' (5.27 KB). The left sidebar shows navigation options like Project, API Access, Compute, Volumes, Network, Orchestration, Object Store, Containers, and Identity.

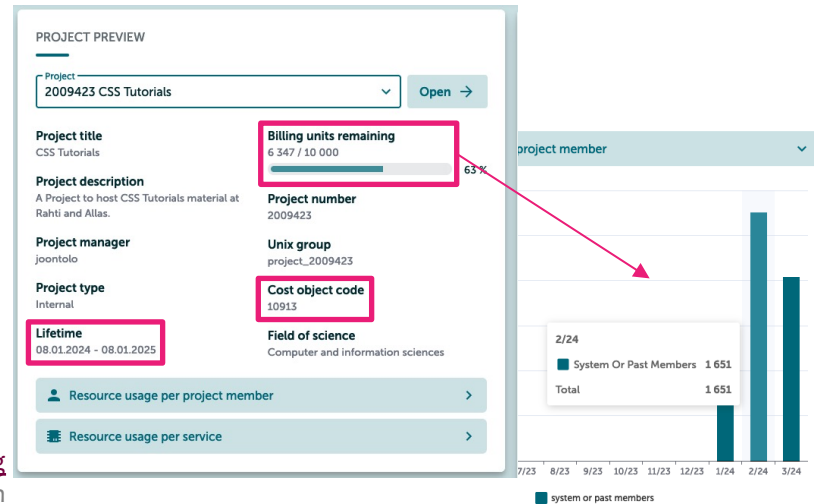
“Fuel/Source”

CSC Cloud Services

- Allas for storage, Rahti for containers, Pouta for virtual machines
 - Pukki for databases
- Free-of-charge for Academic, Course and Student project use
 - Fixed time period, the duration of the project.
- Commercial solutions also available
 - Cost of CSS Edu ecosystem in February 2024:

$$1651 \text{ BU} \times 0,021\text{c}^* = 34\text{€}$$

*source: <https://research.csc.fi/purchasing>
<http://dy.fi/dgh>





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github.com/CSCfi