



# Dev Containers

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\*Any views expressed are my own and do not necessarily represent those of my employer.

# Objective

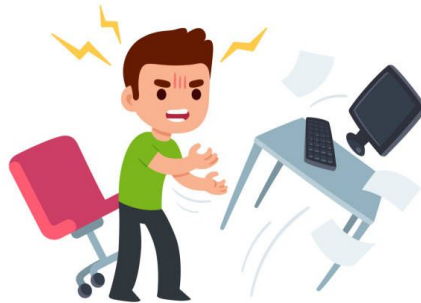
Introduce Dev Containers & explain how they streamline development.

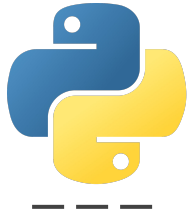
# Agenda

- Define the Problem
- What are Dev Containers?
- Benefits & Examples
- Step-by-Step Setup
- Advanced Use Cases
- Summary & Q&A

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**“It works on my machine!”**





# Python Dev Environment

Components of a dev environment:

- Python Versions
- Packages (pip/pipx)
- IDE Extensions
- Pre-Commit Hooks

All of which may be **different** between projects and workstations.

# The Problem

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- “It works on my machine” issues.
- Inconsistent dependencies across the team.
- Manual setup & maintenance of environments.

**Too many variables that will cause difficult to diagnose issues.**

# What Are Dev Containers?

# Dev Container **noun**

An open specification for enriching containers with development specific content and settings.

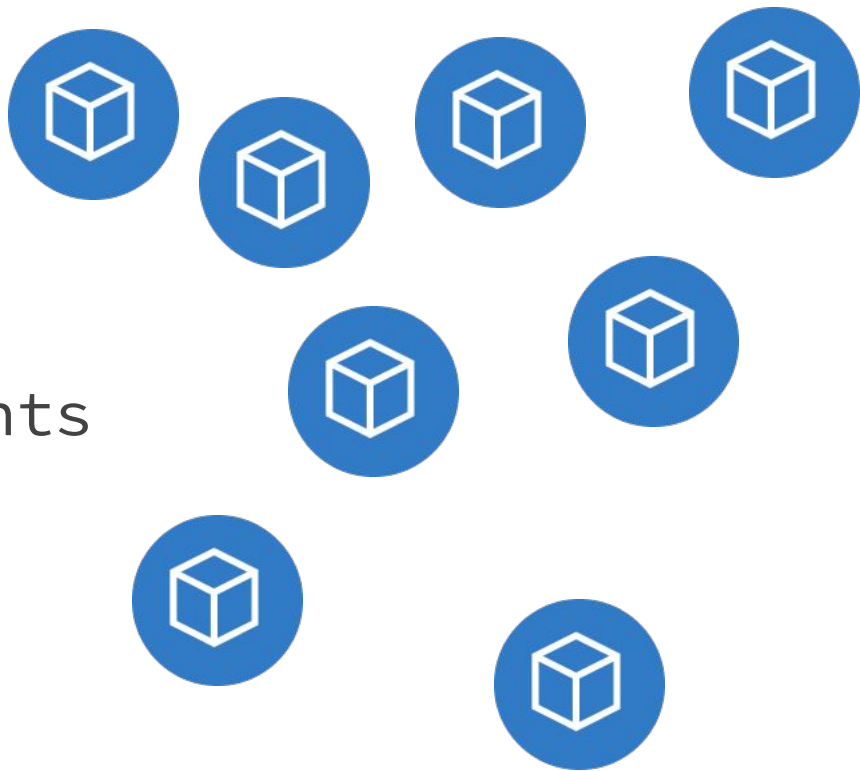
Source: <https://containers.dev/>



# Key Features

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1. A Single Dependency
2. Consistent Environments
3. Automation
4. Portability
5. Collaboration
6. Extensibility

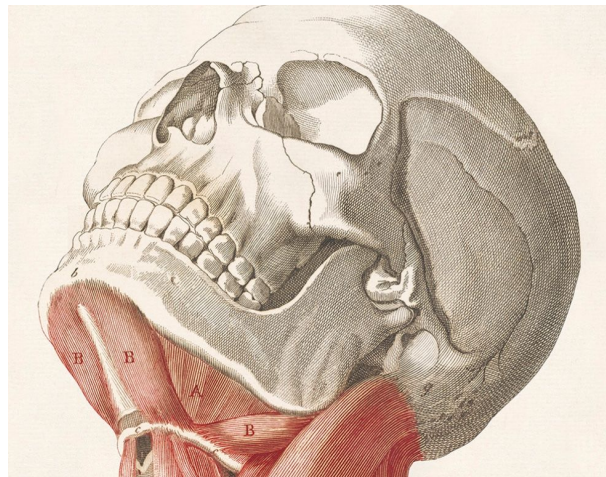




# Anatomy of a Dev Container

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Anatomy of a Dev Container:

- Top-level `.devcontainer/` folder
- `devcontainer.json`
  - `image` or `dockerfile`
  - `features`
  - `post[Create,Start,Attach]Command`
  - `customizations`
  - `forwardPorts`
- Scripts, `DockerFile`, etc.



# Features **noun**

Self-contained, shareable units of installation code and development container configuration.

Source: <https://containers.dev/implementors/features/>

# Templates

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- Over 40 core templates.
  - Ubuntu/Debian
  - Language-specific
  - + Postgres or MS SQL
  - And so much more.
- Many community images.



# Deep Integration with VSCode



## Dev Containers

Microsoft  [microsoft.com](https://microsoft.com) |  26,832,431 installs |  (51) | Free

Open any folder or repository inside a Docker container and take advantage of Visual Studio Code's full feature set.

### Installation

Launch VS Code Quick Open (Ctrl+P), paste the following command, and press enter.

```
ext install ms-vscode-remote.remote-containers
```

Copy

| [More Info](#)

# Oh... and GitHub Codespaces

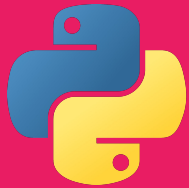
GitHub Codespaces

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# Python Dev Container Example

<https://github.com/morey-tech/devcontainer-python-example>



# Homelab Dev Container Example

<https://github.com/morey-tech/homelab>





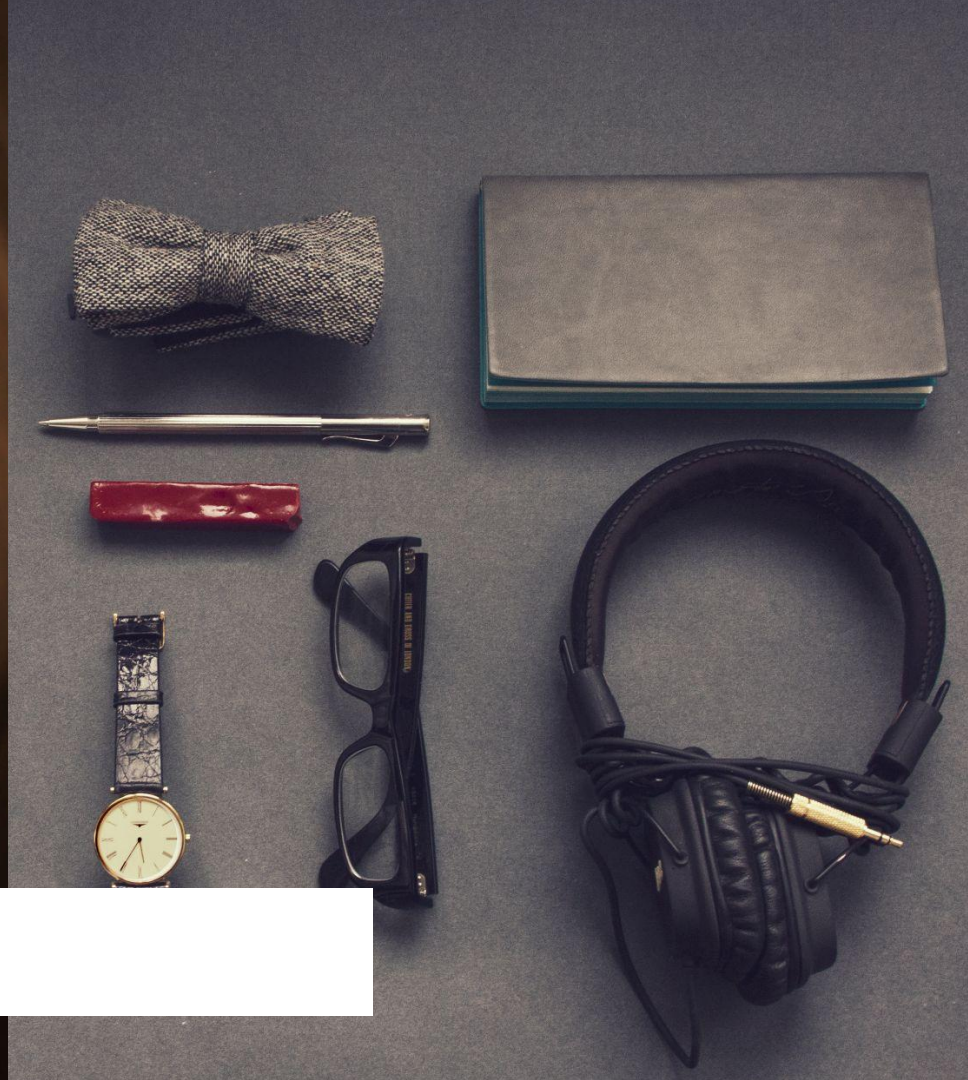
# Kubernetes Dev Container Example

<https://github.com/morey-tech/argocd-v2.12-examples>

**Tell the audience  
what you expect to  
happen...**



## The experiment



# Conclusion

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