



**KAMK • University
of Applied Sciences**

Digisfäärin esipäivä - opettajan näkökulma



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Joona Tolonen

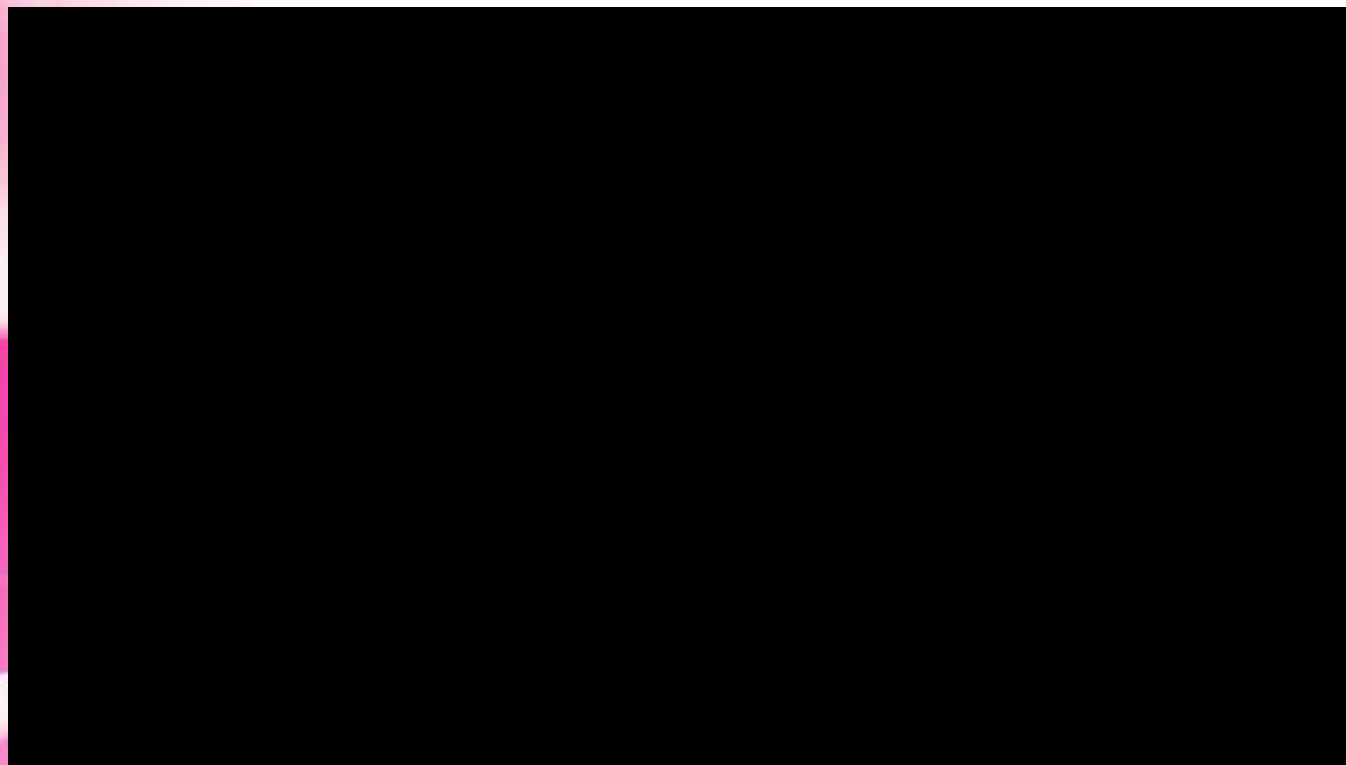
- Opettaja ja Projektipäällikkö Kajaanin ammattikorkeakoulussa (2008 -)
- Opetettavat aineet
 - Ohjelmointi
 - Käyttöjärjestelmät
 - Virtualisointi / datacenter-ratkaisut
 - Johtaminen





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Datacenter-ratkaisut - KAMK



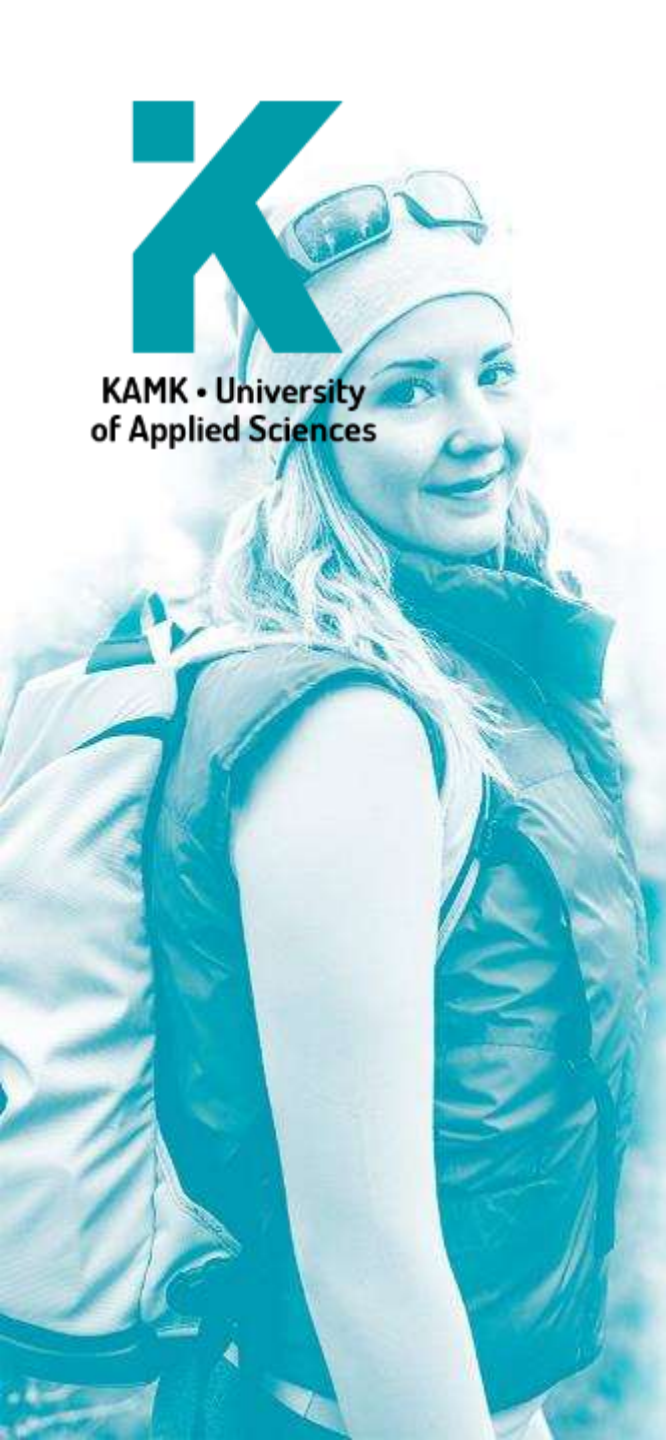


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CSC:n palvelut tässä esityksessä

- Pouta
- Rahti
- Fairdata
- Puhti ja Puhti-AI
- Muita palveluja





Pouta

- OpenStack

The screenshot shows the Pouta OpenStack dashboard for project_2001770. The 'Limit Summary' section displays resource usage with pie charts:

- Instances: Used 1 of 8
- VCPUs: Used 1 of 8
- RAM: Used 1000MB of 32.2GB
- Floating IPs: Used 1 of 2
- Security Groups: Used 2 of 20
- Volumes: Used 0 of 10
- Volume Storage: Used 0Bytes of 1000GB

The 'Usage Summary' section includes a date range selector (From: 2019-10-27, To: 2019-10-28) and a 'Submit' button. Below the selector, it displays usage statistics:

Active Instances: 1 Active RAM: 1000MB This Period's VCPU-Hours: 33.30 This Period's GB-Hours: 2663.86 This Period's RAM-Hours: 33298.22

The 'Usage' table shows one instance:

Instance Name	VCPUs	Disk	RAM	Time since created
sivuraide	1	80GB	1000MB	1 month, 3 weeks

Buttons for 'Download CSV Summary' and 'Displaying 1 item' are also visible.



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Use Case: Pouta

- <https://sivurai.de>

CSC:n palvelujen perusteet

Joona Tolonen
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Sisällysluettelo

- Johdanto CSC:n palveluihin
 - [My CSC](#)
- Notebooks
- Pilvipalvelut
 - rPouta
 - Rahti
 - ePouta ja eRD
- Fairdata
 - Etsin
 - Qvain
 - IDA
 - PAS
- Allas
- Puhti
 - Puhti-AI

[← takaisin](#)

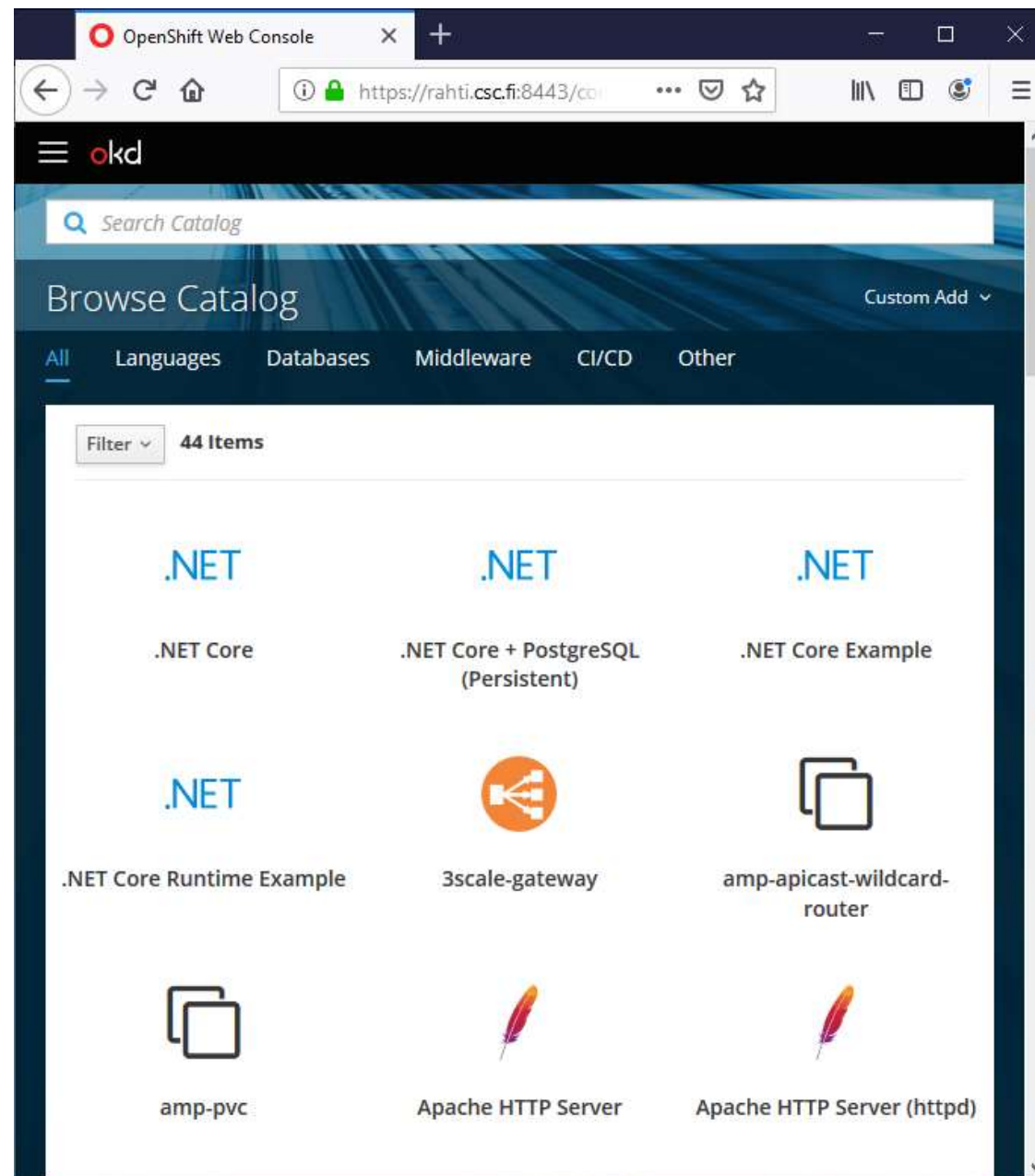


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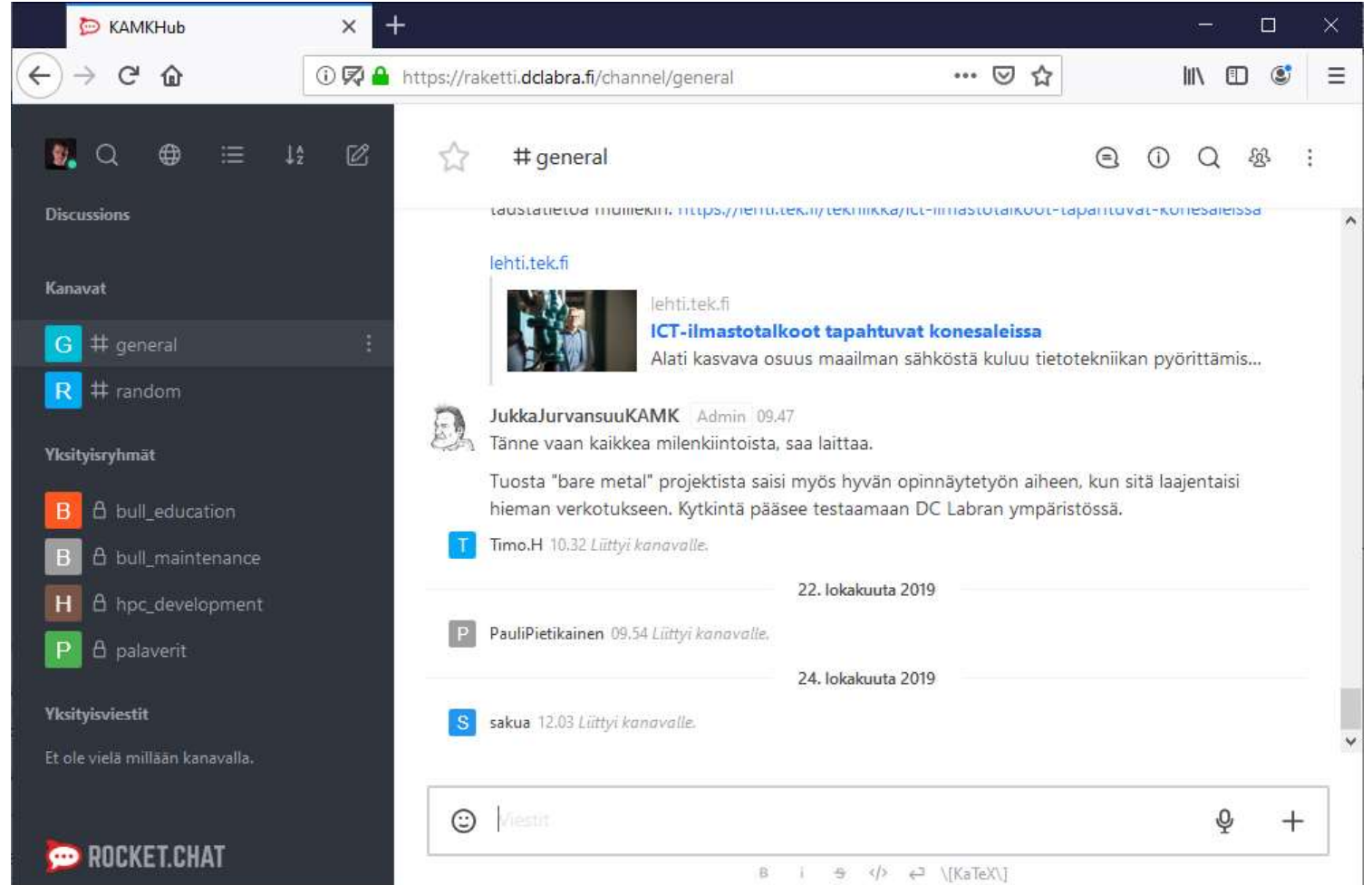
Rahti

- OpenShift



Use Case: Rahti

- <https://rahti.csc.fi:8443/console/>



KAMKHub

https://raketti.dclabra.fi/channel/general

#general

taustatietoa muutenkin: <https://lehti.tek.fi/tekniikka/ict-ilmastotalkoot-tapahtuvat-konesaleissa>

lehti.tek.fi

lehti.tek.fi
ICT-ilmastotalkoot tapahtuvat konesaleissa
Alati kasvava osuus maailman sähköstä kuluu tietotekniikan pyörittämis...

JukkaJurvansuuKAMK Admin 09.47
Tänne vaan kaikkea milenkintoista, saa laittaa.
Tuosta "bare metal" projektista saisi myös hyvän opinnäytetyön aiheen, kun sitä laajentaisi hieman verkotukseen. Kytkintä pääsee testaamaan DC Labran ympäristössä.

Timo.H 10.32 *Liittyi kanavalle.*

22. lokakuuta 2019

PauliPietikainen 09.54 *Liittyi kanavalle.*

24. lokakuuta 2019

sakua 12.03 *Liittyi kanavalle.*

viestit

ROCKET.CHAT

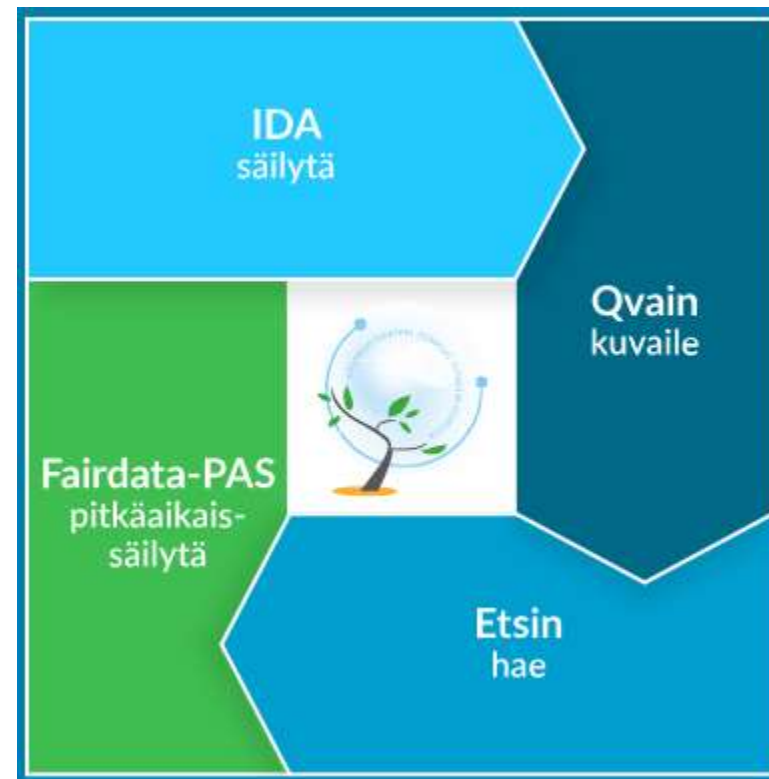


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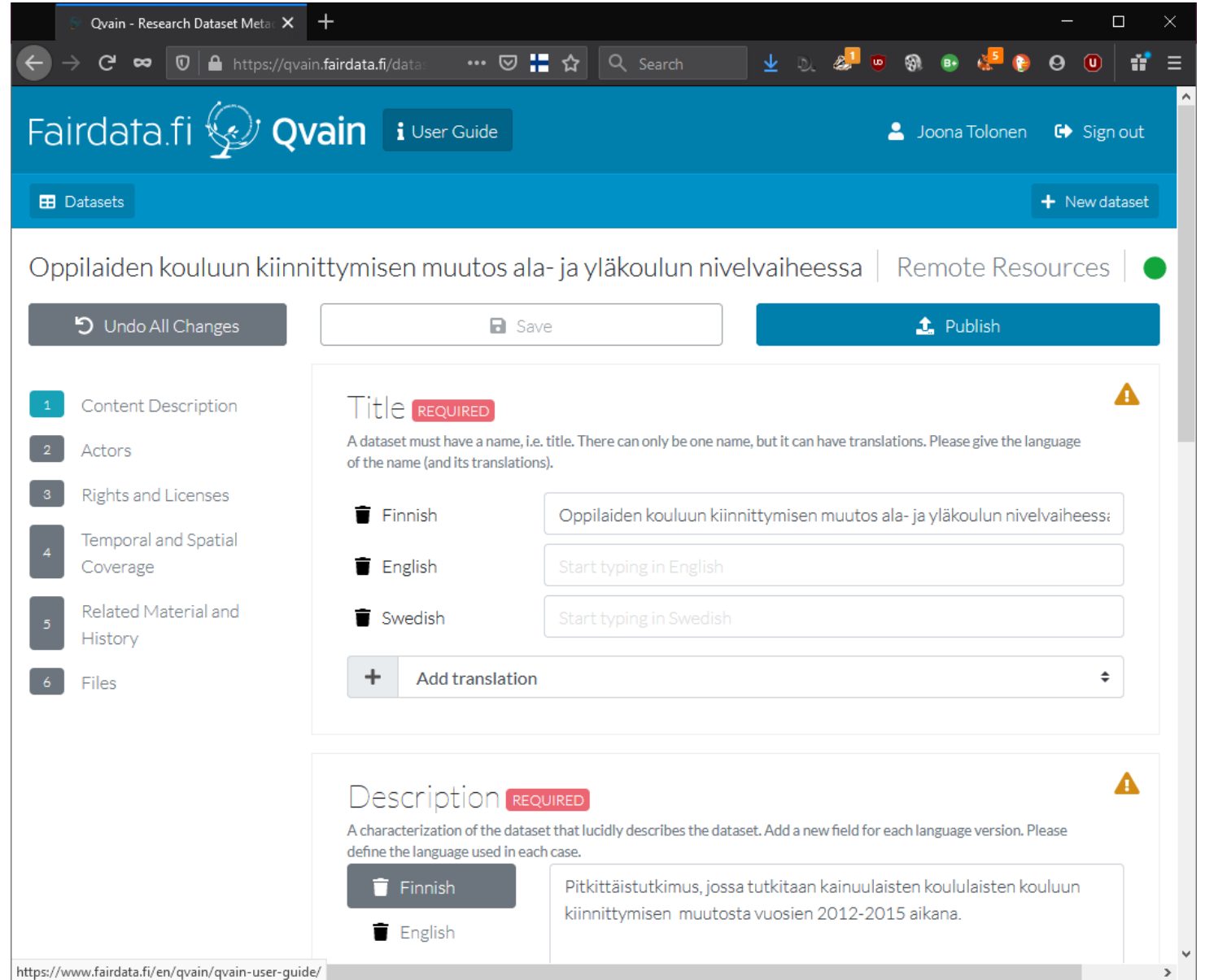
Fairdata.fi

- IDA
- Qvain
- Etsin
- PAS



Use Case: Fairdata.fi

- Tutkimusdatan kuvailu - Qvain



The screenshot shows the Fairdata.fi Qvain interface for creating a new dataset. The browser address bar shows the URL <https://qvain.fairdata.fi/data>. The page header includes the Fairdata.fi logo, the Qvain logo, a User Guide link, and a user profile for Joon Tolonen with a Sign out option. A blue navigation bar contains a Datasets menu and a + New dataset button. The main content area is titled "Oppilaiden kouluun kiinnittymisen muutos ala- ja yläkoulun nivelvaiheessa" and includes a Remote Resources link. Below the title are three buttons: "Undo All Changes", "Save", and "Publish". A sidebar on the left lists six steps: 1. Content Description (highlighted), 2. Actors, 3. Rights and Licenses, 4. Temporal and Spatial Coverage, 5. Related Material and History, and 6. Files. The main form area has a "Title" section with a "REQUIRED" label and a warning icon. It includes instructions: "A dataset must have a name, i.e. title. There can only be one name, but it can have translations. Please give the language of the name (and its translations)." Below this are three input fields for Finnish, English, and Swedish. The Finnish field contains the text "Oppilaiden kouluun kiinnittymisen muutos ala- ja yläkoulun nivelvaiheessa:". Below these fields is an "Add translation" button. The "Description" section also has a "REQUIRED" label and a warning icon. It includes instructions: "A characterization of the dataset that lucidly describes the dataset. Add a new field for each language version. Please define the language used in each case." Below this are two input fields for Finnish and English. The Finnish field contains the text "Pitkittäistutkimus, jossa tutkitaan kainuulaisten koululaisten kouluun kiinnittymisen muutosta vuosien 2012-2015 aikana." The browser address bar at the bottom shows the URL <https://www.fairdata.fi/en/qvain/qvain-user-guide/>.



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Puhti ja Puhti-AI

- Atos BullSequana X400 supercomputer
- In total 682 CPU nodes, with a theoretical peak performance of 1.8 Petaflops
- Each node is equipped with two latest generation Intel Xeon processors, code name Cascade Lake, with 20 cores each running at 2.1 GHz (Xeon Gold 6230)
- The 682 compute nodes have a mix of memory sizes:
 - 192 GB on 532 nodes
 - 384 GB on 132 nodes, with 40 also containing a 3.2 TB NVMe disk for fast local storage
 - 768 GB on 12 nodes
 - 1.5 TB on 6 nodes
- Interconnect network HDR InfiniBand 200 Gbps by Mellanox, nodes connected with 100Gbps HDR100 links
- 4+ PB Lustre parallel storage system by DDN



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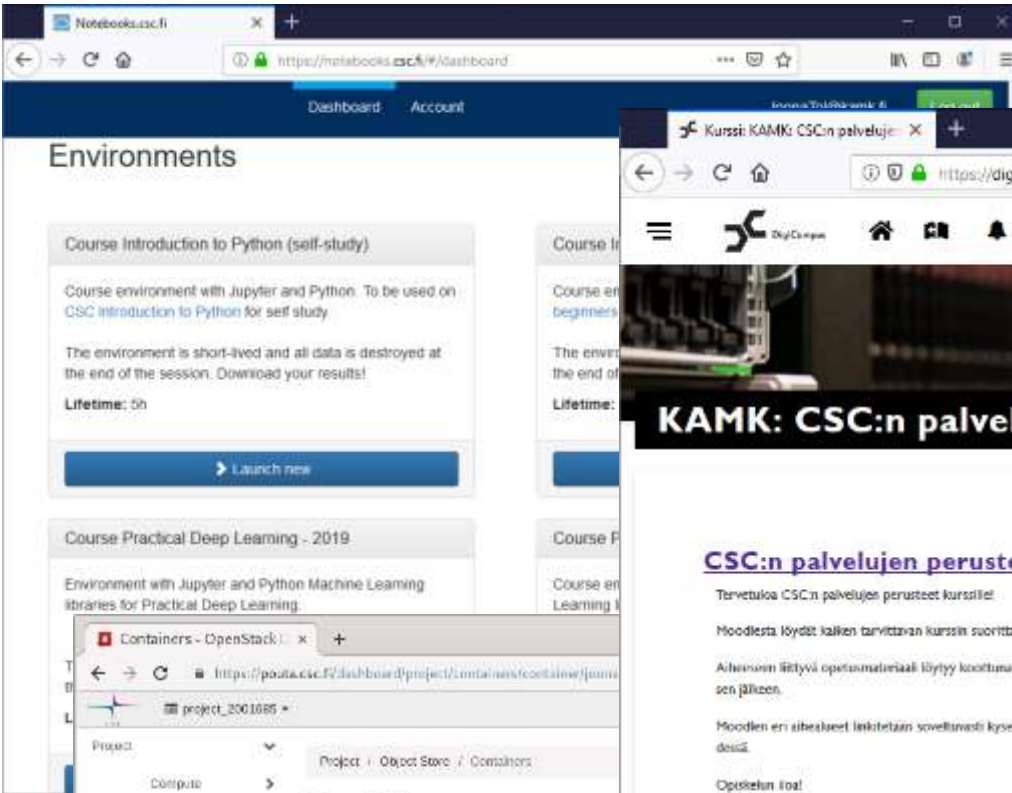
Use Case: Puhti ja Puhti-AI

- Selfiebooth
 - Kasvojentunnistus sovellus
 - Raspberry Pi 4
 - Laskenta GPU ympäristössä
 - <https://www.youtube.com/watch?v=J4efZkoSIXI&feature=youtu.be>
- Jani Sourander (TTKI8SD)
 - janisourander@kamk.fi
 - <https://github.com/sourander/selfiebooth>



Muita palveluja

- Digicampus.fi
- Notebooks
- Allas
- ...



The screenshot shows the Notebooks CSC.fi dashboard. The main heading is "Environments". There are two environment cards visible:

- Course Introduction to Python (self-study)**: Course environment with Jupyter and Python. To be used on CSC Introduction to Python for self study. The environment is short-lived and all data is destroyed at the end of the session. Download your results! Lifetime: 5h. A "Launch new" button is present.
- Course Practical Deep Learning - 2019**: Environment with Jupyter and Python Machine Learning libraries for Practical Deep Learning.

Below the environments, there is a "Containers - OpenStack" window showing a list of containers. The "Containers" tab is active, displaying a table with columns for Name, Object Count, Size, Date Created, and Public Access. One container is listed: "joints-edu-container" with 1 object, 13.09 MB size, and a creation date of Aug 11, 2019.



The screenshot shows the Digicampus.fi course page for "KAMK: CSC:n palvelujen perusteet I op, 2020-2021". The page features a header with navigation icons and a search bar. Below the header is a banner image with the course title. The main content area includes:

- CSC:n palvelujen perusteet**: A section with a sub-heading "CSC:n palvelujen perusteet" and a description: "Tervetuloa CSC:n palvelujen perusteet kursseille. Moodista löydät kaiken tarvittavan kurssin suorittamiseen ja opintojaksoiden saamiseen. Aikaisemmin lähtynyt opetusmateriaali löytyy koolettuna osoitteesta <https://ivuna.dere.fi/csc/> ja on tarvittaessa käytössä myös kurssin päättymisen jälkeen. Moodien eri aihealueet linkitetään sovelletusti kyseisen materiaalin eri kappaleen eli sinä mielessä Moodle kurssi ja senura de materiaali käsi ka deksi. Opetuksen tyyli: Lähettäväsysteemimalliset: ei lähettäväsysteemimalliset. Lisätiedot: Lisätiedot.
- Prologi**: A section with a sub-heading "Prologi" and a list of items: "Prologi".
- I. Johdanto CSC:n palveluihin**: A section with a sub-heading "I. Johdanto CSC:n palveluihin" and a list of items: "I.0. Johdanto CSC:n palveluihin", "I.1. My CSC", "Välitehti: Johdanto CSC:n palveluihin", and "Valmentajamateriaali: Johdanto CSC:n palveluihin".

At the bottom of the page, there is a "Reperetti" button and a chat icon.

Yhteinen historiani CSC:n kanssa

- Lomautus Kajaanin ammattikorkeakoulusta elokuussa 2019
- Työskentely CSC:llä lomautuksen ajan
 - Tutustuminen CSC:n palveluihin korkeakouluille
- Aikaisempi rooli palvelujen hyödyntäjänä ja asiakkaana



Lähde: cpsc.gov





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My CSC

- <https://my.csc.fi>

The screenshot shows a web browser window with the URL <https://my.csc.fi/dashboard>. The page features a dark blue header with the 'My CSC' logo and a 'Log out' button. A left sidebar contains navigation links for 'Dashboard', 'My Projects', and 'My Profile'. The main content area is divided into two columns. The left column contains a 'Welcome to My CSC' message and a link to 'CSC on Youtube'. The right column contains 'Billing project information' for a 'Personal group of Joonatol' with project number 10007614, project manager Joonatol, and start/end dates of 30.07.2019 - N/A. A progress indicator shows 'Billing units remaining' at 100%, with 1000 remaining BU and 0 used BU. A 'More details' link is also present. At the bottom, a section for 'Resource usage per project member' is partially visible.

Billing project information	
Project title	Personal group of Joonatol
Project number	10007614
Project manager	joonatol
Start date - End date	30.07.2019 - N/A

Billing units remaining	
Remaining BUs:	1000
Used BUs:	0



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Free-of-charge use

- The right to use CSC's services is based on users' affiliation to a Finnish higher education institution ([Universities](#), [Universities of Applied Sciences](#)), or a [state research institute](#).
- The following use-cases are interpreted as free-of-charge for end users in CSC's computing, cloud and storage service:
 1. Research in higher education institutions
 2. Research in state research institutes
 3. Education in higher education institutions
 4. Training provided by state research institutes
 5. Cooperation with companies in higher education institutions and state research institutes
 6. International usage
 7. Government's analysis, assessment and research activities
 8. Local IT support necessary to use cases mentioned above



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Miksi CSC:n palvelut?

- Muutakin kuin supertietokoneita
- Korkeakouluille ilmaisia
- Palvelut ns. Self-provisioning periaatteella
- Sisältävät myös käyttöönoton teknisen tuen





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