





Deploying and Managing SAS® Viya® 4 Using DevOps Pipelines

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Agenda

- Introduction
- DevOps pipelines
- Stages and maintenance
- Lessons learned



We operationalize data *as a service*, using:



ANALYTICS

We offer end-to-end services on our Analytics Platform based on SAS technology.



SOFTWARE DEVELOPMENT

We believe in smart tailor-made solutions.



CLOUD

A robust infrastructure determines the user experience of your application.

Notilyze Cloud

Notilyze Cloud

- European cloud provider for SAS
- Global customer base
- You may know us as SaasNow

Private Cloud or Public Cloud

- Dedicated datacenter (Amsterdam, Netherlands)
- Public Cloud deployment (Azure, any region)
- Support on-premise installations

Deploying SAS in the Cloud since 2015

- 2015 – 2019 SAS 9.4 on vApp
- 2017 – today SAS Viya 3.X
- 2020 – today SAS Viya 4

SAS environment as a Service
Self-service deployment
Bring Your Own SAS License
Within 1 business day
Production ready
Customizable
Support services

ISO 27001 / NEN 7510 certified

*Company, employees, and datacenters
located in the European Union*

DevOps pipelines

- Automate deployment and management steps
- Use code for
 - Infrastructure
 - Software deployment
 - Software configuration

Benefits

- Version control in git
- Run local or in cloud
- Scalability / repeatability

Stages

- Pre-defined stages to install, configure and uninstall SAS
- **Use variables to define environment**
- Covers full lifecycle of SAS software and underlying infrastructure

Name:	sasviya-customer.notilyze.cloud
DC:	NL - Notilyze Cloud
Type:	Single-tenant
Sizing:	Medium
Kubernetes:	1.26.6
SAS Cadence:	Stable
SAS Version:	2023.08
SAS Release:	latest



Stage – Create Infrastructure

- Create Kubernetes cluster and other infrastructure for SAS
- Based on datacenter choice, run deploy required infrastructure
 - Use SAS Viya IaC resources if available for your cloud provider (Azure, AWS, Google),
 - Create your own IaC for other providers or on-premise
- Save terraform state
- Save kubeconfig



Stage – Create SAS

- Prepare nodes for SAS install (f.e. prepare temp disks, GPU drivers, etcetera)
- Install SAS prerequisites (ingress controller, storage provisioners)
- Prepare installation files (add your own certificates, drivers, configuration)
- Install SAS
- Install additional tooling if needed (homedir creator, groupdir creator)



Stage – Configure SAS

- Configure authentication (internal or external) / single sign on
- Configure opensource libraries (Python / R)
- Configure monitoring / logging tools



Stage – Destroy SAS + infra

- Separate stages to remove SAS and infrastructure
 - In case of multiple SAS deployments, manage them individually with the Destroy SAS stage



Updates and maintenance

- Update the variables to update the environment
- Re-run affected stages
- Blue/green can be implemented as well

(test this before doing this on a production environment ;-)

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SAS Release:	latest



Lessons learned

- Standardize stages, customize per type
- Version pin as much as possible
- Management tasks can be pipelined as well
- Automate renewal tasks
- Use sas-viya CLI where possible

Notilyze

Questions?



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Turn your data into **value**
and **operationalize** it fast!