

# FANS Platform Netværksmøde

26/11-2020 – på Teams

26/11-2020 – på Teams

FANS  
Platform  
Netværksmøde

# Dagsorden

- **Velkomst**
  - v. Frans Holm, SAS
- **Nyheder fra Technology**
  - v. Jan Milter Ehlers, SAS
- **From cottage industry to critical system! (in English)**
  - v. Iain Adamson, Scottish Power Energy Retail & Michelle Homes, Metacoda
- **Viya 2020.1 quiz**
  - v. Frans Holm, SAS
- **Pause**
- **Enhetstestning av SAS DI Studio jobb. Är det möjligt? (på Svensk)**
  - v. Roger Svensson, Finansinspektionen
- **Environment manager**
  - v. Frans Holm, SAS
- **Fremtidens arbejdsform som administrator**
  - v. Jan Milter Ehlers, SAS
- **Afslutning & lodtrækning**
  - v. Frans Holm, SAS

# Styregruppe

FANS  
Platform  
Netværksmøde

## Styregruppe:

- Lars Hult (Topdanmark)
- Jan Zilstorff (Knowit)
- Christian Christensen (SAS)
- Thomas Jacobsen (SAS)
  
- Frans Holm (SAS)



Menti

*Har du:*

Input?

Forslag?

Ideer?

Tak  
fordi du  
er taler



# SAS Analytics Explores

- <https://www.youtube.com/watch?v=IcZvGHCHM10>
- <https://explorers.sas.com/en/home.html>

 SAS®  
ANALYTICS EXPLORERS

Join now and start earning points to claim rewards\*, including SAS goodies, free access to training courses and events!



**GADGETS TO MAKE YOUR  
DAY MORE FUN**



**LEARNING AND  
RECOGNITION**



**NETWORKING AND  
MENTORING**



## GRATIS E-LEARNING

Få adgang til alle vores e-learning kurser gratis i 30 dage

Aktiver SAS Learning Subscription og start din læring i dag

Spørgsmål? Kontakt os på [saskurser@sas.com](mailto:saskurser@sas.com)

# Live Web kurser på dansk i efteråret 2020 med Ole Steen & Barbara Olsen

## [SAS Programming 1: Essentials](#)

27. 29. oktober, kl. 09:00-16:00

## [SAS Programming 2: Data Manipulation Techniques](#)

2. 5. november, kl. 09:00-12:30

## [SAS Macro Language 1: Essentials](#)

11. 12. november, kl. 09:00-16:00

## [SAS® Advanced DATA Step and Macro Techniques](#)

24. 26. november, kl. 09:00-16:00

## [SAS SQL 1: Essentials](#)

30. november – 3. december, kl. 09:00-12:30

25% rabat af liste  
prisen for alle FANS  
medlemmer



NEW SAS® Certification

SAS® Certified Specialist:  
Administration of SAS® Viya® 3.5

Get Certified With SAS®  
Validate your skills. Set yourself apart.

# Sparrings Sessioner

Se link på Community  
Ingen tilmelding

## Diverse Nyheder

<https://communities.sas.com/t5/Nordic-Events-and-Presentations/FANS-Network-Meeting-Sparrings-sessioner/ba-p/666045>

### 2020

- ~~— Visual Analytics~~
- ~~— 6/11~~
- Programmering
  - 8/12 kl 9-10
- *Platform*
  - *8/12 kl. 11-12*
- Analytisk
  - 8/12 kl. 13-14

# FANS Lodtrækning

Vind en SAS ting!

# FANS Lodtrækning

## Dagens gave!



# FANS lodtrækning

Send mail til:

[frans.holm@sas.com](mailto:frans.holm@sas.com)

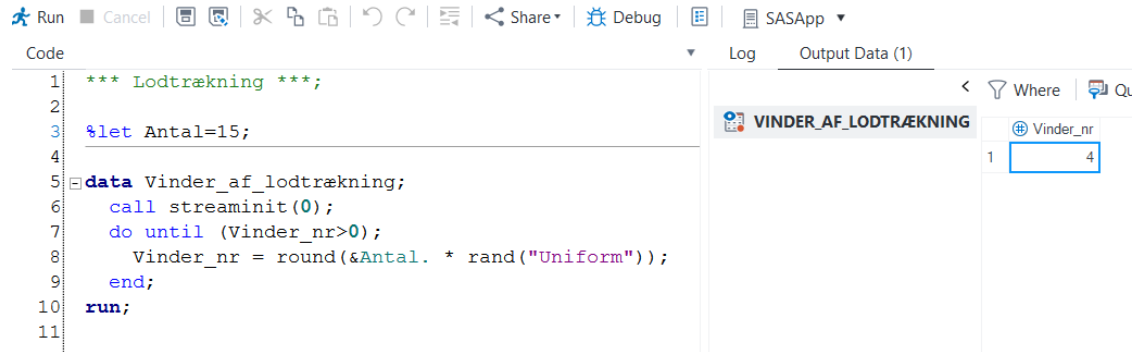
Skriv:

Subject: Lodtrækning

Mailen: Navn + Adresse

T-shirt størrelse: (S,M,L,XL – US-size)

Udtrækning  
Hvordan:



The screenshot shows the SAS Studio interface. The top menu bar includes 'Run', 'Cancel', 'Share', 'Debug', and 'SASApp'. The main area is divided into two panes. The left pane, titled 'Code', contains the following SAS code:

```
1 *** Lodtrækning ***;
2
3 %let Antal=15;
4
5 data Vinder_af_lodtrækning;
6   call streaminit(0);
7   do until (Vinder_nr>0);
8     Vinder_nr = round(&Antal. * rand("Uniform"));
9   end;
10 run;
11
```

The right pane, titled 'Output Data (1)', shows a table with the following data:

VINDER_AF_LODTRÆKNING	
	Vinder_nr
1	4

# Nyheder fra Technology

v. Jan Milter Ehlers, SAS

# Overskrifter

SAS Viya er udkommet som cloud native



Udpluk af SAS Software Roadmap



Rejsen til SAS Viya



Adobe Flash end of life 2020

The logo features the word "sas" in a white, lowercase, sans-serif font, with a stylized white "S" icon to its left. To the right of "sas" is the word "viya" in a white, lowercase, serif font. Both words have a registered trademark symbol (®) at the end. The background is a dark blue gradient with a pattern of concentric, wavy lines that create a sense of depth and movement.

sas viya®



# SAS Platform & Cloud

## Portfolio Themes

1

**Cloud-Native** – Loosely-coupled, independent, interchangeable, scalable. All with support for continuous delivery.

2

**Open** – Standards-based integration for authentication, other services. REST APIs for interoperability. New MVA for multi-cloud.

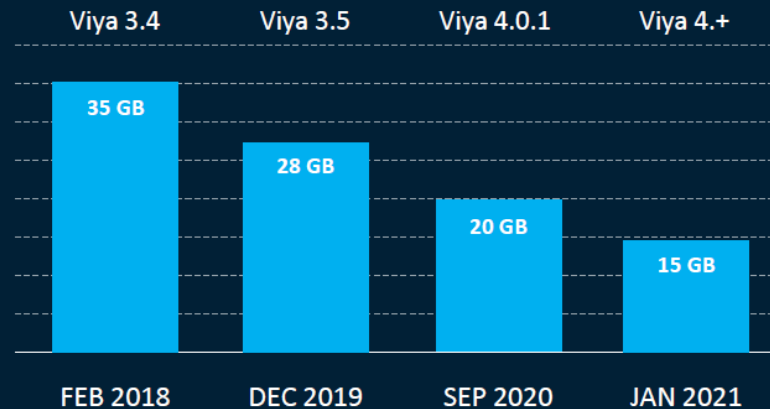
3

**Automation** – Deployments of the SAS Platform can fit into GitOps/DevOps processes. SAS compute uses AI/ML to optimize infrastructure resource usage.

# Why Viya 4

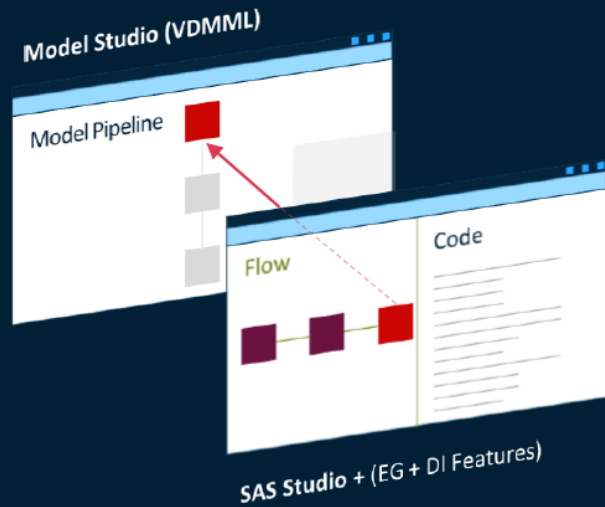
- Containerization of all Viya 4 components
- Cloud Native and API-First Design
- Customer Portal for Self Service
- Footprint and startup time reduction of microservices

Aggregate Memory Footprint of Viya Microservices  
(no CAS SMP or MPP memory included)



# Why Viya 4

- Containerization of all Viya 4 components
- Cloud Native and API-First Design
- Customer Portal for Self Service
- Footprint and startup time reduction of microservices
- Unification of SAS 9 / Viya platforms
- Seamless migration from Viya 3.5



# SAS Viya deployed in Kubernetes

## Microservices and Web Apps



STATELESS NODE POOL

## SAS Compute Services



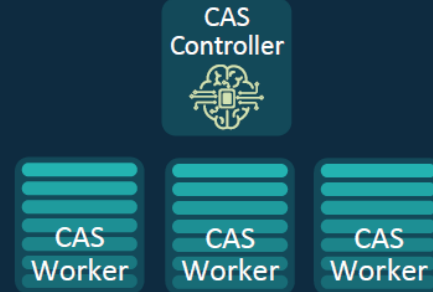
COMPUTE NODE POOL

## Commodity Services



STATEFUL NODE POOL

## CAS Cluster

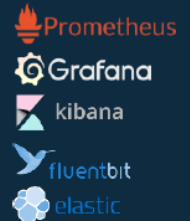


CAS NODE POOL

## Ingress

SYSTEM NODE POOL

## Monitoring + Logs



OPS4VIYA



# Roadmaps – op til 18 måneder frem

Udleveres ikke skriftligt

# Viya 4 migrering af 9.4 produkter og indhold

9.4 produkt og indhold	Viya 4	Forventet udgivelse on premise	Noter
Enterprise Guide SAS Display Manager	SAS Studio Analyst (SAS Display Manager)	Maj 2021	Inkl. EG projektmigrering Display Manager bør udfases
Web Report Studio Information Map Olap kuber	Visual Analytics	Maj 2021	
SAS Information Delivery Portal	SAS Drive eller ekstern portal m. links eller rapport-thumbnails	Maj 2021	
Stored Process Server	Job Execution Server	Maj 2021	3 sek svartid i Viya 3.5. Bedre i Viya 4.
Add-In for MS-Office	VA Add-in	Maj 2021	Kun Excel og Powerpoint Ingen SAS-kode
Data Integration Studio	SAS Studio Engineer	Maj / Juni 2021	Maj 2021: Migreringsproces Juni 2021: SCD 2 og SOAP
LSF (Platform Suite)	Data Preperation: SAS Job Flow Scheduler	Maj 2021	

# Viya 4 migrering af 9.4 produkter og indhold (2/2)

9.4 produkt og indhold	Viya 4	Forventet udgivelse on premise	Noter
Enterprise Miner Model Manager	Visual Data Mining "Model Manager"	Maj 2021 Maj 2021	
Business Rules Manager	Intelligent Decisioning	Maj 2021	
Data Quality Standard Quality Knowledge Base	Data Preparation: Data Quality	Maj 2021	
SAS/AF SAS/FSP	Udgår		Muligheder: SAS Studio Tasks, Job Execution Service m. Prompts, SAS Visual Investigator, HTML udvikling på Viya REST API
SAS/GRAPH SAS/STAT	Visual Statistics (inkl. PROCs)	Maj 2021	
SAS/ETS	SAS Econometrics (inkl. PROCs)	Maj 2021	Med visuel overbygning
SAS/OR	SAS Optimization (inkl. PROCs)	Maj 2021	Med visuel overbygning
SAS/IML	SAS IML (inkl. PROCs)	Maj 2021	

Fortsætter ->



# Spørgsmål?

[sas.com](https://sas.com)



# From cottage industry to critical system! (in English)

by Iain Adamson, Scottish Power Energy Retail &  
Michelle Homes, Metacoda

# Viya 2020.1 quiz

v. Frans Holm, SAS

# Pause – Pause – Pause - Pause

Vi starter igen kl. 10.35

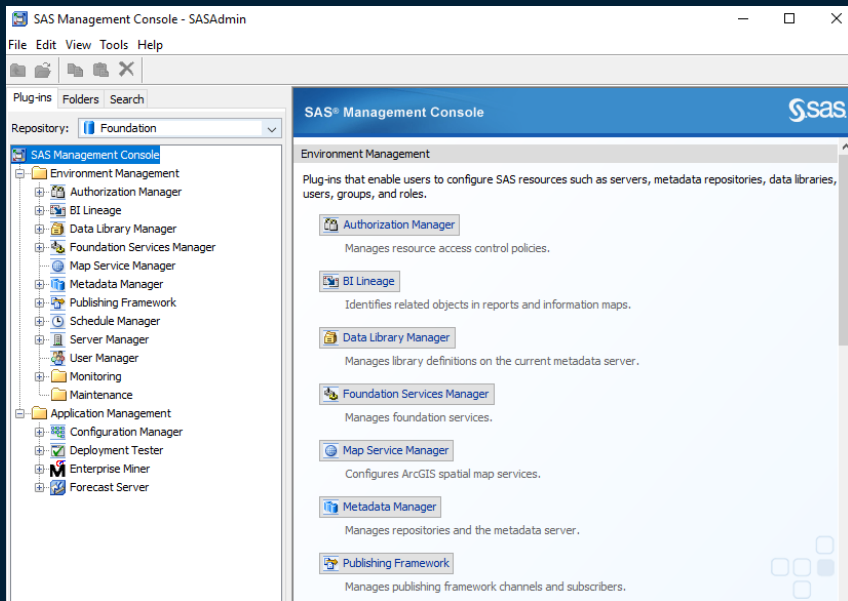
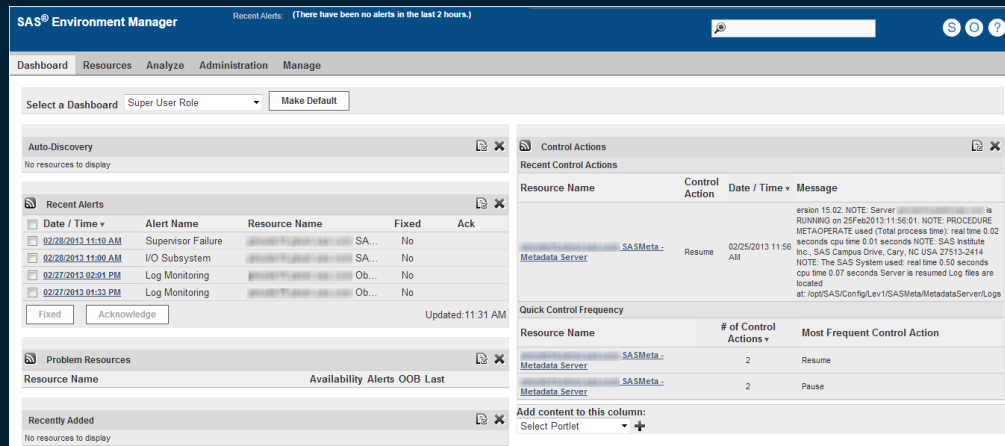
# Enhetstestning av SAS DI Studio jobb. Är det möjligt? (på Svensk)

v. Roger Svensson, Finansinspektionen

# Environment manager

v. Frans Holm

# Management Console vs. Environment Manager

Date / Time	Alert Name	Resource Name	Fixed	Ack
02/28/2013 11:10 AM	Supervisor Failure	SA...	No	
02/28/2013 11:00 AM	I/O Subsystem	SA...	No	
02/27/2013 02:01 PM	Log Monitoring	Ob...	No	
02/27/2013 01:33 PM	Log Monitoring	Ob...	No	

Resource Name	Control Action	Date / Time	Message
Metadata Server	Resume	02/25/2013 11:56 AM	ersion 15.02. NOTE: Server is RUNNING on 25Feb2013:11:56:01. NOTE: PROCEDURE METAOPERATE used (TOTAL process time) real time 0.02 seconds cpu time 0.01 seconds NOTE: SAS Institute Inc. SAS Campus Drive, Cary, NC USA 27513-2414 NOTE: The SAS System used: real time 0.50 seconds cpu time 0.07 seconds Server is resumed Log files are located at: /opt/SAS/Config/Lev1/SASMeta/MetadataServer/Logs

Resource Name	# of Control Actions	Most Frequent Control Action
Metadata Server	2	Resume
Metadata Server	2	Pause

# Overview of SAS Environment Manager

<https://documentation.sas.com/?cdcId=bicdc&cdcVersion=9.4&docsetId=bisag&docsetTarget=p04sfotmht7r60n188ykjolsicdw.htm&locale=en>

SAS Environment Manager, which is new with SAS 9.4, is a web-based administration solution for a SAS environment. The application enables you to perform these tasks:

- administer, monitor, and manage SAS resources, including administering the SAS Web Application Server and monitoring SAS foundation servers
- collect and chart data on metrics for monitored SAS resources, thus creating a comprehensive view of resource health and operation
- monitor log events and reporting alerts
- incorporate the monitoring and managing of IT and SAS resources into a service management strategy by using the detailed metric information stored in the SAS Environment Manager Data Mart and the reports provided in the Report Center
- access modules to perform other aspects of SAS administration (see [About SAS Environment Manager Administration](#))

# Overview of SAS Environment Manager

- SAS Environment Manager is based on VMware's Hyperic product, with customizations and plug-ins to optimize the product specifically for a SAS environment.
- The basic architecture consists of an agent process (running on each middle-tier and server-tier machine) that communicates with a central management server.
- Agents monitor detected resources and periodically report resource metrics back to the server.
- The server provides an interface for interacting with those agents, managing the data collected by the agents, distributing plug-ins, creating alerts and escalation procedures based on collected metrics, and graphing the metrics provided through the installed plug-ins.



# Overview of SAS Environment Manager

## Bruger I SAS Environment Manager?

*Menti*

# Fremtidens arbejdsform som administrator

Udnyt potentialet i DevOps med nye SAS værktøjer

November 2020,

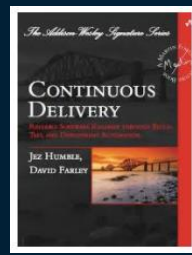
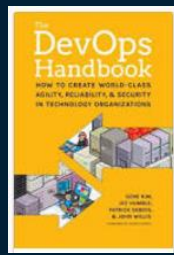
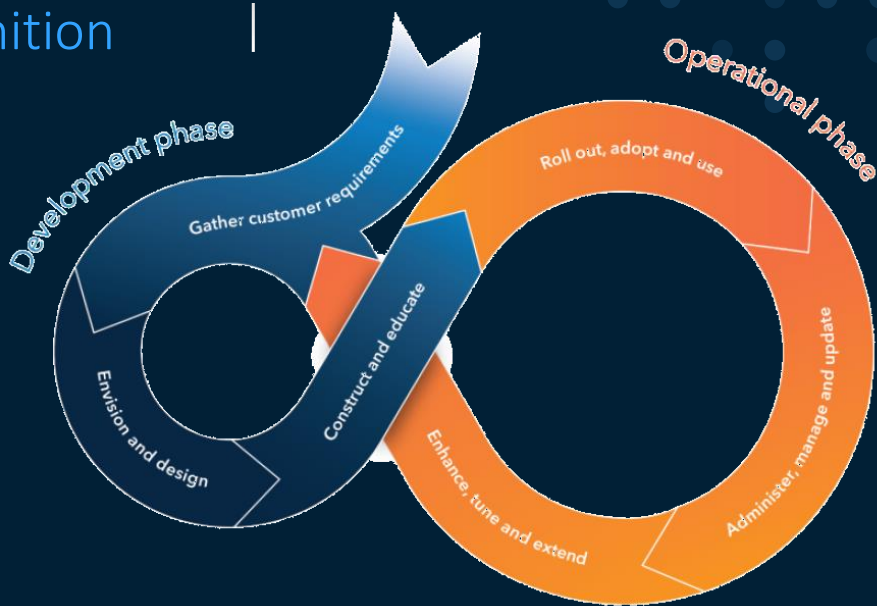
Jan Milter Ehlers

# Potentialet

- Kortere tid før produktion
  - Højere kvalitet
  - Mere tid til innovation
  - Løbende forbedringer
  - Mindre stress og mere sjov
- 
- Sæt indhold og konfigurationsændringer i produktion med et tryk på en knap, hvis kvaliteten er OK

# Definition

A team of people using technology effectively to become a high performing organisation



<https://en.wikipedia.org/wiki/DevOps>

# Principper for DevOps

- Versionsstyring af konfiguration og indhold
- Automatisering af build, test og produktionssætning
- Automatisk genbygning af miljø til kendt fungerende tilstand ved fejl
- Monitorering og feedback

# Områder for automatisering og test

## Værktøjer

### Infrastruktur

(netværk, storage, servere, Kubernetes osv.)

Terraform

### Indhold

(rapporter, jobs, modeller, decision flows osv.)

Viya CLI: transfer, cas, request

### Versionsstyring

Git

### Pipeline

Jenkins

(Azure Pipelines)

### SAS Software

### Deployment

Kubernetes & Kustomize

### SAS Konfiguration

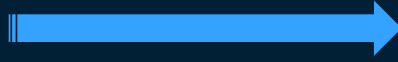
(SAS/ACCESS, skalering, sikkerhed, osv.)

Kubernetes + Kustomize

# SAS Viya infrastruktur som kode

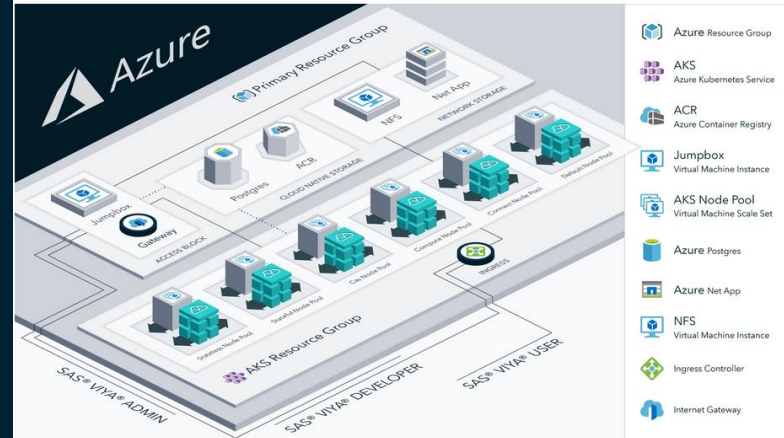


Commit



Deploy

- Azure Resource Group
- Virtual Network, Network Security Groups and Network Security Rules
- Managed Azure Kubernetes Service (AKS) cluster
- System and User AKS Node pools with required Labels and Taints
- Infrastructure to deploy SAS Viya CAS in SMP or MPP mode
- Storage options for SAS Viya - AzureDisk/Files(dev) or NFS Server or Azure NetApp Files(HA)
- Azure DB for PostgreSQL, optional
- Azure Container Registry, optional



<https://github.com/sassoftware/viya4-iac-azure>

Uddrag af terraform.tfvars:

Virtuelle servere til afvikling af forskellige grupper af containere

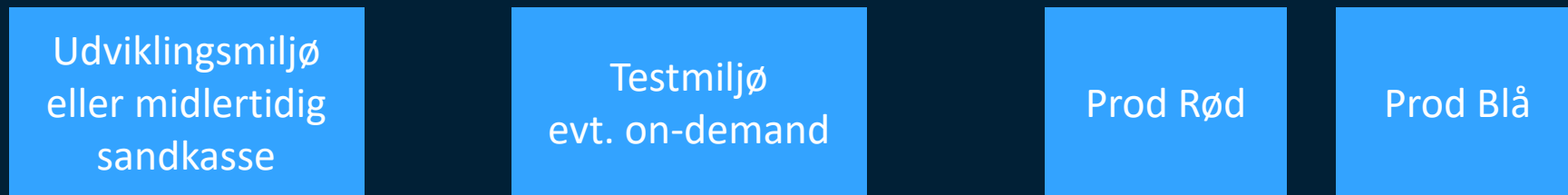
```
# AKS config
kubernetes_version      = "1.18.8"
default_nodepool_min_nodes = 2
default_nodepool_vm_type = "Standard_D4_v2"

# AKS Node Pools config
node_pools = {
  cas = {
    "machine_type" = "Standard_E16s_v3"
    "os_disk_size" = 200
    "min_nodes"    = 1
    "max_nodes"    = 1
    "node_taints" = ["workload.sas.com/class=cas:NoSchedule"]
    "node_labels" = {
      "workload.sas.com/class" = "cas"
    }
  },
  compute = {
    "machine_type" = "Standard_E16s_v3"
    "os_disk_size" = 200
    "min_nodes"    = 1
    "max_nodes"    = 1
    "node_taints" = ["workload.sas.com/class=compute:NoSchedule"]
    "node_labels" = {
      "workload.sas.com/class"          = "compute"
      "launcher.sas.com/prepullImage" = "sas-programming-environment"
    }
  }
}
```



# SAS Viya Indhold

## Konceptuel deployment pipeline



- 1: Unit-test
- 2: Commit



Udløser



Jenkins pipeline:

- Automatiske tests
- Automatisk deployment fra Git
- Evt. automatisk release

ML prædiktive modeller:  
Kig på ModelOps praksis  
og SAS Model Manager

# Forskellige typer Indhold

## Git og promotion

Indholdstype	Indbygget Git integration	Viya CLI (& Git push*)
SAS Studio (ETL, web-rapporter, model træning etc.)	Ja	transfer
Python / Jupyter Notebook	Ja	
Foldere og indhold, fx: VA rapport, folderstruktur, foldersikkerhed		transfer
CASLIBs		cas
I Viya udenfor foldere: fx brugere og grupper		request

\*Git push kan fx automatiseres med et script

# Konklusioner

Nye åbne værktøjer til automatisering:

- Arbejds mængden mindskes næppe – den ændrer sig
- Kan muliggøre hurtigere releases, med samme eller højere kvalitet
  
- Der er meget at lære
  - Cloud Academy online træning kan anbefales
    - Cloud, DevOps, Kubernetes og containere



# Spørgsmål?

[sas.com](https://sas.com)

# Afslutning & lodtrækning

v. Frans Holm, SAS

# Diverse Nyheder

## SAS Forum 2020 Sessions & Præsentationer

<https://www.sas.com/sas/events/nordic/sasforum.html>

<https://communities.sas.com/t5/Nordic-Events-and-Presentations/Presentations-SAS-Forum-Nordics-2020-17-November-Virtual/ba-p/699410>

# Sparrings Sessioner

Se link på Community  
Ingen tilmelding

## Diverse Nyheder

<https://communities.sas.com/t5/Nordic-Events-and-Presentations/FANS-Network-Meeting-Sparrings-sessioner/ba-p/666045>

### 2020

- ~~— Visual Analytics~~
  - ~~— 6/11~~
- Programmering
  - 8/12 kl 9-10
- *Platform*
  - *8/12 kl. 11-12*
- Analytisk
  - 8/12 kl. 13-14

[sas.com/fans](https://sas.com/fans) -> Events -> All live Events + Webinars

## Netværksmøder

- ~~— 24/11 Platform Overview – Virtuelt~~
- ~~— 25/11 Analytisk netværk – Virtuelt~~
- ~~— 26/11 Platforms netværk – Virtuelt~~
- 27/11 Programmerings netværk – Virtuelt
- 1/12 Visual Analytics netværk – Virtuelt
- 11/12 Data Science Network, Nordic – Virtuelt

2021  
Uge 5 & 22



# Diverse nyheder

## Næste Platformsmøde

- Data fra SAS9 til CAS!
  - Henrik Thiesson fra Odense Kommune

# FANS Lodtrækning

## Dagens gave!



Tak for i dag  
vi ses fans!

*Husk evaluering*

