Web Service Architecture

When designing a complex system, there are many different server architectures for a system:

[Monolithic Architecture]:

[Microservice Architecture]:

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<tr>
<th>Monolithic Architecture</th>
<th>Microservices Architecture</th>
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Configuration and Deployment Challenges
One of the most challenging bits of microservices is managing the configuration and deployment of the microservices:
- What is the location of my dependencies?
- How do I quickly update the configuration?

Solution: ______________________________________
Every process on every Operating System runs with a number of environmental variables.

Command to List All Environment Variables

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<tr>
<td>Linux:</td>
<td>env</td>
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<tr>
<td>Windows PowerShell:</td>
<td>dir env:</td>
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</table>

A few common ones:

- PATH

- HOME (or HOMEPATH)

- USER (or USERNAME):

A few commonly defined in development environments:

- ENV:

- DEBUG:

- ...any number of custom application-specific ones...

Common Programming Convention: .env Files
A common, but not built-in, programming convention is to use .env files to specify deployment-specific environment variables.

16-services/.env

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<tr>
<th>FLASK_RUN_PORT</th>
<th>24000</th>
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...now, when we run Flask, we see it starts on a different port:

$ python3 -m flask run
[...]
* Running on http://127.0.0.1:24024/ (Press CTRL+C to quit)

Networking Ports
Ports provide an application-specific connection allowing multiple services to run simultaneously on a single host.

Port Range:

Common Ports:

Reserved Ports:

Unreserved Ports: