



# Spring Boot Microservices

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Beginner to Guru

The Traditional Monolith



## Monolith Defined

- mon·o·lith - /'mänə,liTH/
  - **Origin Greek**
    - monos - single
    - lithos - stone
  - **Noun** - a large single upright block of stone, especially one shaped into or serving as a pillar or monument.







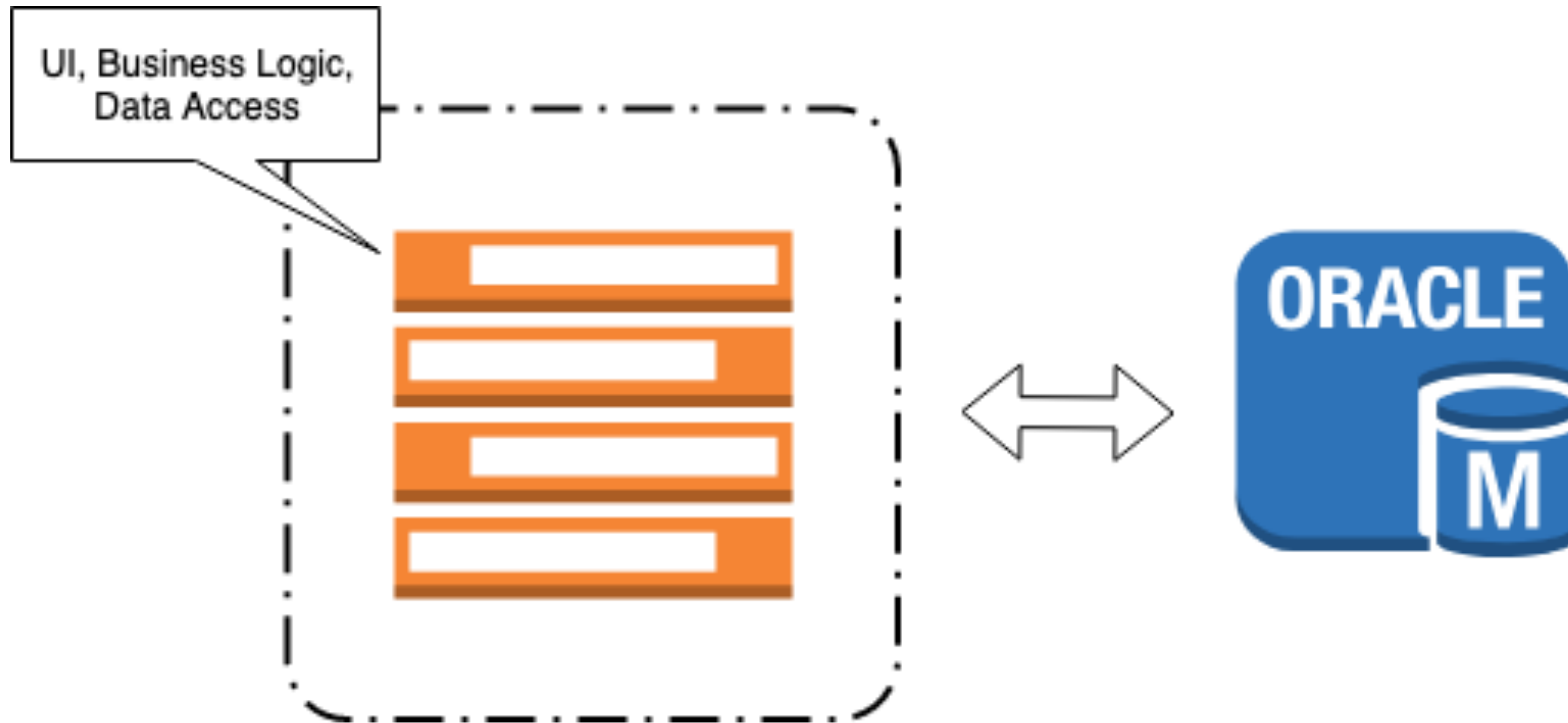
# Monolithic Architecture

- Single Application
  - One Code Base
  - One Build System
  - Single executional program (ie WAR or EAR file)
  - In Enterprise system - an application can become **very big**
    - 10's of thousands of packages, classes.



## Traits of a Monolithic Architecture

- Code is stored together
- Typically will use one database
- Code Releases are done as one big version
- Scaling is an all or nothing situation
  - If one component needs to increase scale, the whole application needs to scale







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## Benefits of Monoliths

- Development is easy - everything is in one project
- Deployment is easy - One app to deploy
- Testing is simplified - One app to test





## Problems with Monoliths

- As the business requirements of Monoliths grow, so does their complexity
- Can lead to anti-patterns - such as **Spaghetti Code** and **Big Ball of Mud** design patterns
- Difficult to modify - Even the smallest change will require a full deployment of the application
- Technology Lock In - The monolith becomes tightly coupled to the technology stack
- Difficult to introduce new technologies
- CI/CD difficult



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## Are Monoliths Bad?

- Answer - It Depends

