DevContainers
What They Are and Why You Need Them

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.NET Foundation
Board of Directors (President)
Agenda

Getting Started
What is a Developer Container
Build Containers
Customize the Containers
Using Container in VS Code
Multiple Containers
Opening on GitHub
Getting Started
Why?

say "works on my machine" one more time

i dare you
Requirements

Docker Desktop (macOS/Windows)
Docker CE/EE (Linux)
Visual Studio Code
Dev Containers Extension
Build Some Containers
Development vs. Production

**Dev Container**

- Inner Loop Needs
- Outer Loop (e.g., CI) Needs

**Production Container**

- Deployed App Needs

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- **Source Code**
  - OS, runtimes, shared libraries
  - Compilers, SDKs, libraries, build tools, and utilities
  - Debuggers, OS utilities, and CLIs
  - Personalization, productivity tools

- Compiled application
What Makes Up the Developer Container

Developer Container

Productivity Tools
Debuggers
Personalization

Feature

Compiler
Build Tools

Template

Operating System
Libraries/SDKs
Templates (Images)

Alpine
Debian
C#
C# and MS SQL
Java
Jekyll
Ruby
... and more

https://containers.dev/templates
Features (Add-ons)

AWS CLI
Azure CLI
Dotnet CLI
Hugo
PowerShell
NPM
... and more

https://containers.dev/features
Build a Developer Container
## DevContainers.json Common Settings

<table>
<thead>
<tr>
<th>Settings</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>name</td>
<td>A name for the dev container displayed in the UI.</td>
</tr>
<tr>
<td>features</td>
<td>A Dev Container feature id and related options to be added into your primary container.</td>
</tr>
<tr>
<td>forwardPorts</td>
<td>An array of port numbers or “host:port” values that should always be forwarded from inside the container.</td>
</tr>
<tr>
<td>customizations</td>
<td>Product specific properties</td>
</tr>
<tr>
<td>remoteUser</td>
<td>Overrides the user that devcontainer.json supporting services tools / runs as in the container (along with sub-processes like terminals, tasks, or debugging).</td>
</tr>
<tr>
<td>postCreateCommand</td>
<td>This command is the last of three that finalizes container setup when a dev container is created.</td>
</tr>
<tr>
<td>postStartCommand</td>
<td>A command to run each time the container is successfully started.</td>
</tr>
</tbody>
</table>

Source: [https://containers.dev/implementors/json_reference/](https://containers.dev/implementors/json_reference/)
Remember

IT WORKS ON MY MACHINE

IT'S A DEVOP PROBLEM NOW
Q & A
<table>
<thead>
<tr>
<th>Site</th>
<th>Url</th>
</tr>
</thead>
<tbody>
<tr>
<td>JosephGuadagno.NET</td>
<td><a href="https://jjg.me/mysite">https://jjg.me/mysite</a></td>
</tr>
<tr>
<td>jguadagno.github.io</td>
<td><a href="https://jjg.me/blog_repo">https://jjg.me/blog_repo</a></td>
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<td>Blog Post</td>
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</tr>
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<td>Docker Desktop</td>
<td><a href="https://www.docker.com/">https://www.docker.com/</a></td>
</tr>
<tr>
<td>Remote Containers Extension</td>
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<td>Available Dev Container</td>
<td></td>
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<td>Features</td>
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