Ansible in a Devcontainer

Entire arista.avd ecosystem in a sealed bottle

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$ whoami

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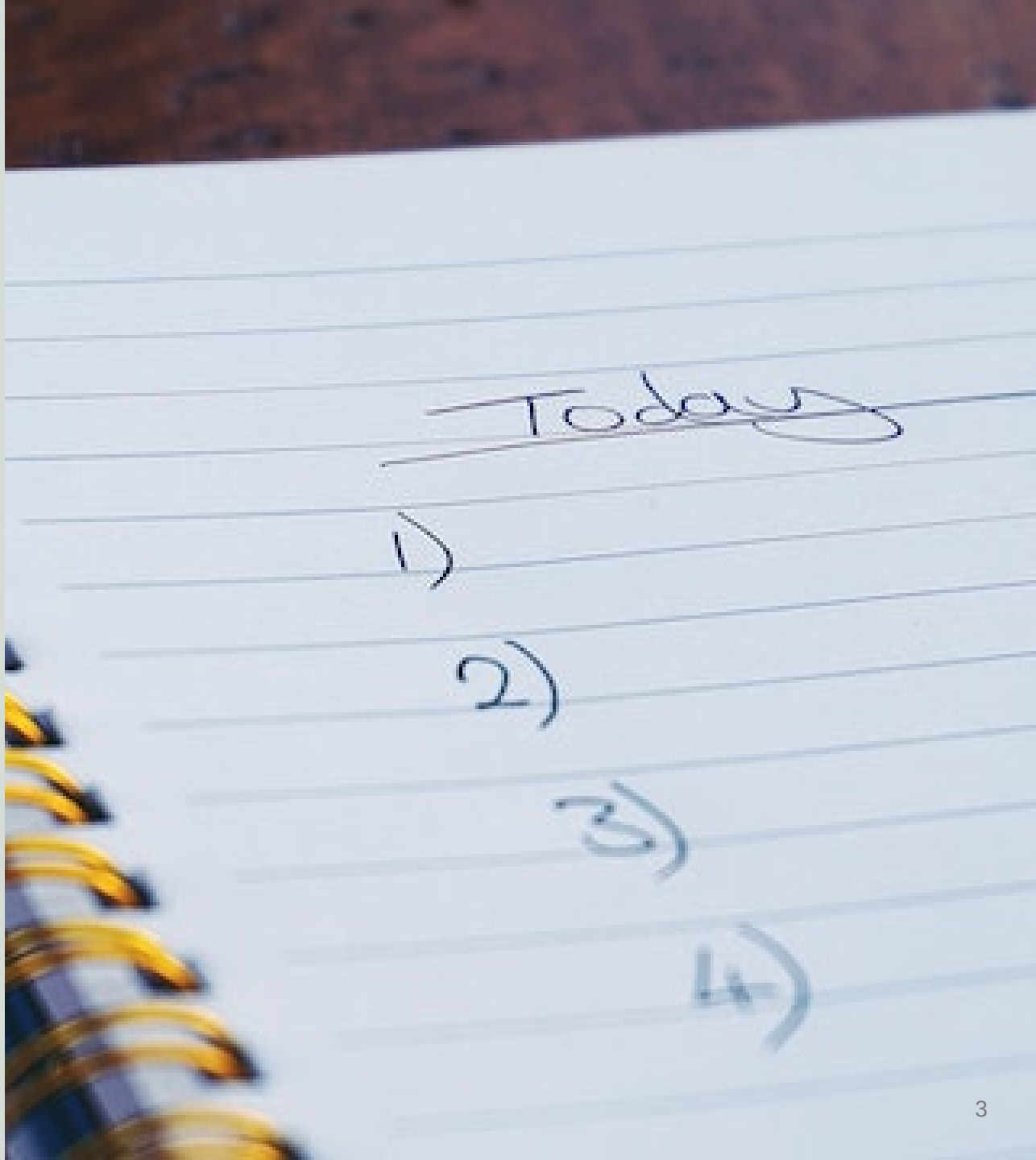
  - Advanced Services Engineer at Arista Networks
  - Over 20 years of experience in IT with a bit of everything
  - ACE: L5, CCIE 37521
  - Passionate DC and network automation engineer
  - Daily (and nightly) user of Ansible, VSCode and more
- Patrick Mathy
  - Arista Systems Engineering at Arista Networks
  - Networking around since 2016
  - ACE: L5, CCIE 57751
  - R&S, DC, Python, Ansible, Terraform, DevNet

Agenda

- Ansible AVD collection overview
- Common challenges when building Ansible environment for network automation
- Why devcontainers?
- Pre-building a devcontainer with arista.avd, docker-in-docker and Containerlab using Github devcontainers/ci@v0.3 action.
- How to run the container on any machine (with docker run or as devcontainer) or Github Codespaces



Credits and References

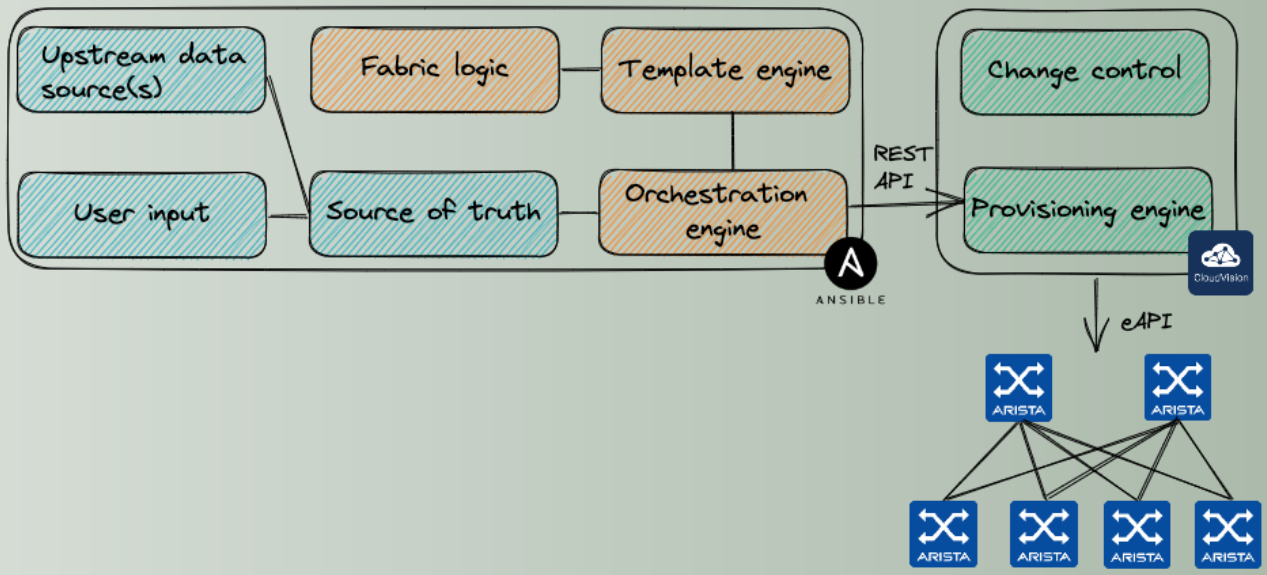
This repository is based on many awesome open source repositories and some free/commercial Github features:

- VS Code
- DevContainers
- Marp
- Excalidraw VS Code Plugin
- Github Actions
- Github Pages
- Github Codespaces
- Carbon
- And many more...

All photos are taken from Pexels and Unsplash. Excellent free stock photos resources. It's not possible to reference every author individually, but their work is highly appreciated.

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`



Running Ansible in a Container

- The old story of "it works on my machine":
  - Different versions of Python and Ansible
  - Dependencies
  - Interpreter path issues
  - The famous very-very-very-**VERY** verbose only to find out that:
    `The error appears to be, but may be elsewhere` (c) Ansible 😅

    > The error handling and input validation is a very significant part of the `ansible.avd` collection.

- Containers help to solve the issues above. But bring new challenges and not always easy to build and use.