

An aerial photograph of San Francisco, California, featuring a dense urban landscape with numerous skyscrapers and buildings. The image is overlaid with a complex geometric pattern of white and light blue triangles, creating a mosaic effect. The text 'DEVNATION' is prominently displayed in the center in a large, bold, white sans-serif font.

DEVNATION

June 26 - 29, 2016 | San Francisco

The background is a blurred aerial view of a city skyline, likely New York City, with numerous skyscrapers. Overlaid on the image are two decorative geometric patterns in the corners. The top-left pattern consists of overlapping triangles and squares in shades of blue and grey, with some dashed lines. The bottom-right pattern is similar, featuring a grid of squares and triangles in blue, grey, and white, also with dashed lines.

DEVNATION

Decomposing a Java EE Monolith into WildFly Swarm Microservices

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- Co Founder/Lead of WildFly Swarm
- Author of “JBoss Weld CDI for Java Platform”



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What is WildFly Swarm?



Just enough Application Server

- Don't need EJB, don't bundle EJB
- Java EE components independently deployable
- Re-uses existing WildFly v10



How?

```
<plugin>
  <groupId>org.wildfly.swarm</groupId>
  <artifactId>wildfly-swarm-plugin</artifactId>
  <version>1.0.0.Final</version>
  <executions>
    <execution>
      <goals>
        <goal>package</goal>
      </goals>
    </execution>
  </executions>
</plugin>
```



Develop RESTFul Endpoint Demo



Quick Recap

1. Created Hello RESTFul Endpoint
2. Ran it with ``wildfly-swarm:run``
3. Packaged and ran as *uber jar*
4. Ran it from IDE
5. Debugged it from IDE



BOM

```
<dependencyManagement>  
  <dependencies>  
    <dependency>  
      <groupId>org.wildfly.swarm</groupId>  
      <artifactId>bom</artifactId>  
      <version>${project.version}</version>  
      <type>pom</type>  
      <scope>import</scope>  
    </dependency>  
  </dependencies>  
</dependencyManagement>
```



Fractions

JAX-RS JPA Mail Management CDI

JMS OpenShift Undertow Hibernate Search

Bean Validation Remoting JSF JGroups Keycloak

Spring Infinispan Transactions Monitoring

Consul JCA Hystrix Logstash Ribbon

Jolokia JMX Web Services EJB



Monoliths



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Typical Java EE Layers

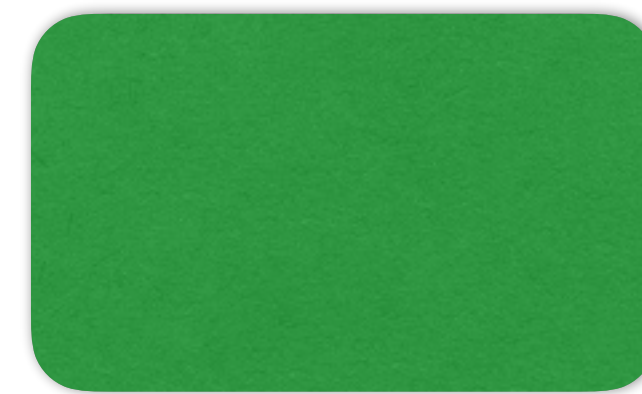
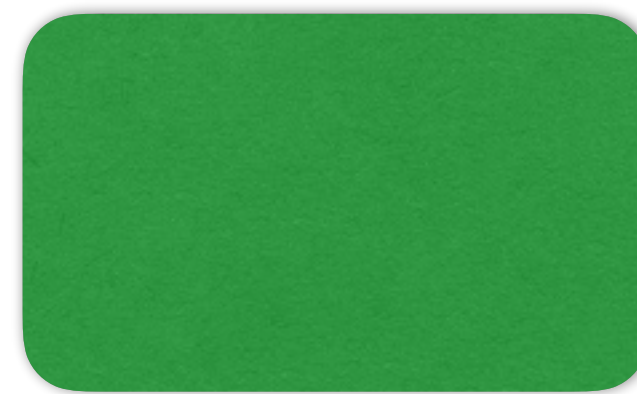
Presentation



Business Services



Data



Design Considerations

- Bounded contexts
- Coarse -> Finer granularity



Vertical Layers

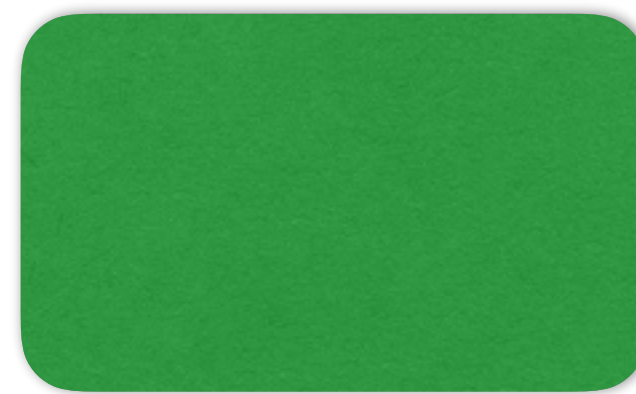
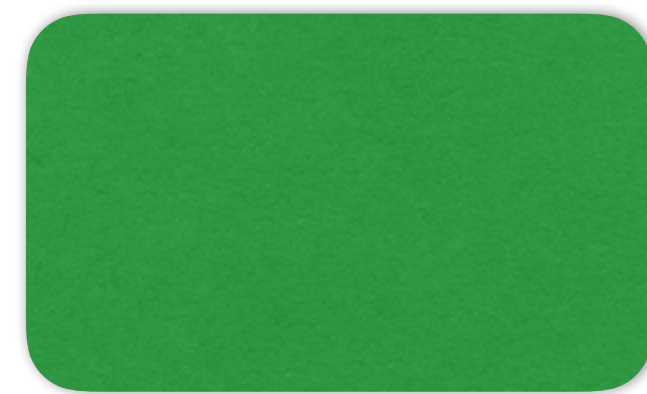
Presentation



Business Services



Data



Vertical Layers

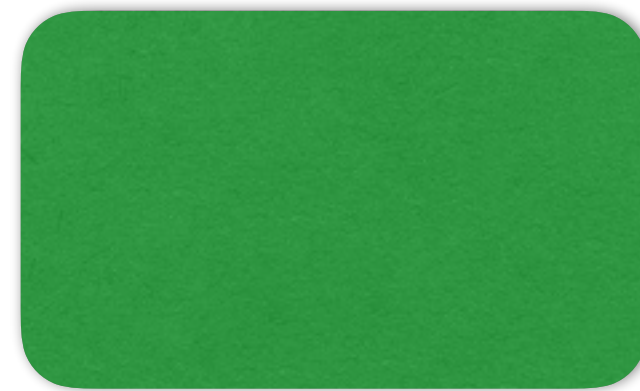
Presentation



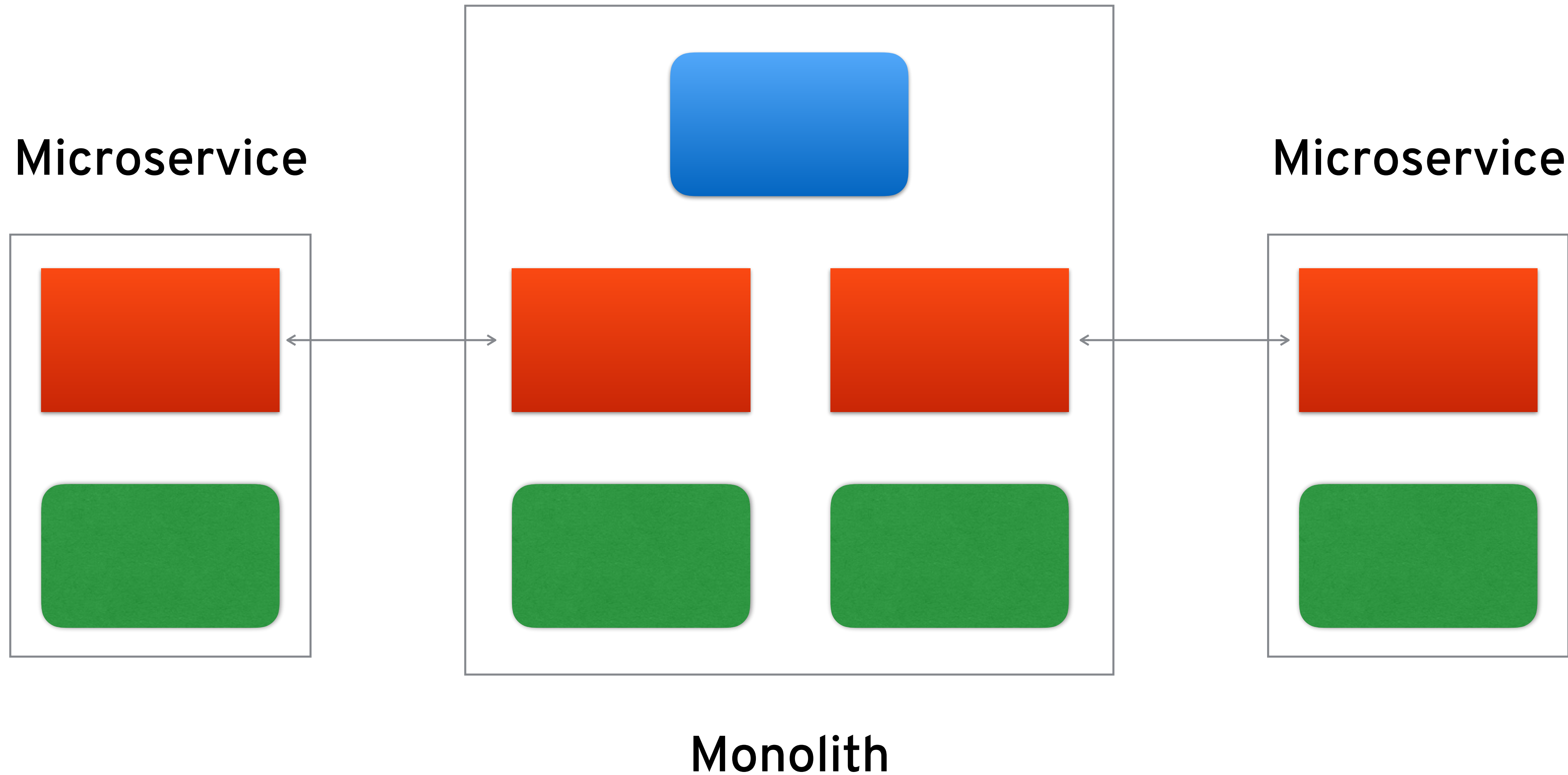
Business Services



Data



Hybrid Monolith

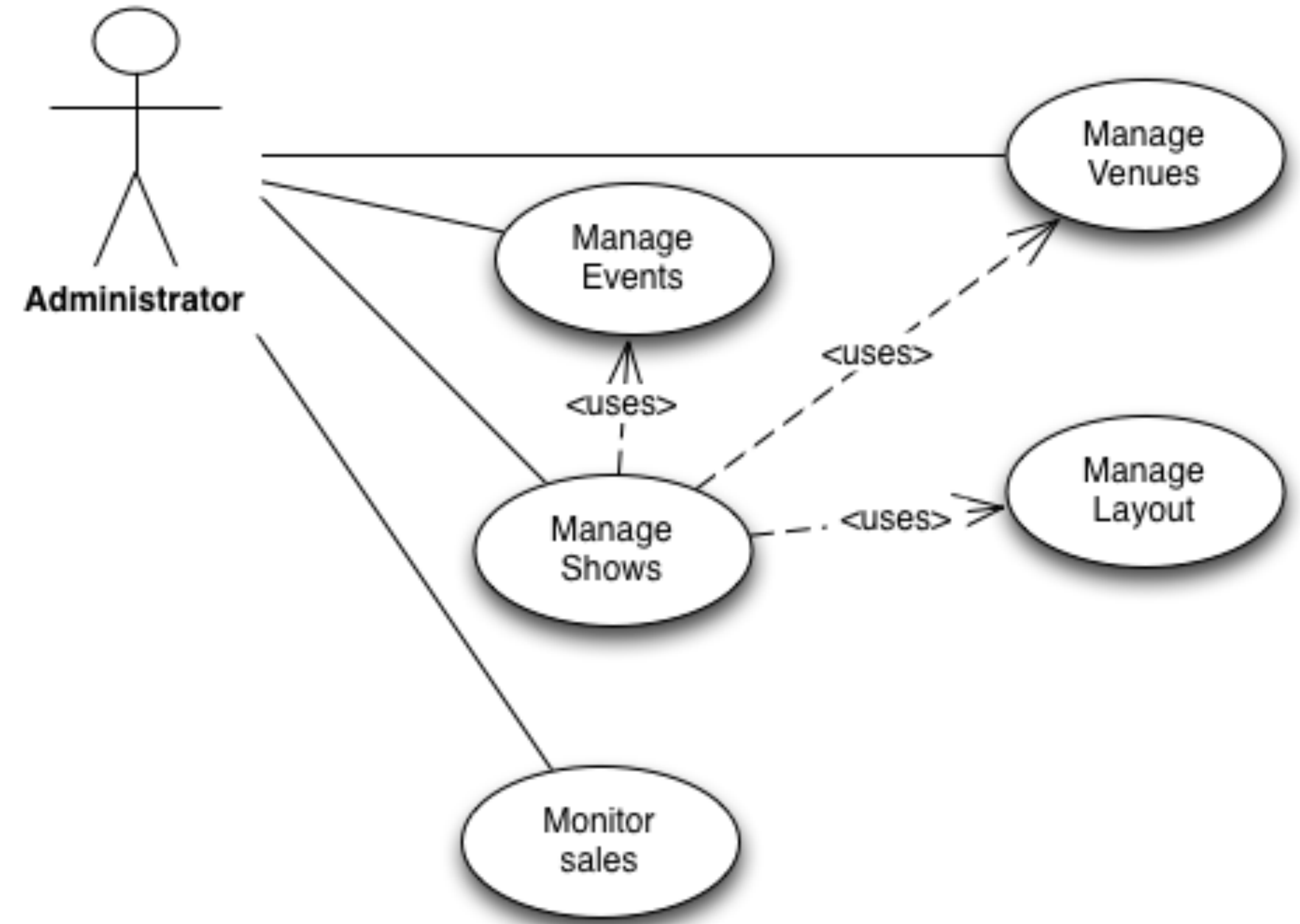
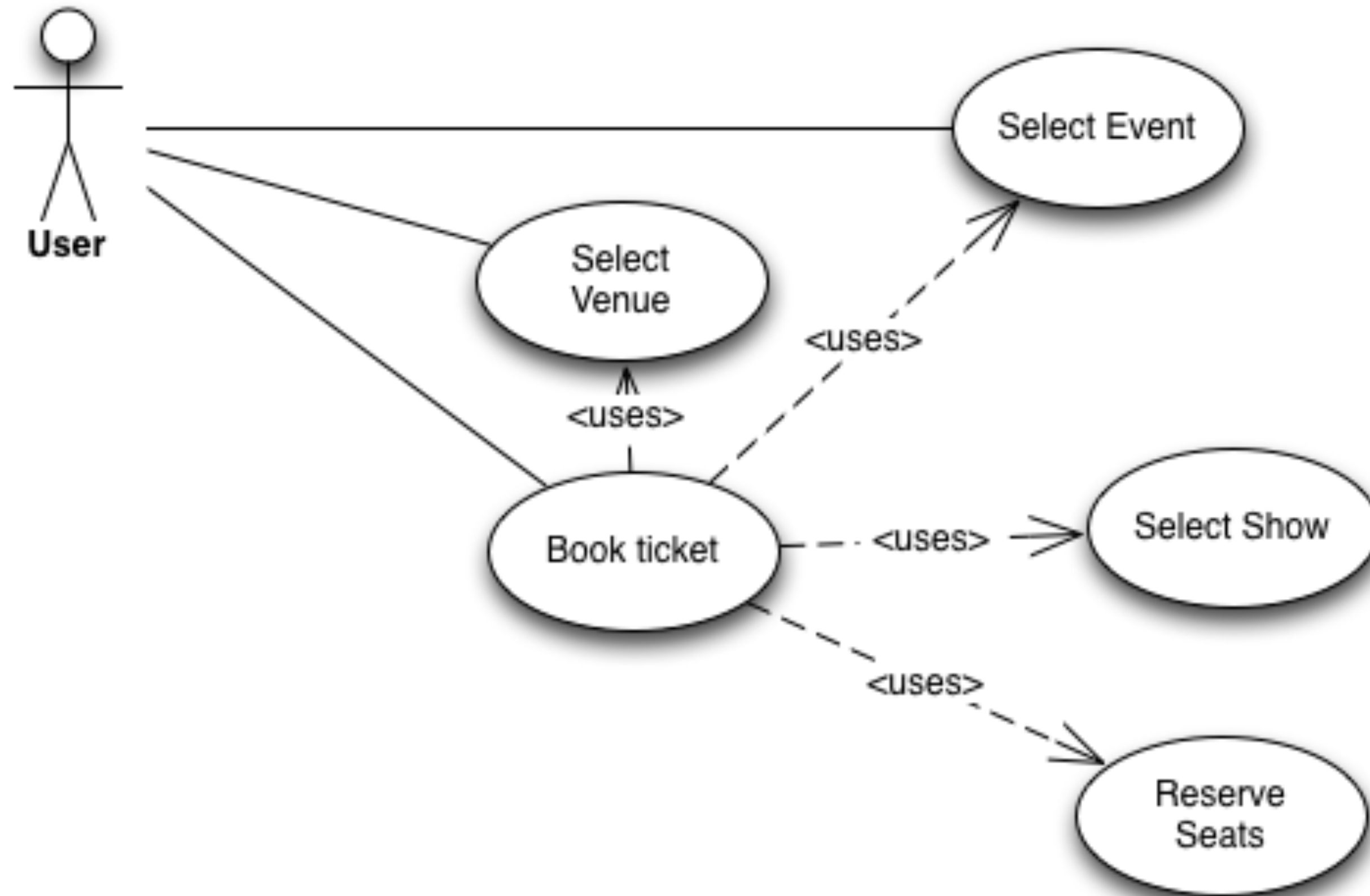


Ticket Monster



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What is it?

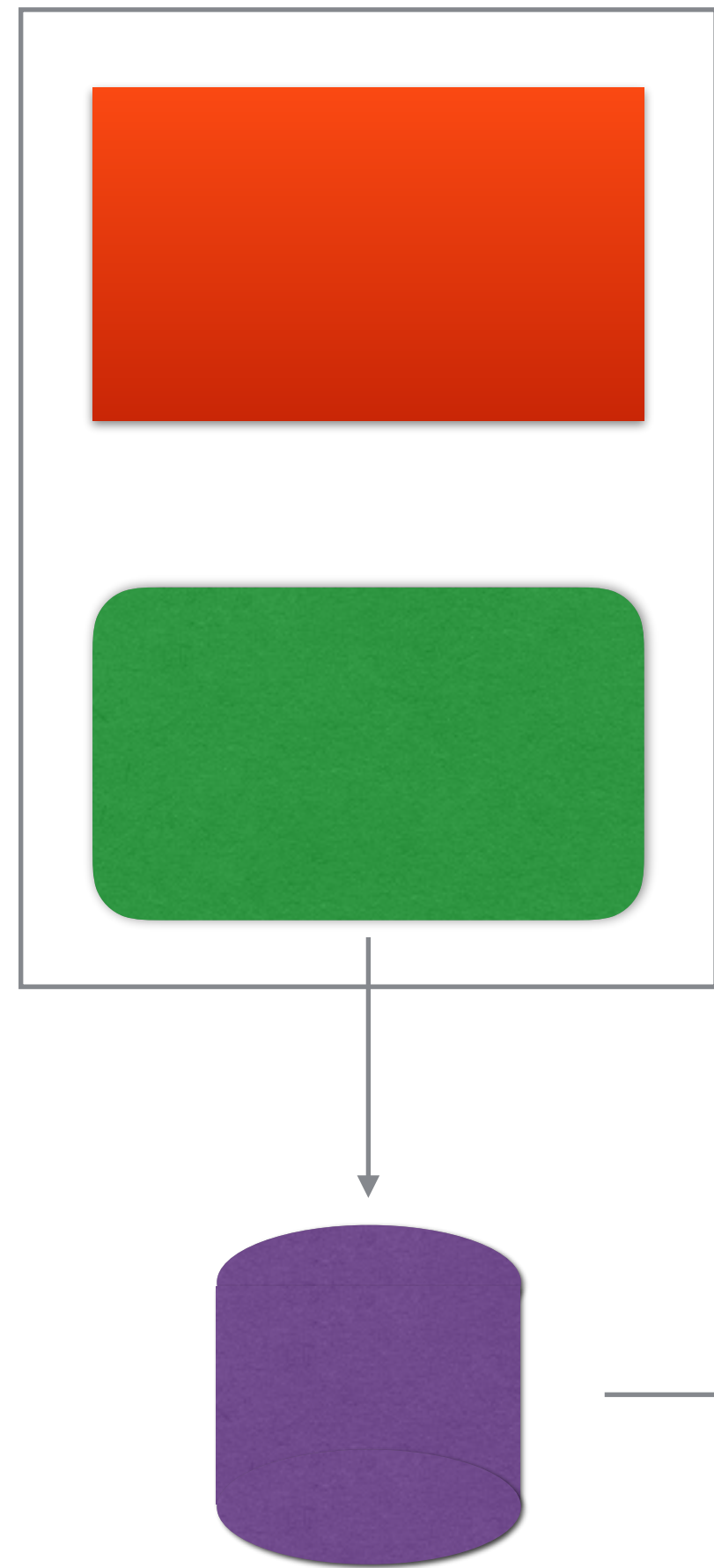


Monolith Demo

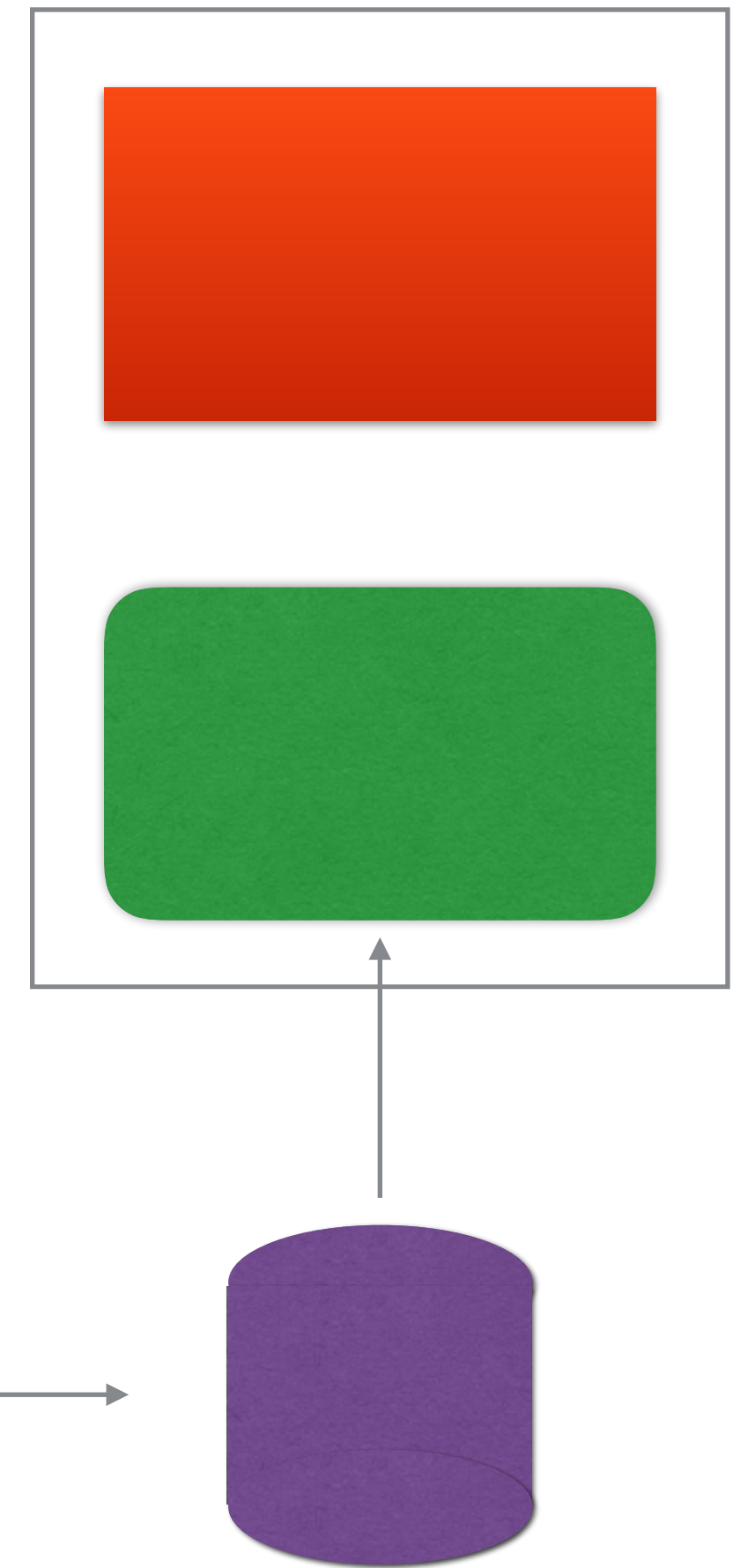


Decoupled Data

Microservice



Microservice



Debezium

- <http://debezium.io/>
- Distributed platform for change data capture
- Stream insert/update/delete events to applications
- v0.2.2, still early days



The Future



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Hot off the Press!

1.0.0.Final now available!



Roadmap

- Simplify fraction development
- Reduce application boilerplate
- Improve developer experience
- Monthly release schedule (Google Group Discussion)



Microservices Book

- Topics



- Enterprise Java

- Microservices

- Migrating a Monolith

- **MEAP** in coming months



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Questions and Discussion!



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