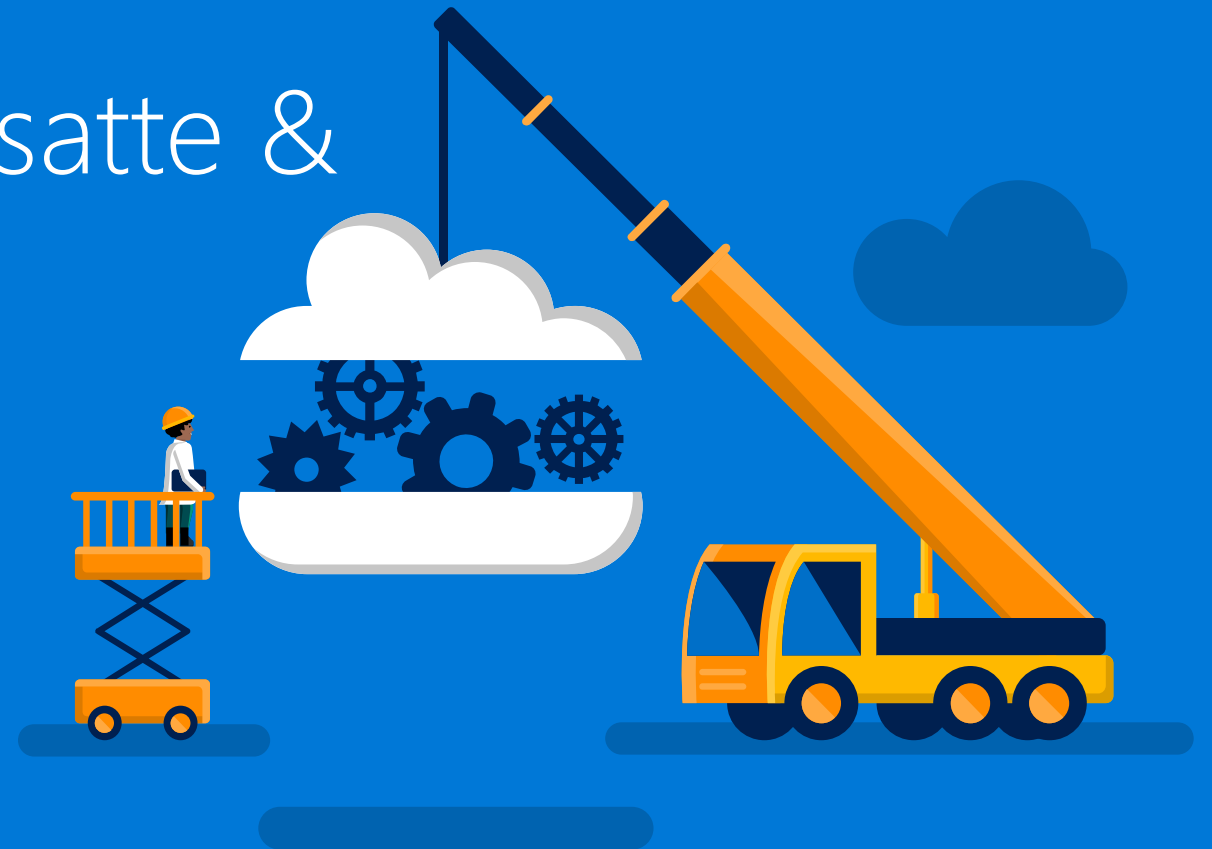


Azure for Studenter, Ansatte & Forskere

Maria Trollvik, Microsoft
Løsningsrådgiver Azure



Det jeg ønsker at dere sitter igjen med

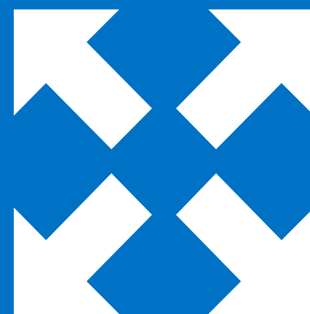
- Hvorfor Azure egner seg
- Hvordan dere kan tilrettelegge
- Inspirasjon til nytenking
- Oversikt over forskningsprogrammer

Hvorfor egner Azure seg?

Hastighet



Skalerbarhet

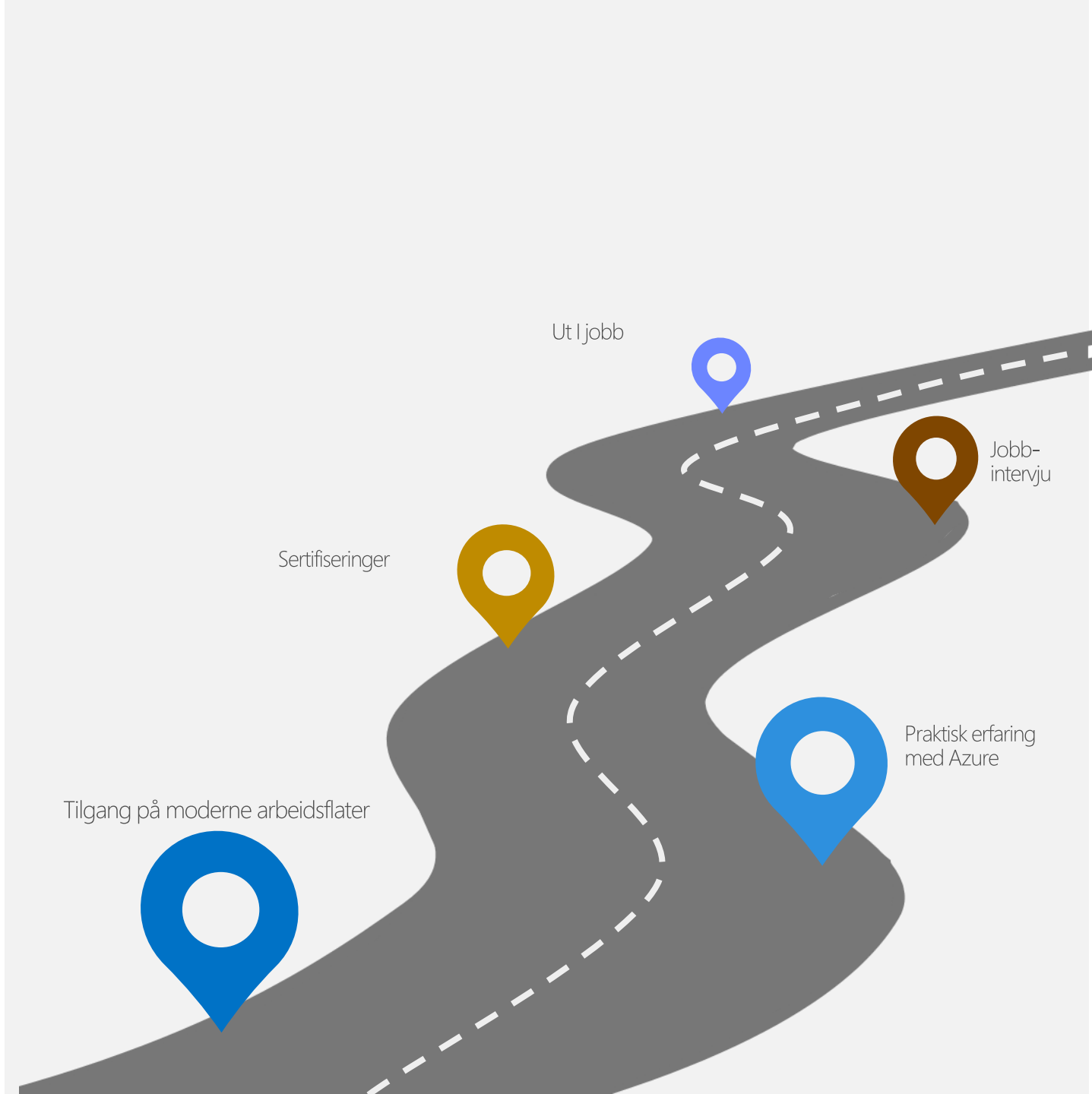


Kostnads-
besparende



Studenten

Future-ready skills:
Hvordan gjøre
studentene klare for
arbeidslivet?



Hvilke behov finnes?

- Lab
 - IT-fag (infrastruktur, nettverk, sikkerhet etc)
 - Mediefag (web applikasjoner, gaming, video, grafikk)
 - Arkitektur/byggeprogrammer
 - Spesialprogrammer
- Supercomputere
 - High Performance Computing (GPU- og CPU- intensive)
 - Sekvensiering
 - VDI
- Next generation fag
 - Robotics, Maskinlæring
 - IoT, Artificial Intelligence



XGLU - CREDIT CARD FORMAT BLOOD GLUCOSE METER

New solution for the world of diabetes

Hvordan dere kan tilrettelegge

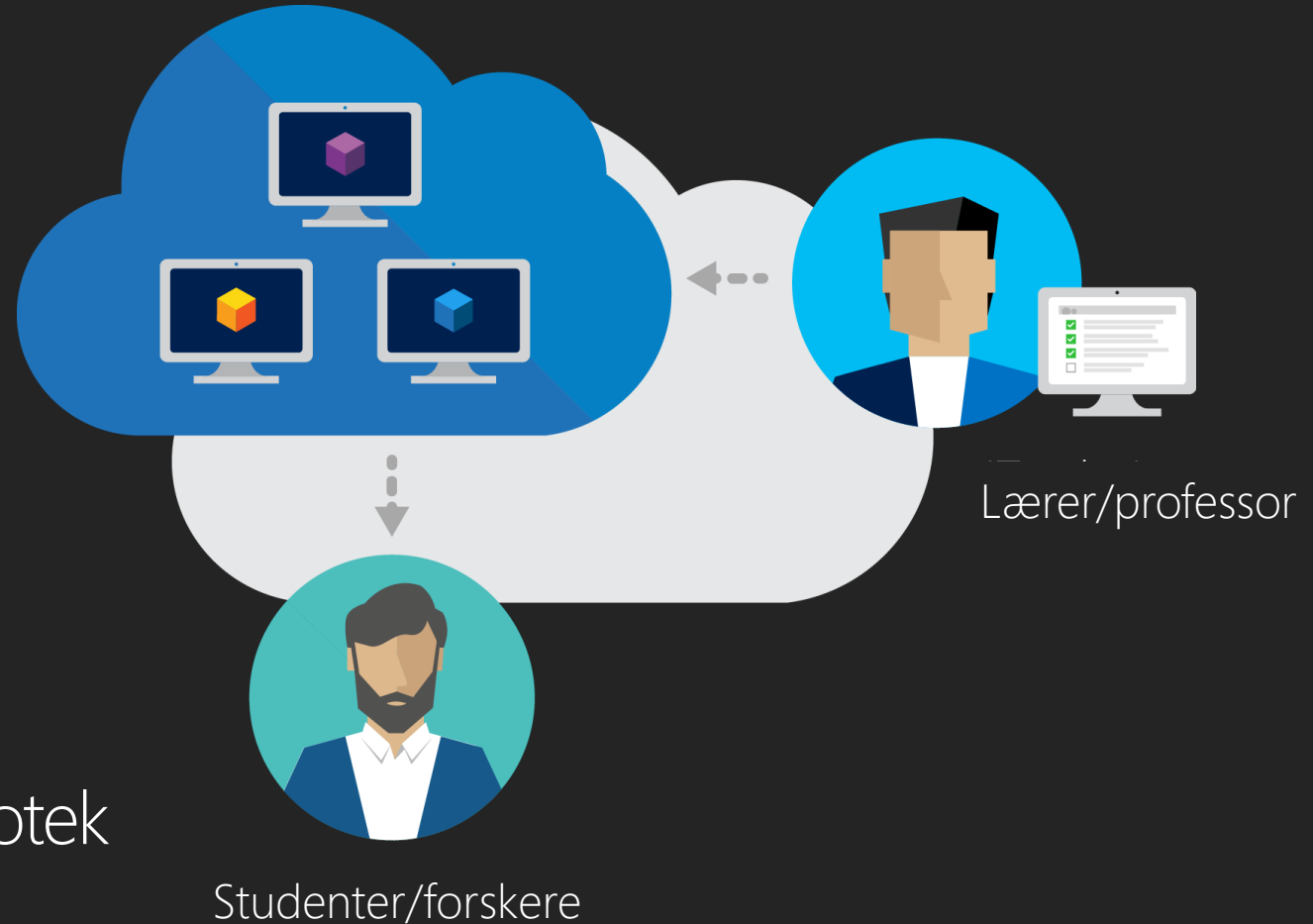
- Virtuelle lab'er
 - DevTest Labs
 - Noe spennende som snart slippes i markedet....
 - Eks. Citrix VDI solutions (XenApp/XenDesktop)
- Research as a Service

Hvordan komme i gang?

- Atea: Workshop + oppsett
- Kostnadskontroll + Governance

Azure DevTest Labs – For Prosjektarbeid

- ▶ Raskt å sette opp
- ▶ Automatisering & self-service
- ▶ Kostnadskontroll & governance
- ▶ Gjenbruk fra andre: GitHub bibliotek







azure-devtestlab/Script: X


+ v


→ ↺




GitHub, Inc. [US] https://github.com/Azure/azure-devtestlab/tree/master/Scripts/University%20Repo






📖 ☆

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 Code  Issues 6  Pull requests 8  Projects 0  Insights

Branch: master ▾ azure-devtestlab / Scripts / University Repo /

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 tanmayeekamath and mmydland Added Links for Videos and changed format of Readme for University Re... Latest commit 34f9c37 on Aug 30 2017

..		
 DeepLearning	Added Links for Videos and changed format of Readme for University Re...	7 months ago
 Roles	Added Links for Videos and changed format of Readme for University Re...	7 months ago
 ScenarioScripts	Added Links for Videos and changed format of Readme for University Re...	7 months ago
 Shutdown Scripts	Added Links for Videos and changed format of Readme for University Re...	7 months ago
 SimplifiedJSPortal	Added Links for Videos and changed format of Readme for University Re...	7 months ago
 Readme.md	Added Links for Videos and changed format of Readme for University Re...	7 months ago

 Readme.md

University repository

This repository has been created to collect the required material to set up DevTest Labs in Univerisities. This is useful both for IT admin and students because the former won't have to maintain physical machines, the latter will always have fresh machines available both for classes and self-service usage.

Scenario Scripts Folder

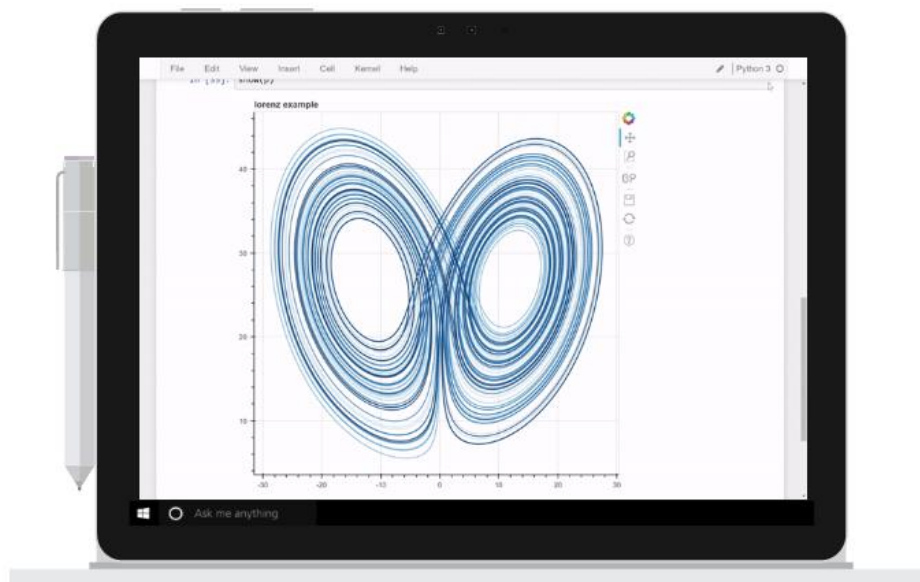
This folder contains:

- Powershell scripts file which needs to be run either via Console or via Automation account on Azure to set up the environments for the imagined scenarios.
 - Add-AzureDtlVM: This script adds the specified number of Azure virtual machines to a DevTest Lab.
 - Add-AzureDtlVMAutoVar: This script adds the number of Azure virtual machines in the DevTest Lab by reading some parameters from AutomationVariable.
 - Add-GroupPermissionsDevTestLab: This script adds the specified role to the AD Group in the DevTest Lab.
 - Common: This script contains many useful functions for the other scripts.
 - DeallocateStoppedVM: This script deallocates every stopped Azure virtual machines.
 - Manage-AzureDtlFixedPool: This script guarantees that the Virtual Machine pool of the Lab equals to the PoolSize specified as Azure Tag of Lab.
 - Remove-AzureDtlLabVMs: This script guarantees that the Virtual Machine pool of the Lab equals to the PoolSize

Managed Labs – For undervisning

- DevTest Labs for klasseromsundervisning
- Svært enkel i bruk
- Enkelt brukergrensesnitt
- Kontroll over tildelte timer og kostnader

- Tour de Norway: Trondheim og Oslo 10-12 April
- Webinar for sektoren ved ferdigstillelse



Sharing Your Ideas Made Easy

With Azure Notebooks, unleash your ideas in the cloud with the [Jupyter Notebook](#)

[Learn more](#)



For Data Science
and Analysis



For Teaching
and Learning



For Research
and Development

Research gravitational waves

Investigate data provided by the Laser Interferometer Gravitational-Wave Observatory (LIGO) and make groundbreaking discoveries.

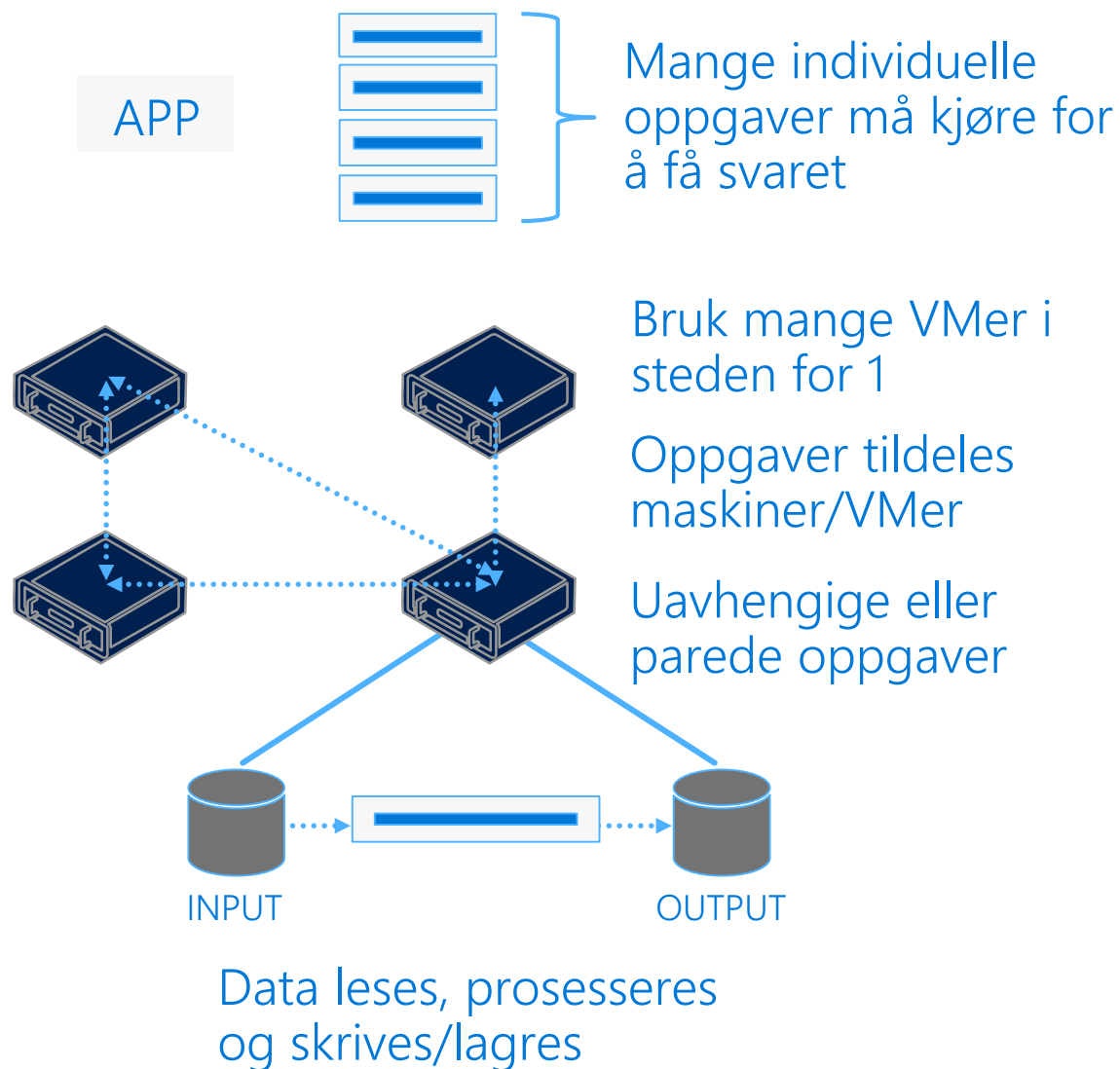
Forskere og ansatte

Et overblikk over supercomputing

GPU og CPU intensiv datakraft



Hva er HPC?



Usercaser:

Forskning og vitenskap
Genomics & bioinformatikk
Klimamodelering
Hydrologisk analyse
Bildeanalyse & prosessering
Video & audio transkoding
Stressanalyser
Bilkræsj simuleringer
Finansielle risiko analyser
Olje- og gassproduksjon
... Og mye mer!

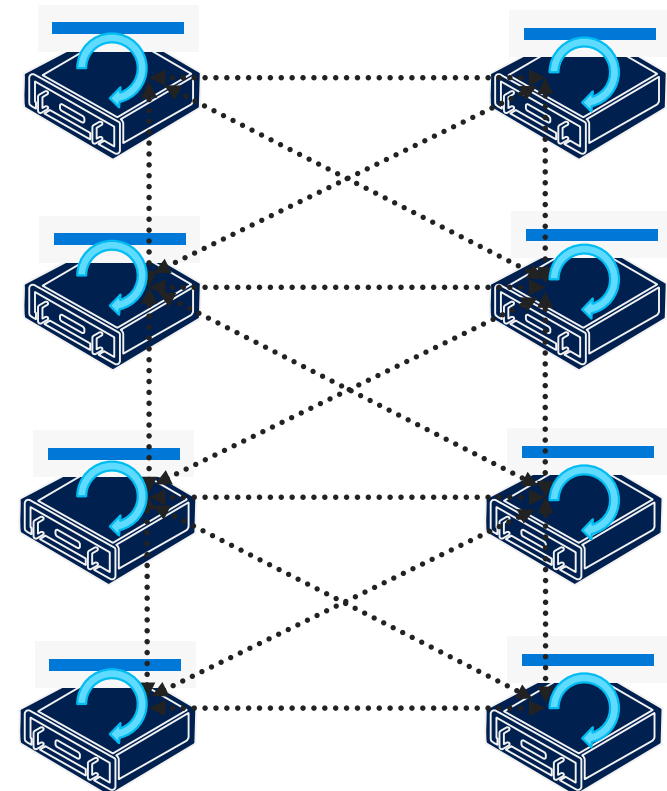
To hovedtyper av HPC oppgaver

- Embarrassingly parallel:

- Nodene behøver ikke å snakke sammen, eller det er svært lite kommunikasjon mellom nodene.
- Vanligvis parameter sweep, en jobbsplitting, søk/sammenligning gjennom data
- Eksempler: Monte Carlo simuleringer, bilde/video rendering, genetiske algoritmer, sekvensierings matching
- → Ypperlig oppgave for sky!

Tightly coupled:

- Nodene behøver å snakke med hverandre konstant
- Krever et raskt interconnection nettverk (lav latency and høy throughput)
- Eksempler: Bilkraesj simulering, fluid dynamics, klimamodelering, reservoir simuleringer, produksjonsmodelering
- → Mer utfordrende, men også mulig i Azure!





Azure for Research



Microsoft Azure for Research

Microsoft Research

Apply for a Microsoft Azure for Research Award

We're offering grants of Microsoft Azure to university and non-profit research labs.



Microsoft Research is soliciting proposals for the use of Microsoft Azure in research. We welcome research proposals from any branch of scholarly activity. We are interested in individual investigator projects as well as projects that will support access to services and data of value to a collaboration or community. In addition, we will periodically announce additional special-opportunity RFPs on specific cloud research topics. Winning proposals will be awarded allocations of Microsoft Azure storage and compute resources for a period of one year. The size of the allocations will be suitable for a substantial research project.

Qualified applicants must be affiliated with a university or non-profit research organization. Your proposal should be in English and less than three pages in length. It should include resource requirement estimates (number of core, storage requirements, and so forth) for your project.

To read about current RFPs and submission deadlines, please visit [Award Program](#). For more information, questions, or to make changes to your submitted proposal, please send email to azurerfp@microsoft.com.

The information you provide will be used to verify eligibility and to improve and personalize your relationship with Microsoft Research. Microsoft may contact you as part of the verification process. Microsoft respects your privacy. To learn more, please read our [Privacy Statement](#).

Learn more

- [Azure for Research Award program](#)
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- [Proposal Eligibility](#)

Learn more

What it is

Azure cloud computing helps you accelerate your research by providing what you need, when you need it. The Microsoft Azure for Research program awards cloud computing time, training, and resources to help you achieve more.

Who it's for

Faculty, researchers, and graduate students are qualified to [submit proposals for Azure awards](#) for research projects. Masters and undergraduate students require a faculty project supervisor to submit their proposal.

Apply

Apply now for cloud computing resources for your research project. Proposals are evaluated every two months.

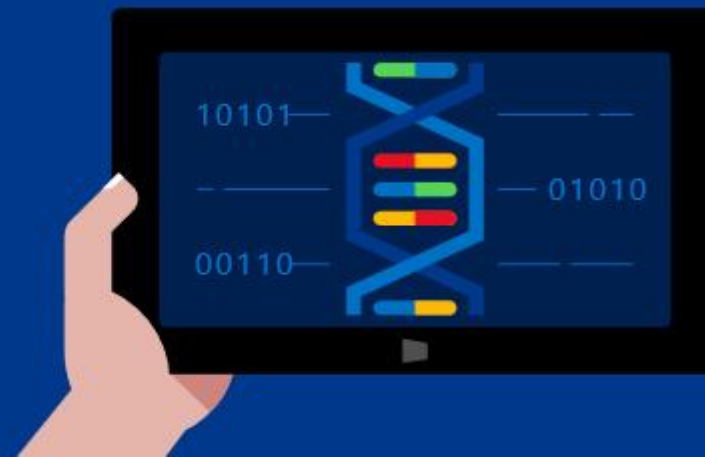
Accelerate genomic processing on Microsoft Azure

Microsoft has developed a much faster way to do a key part of genomic sequencing with an Azure-powered version of Broad Institute's Genome Analysis Toolkit...

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Microsoft Genomics

The demand for cloud computing solutions is clear. Today's medical centers, integrated delivery networks and labs are looking for agility, easier management, and access to more capacity to enable the increased demand for next-generation sequencing (NGS). Health and Life Science organizations can benefit from Microsoft's industry-leading approach to security, privacy, and local compliance in the cloud while minimizing cost and complexity. Find a partner→



matrollv@Microsoft.com