

Pune DevCon 2019

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Multi-container Microservices  
Enterprise Application  
Development using .Net Core

Ziaullah Khan

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Ziaullah Khan

Co-founder  
ZasmLabs Pvt. Ltd.

- Started Professional Career 2006
- Worked As a Premier Field Engineer in Microsoft
- C#, .Net/.Net Core
- ASP.Net, ASP.Net MVC
- Enterprise Architecture
- PMP certified Project Manager

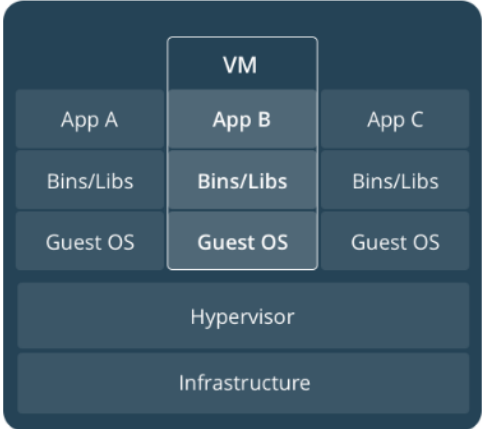
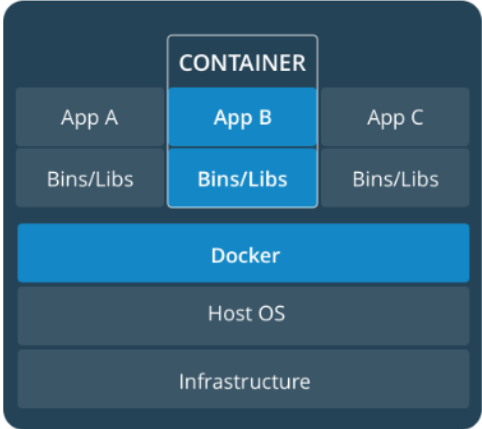
Contact

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# Docker?



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## Demo 1 – First Docker

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## Containerizing an App

```
FROM node:6.11.5

WORKDIR /usr/src/app
COPY package.json .
RUN npm install
COPY . .

CMD [ "npm", "start" ]
```

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## Demo 2 - .Net Core Hello World

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## Demo 3 – Dockerizing .Net Core Hello World

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## Demo 4 – Refactoring Hello World App

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## SOLID Principles

- Single Responsibility Principle
- Open-Closed Principle
- Liskov Substitution Principle
- Interface Segregation Principle
- Dependency Inversion Principle

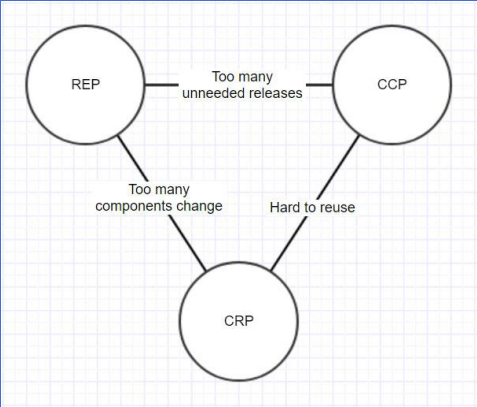
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# Component Principles

- Reuse / Release Equivalence Principle (RRP)
- Common Closure Principle (CCP)
- Common Reuse Principle (CRP)



<https://gist.github.com/vgrenzinger/14812a56b9221c9feca0b3621518635b>


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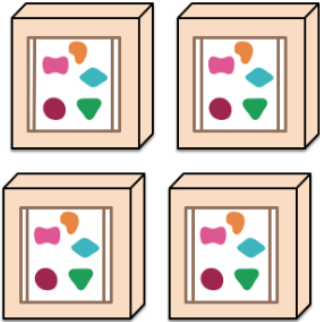
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# Microservices


A monolithic application puts all its functionality into a single process...



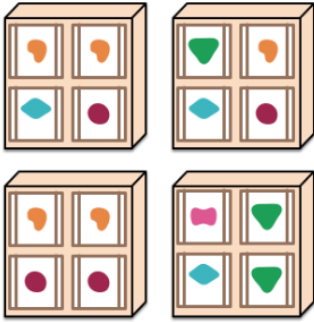
... and scales by replicating the monolith on multiple servers



A microservices architecture puts each element of functionality into a separate service...



... and scales by distributing these services across servers, replicating as needed.



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<https://martinfowler.com/articles/microservices.html>

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## Microservices Characteristics

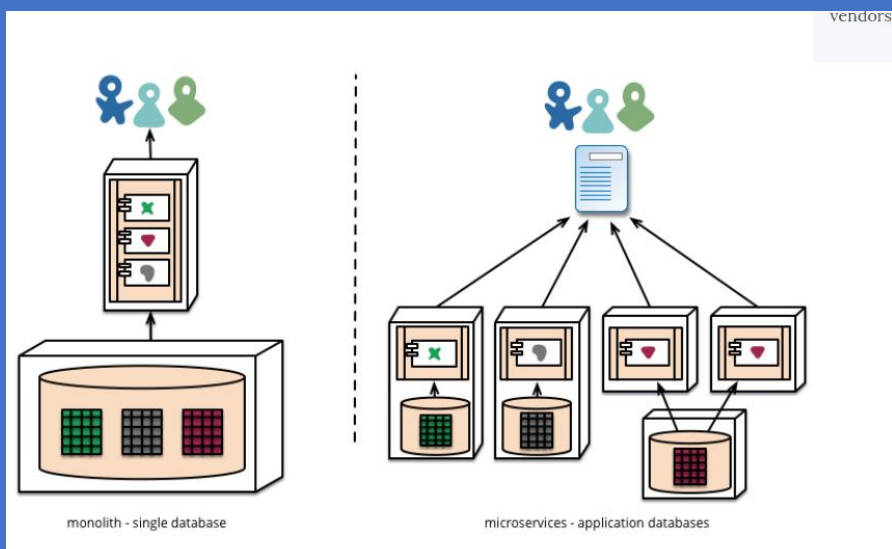
- Organized around Business Capabilities
- Products not Projects
- Smart endpoints and dumb pipes
- Decentralized Governance
- Decentralized Data Management
- Infrastructure Automation
- Design for failure
- Evolutionary Design

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## Monoliths Vs Microservices

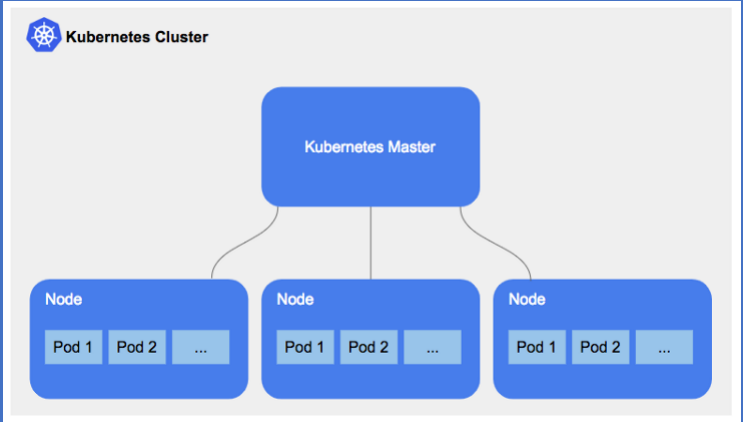


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# Kubernetes



<https://medium.com/kubecost/understanding-kubernetes-cluster-autoscaling-675099a1db92>

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# Demo 5 – Attempting Microservices

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