

# AVD Provisioning on CVaaS

Provisioning Workflow Demo  
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## \$ whoami

- Petr Ankudinov [github.com/ankudinov](https://github.com/ankudinov)
  - Advanced Services Engineer at Arista Networks
  - Over 20 years of experience in IT with a bit of everything
  - ACE: L5, CCIE 37521
  - Passionate DC and network automation engineer
  - Daily (and nightly) VSCode user

# Agenda

- Ansible AVD collection overview
- The demo
- Credits and references

# What is Ansible AVD?

- [AVD](#) stands for Arista Validated Design as it was based on the [EVPN Deployment Guide](#)
- A very successful community project used to deploy EVPN based Data Center fabrics
  - Over [200 stars on Github](#) and 79 contributors as of Sep 2023
  - The most active Arista collection on [Ansible Galaxy](#)
- High level workflow:
  - Define abstracted group/host vars using AVD data model
  - Generate low level device specific variables (aka structured configs)
  - Parse templates, build plain text configs
  - Deliver configs to network devices using Ansible `arista.eos.eos_config`

# Facts About CVaaS

- CVaaS is cloud based
- Customers are assigned to a region with disaster recovery plan relying on [availability zones \(AZ\)](#)
- CVaaS backups are multi-region
- CVaaS is maintained by a dedicated Cloud SRE team and is always up to date
- Users authenticate to CVaaS via OAuth/SAML providers: Google, Okta, OneLogin, Microsoft Azure AD and custom SAML/OAuth providers
- The API access for AVD orchestration, etc. is authenticated using service account tokens
- The only traffic required is HTTPS initiated by switch to CVaaS with cert based authentication and HTTPS from AVD host to CVaaS with token based authentication
- References:
  - [CVaaS Configuration Guide](#)
  - [CVaaS Quick Start Guide](#)
  - [CVaaS Security Whitepaper](#)

## The Demo

- Start container as Github Codespace (or on any host with dev container supporting tool)
- Start a simple leaf-spine topology in Containerlab
- Build EVPN configuration with `arista.avd` Ansible collection
- Wait until the lab switches will start streaming using a pre-defined token
- Deploy configuration to CVP using `arista.avd` Ansible collection and pre-defined API token
- Create change control, review and execute the change

## Credits and References

This repository is based on many awesome open source repositories and some free/commercial Github features:

Tool	Purpose
<a href="#">VS Code</a>	create this repository code
<a href="#">DevContainers</a>	our topic for today
<a href="#">Marpit</a>	Markdown slide deck framework
<a href="#">Github Actions</a>	build slides and containers
<a href="#">Github Pages</a>	publish slides
<a href="#">Github Packages</a>	publish containers
<a href="#">Github Codespaces</a>	run the demo container
<a href="#">Carbon</a>	code snippets
<a href="#">Pexels</a> and <a href="#">Unsplash</a>	Excellent free stock photos resources. It's not possible to reference every author individually, but their work is highly appreciated.
<a href="#">excalidraw</a> , <a href="#">drawio</a> , <a href="#">tldraw</a>	VSCoDe plugins to create drawings
<a href="#">Containerlab</a>	Orchestration tool for container based networking labs
<a href="#">Arista AVD Ansible Collection</a>	Ansible collection used to build EVPN network
<a href="#">Ansible</a>	Automation for everyone.

# Q&A

- Ansible AVD
- This repository