



# 跟我做一个Java微服务项目

Week #6 微服务测试 / 刘俊强



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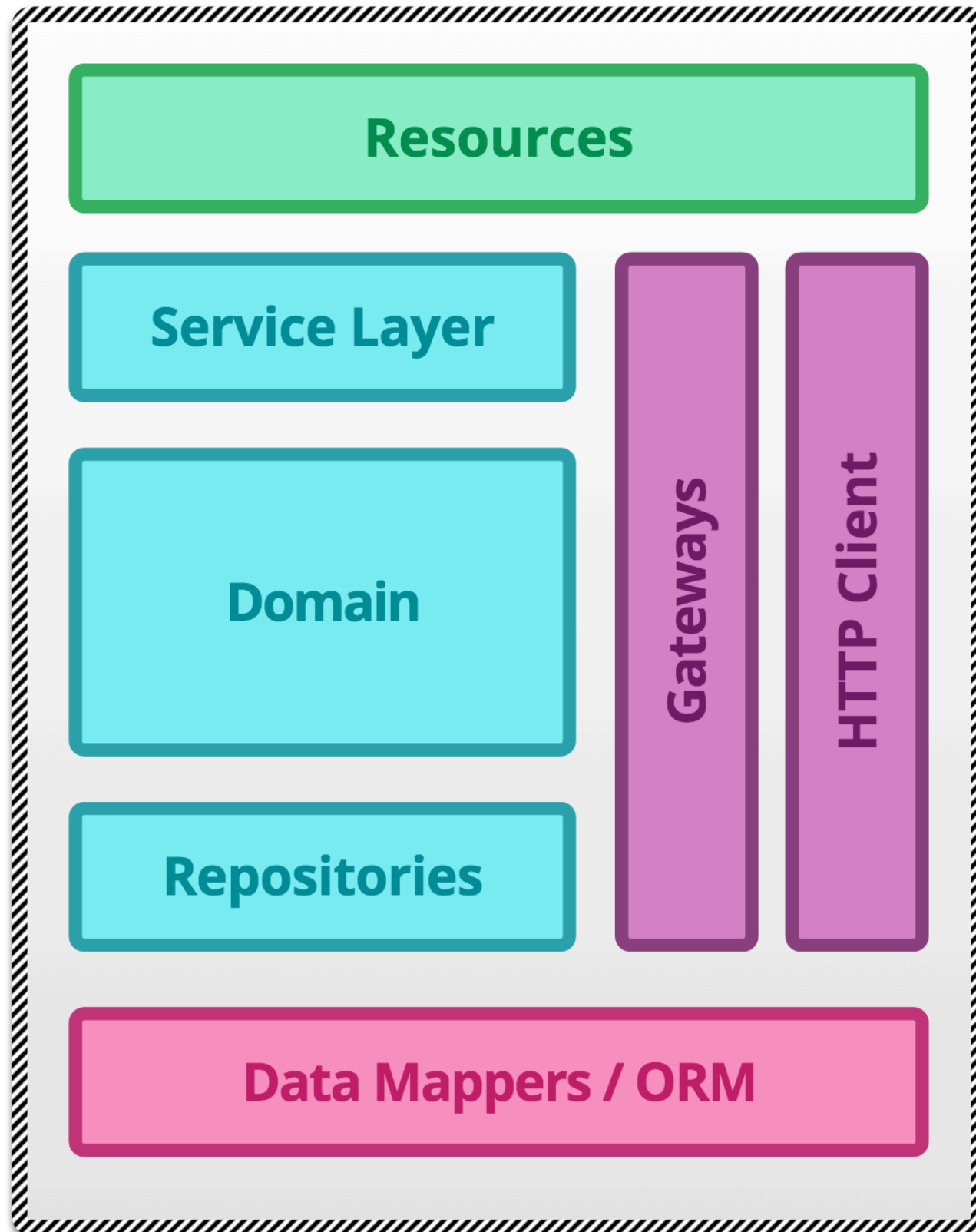
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# 大纲

- 解剖微服务
- 测试分类/策略

# 解剖微服务

# 微服务内部解剖



**Network Boundary**



**Protocol**



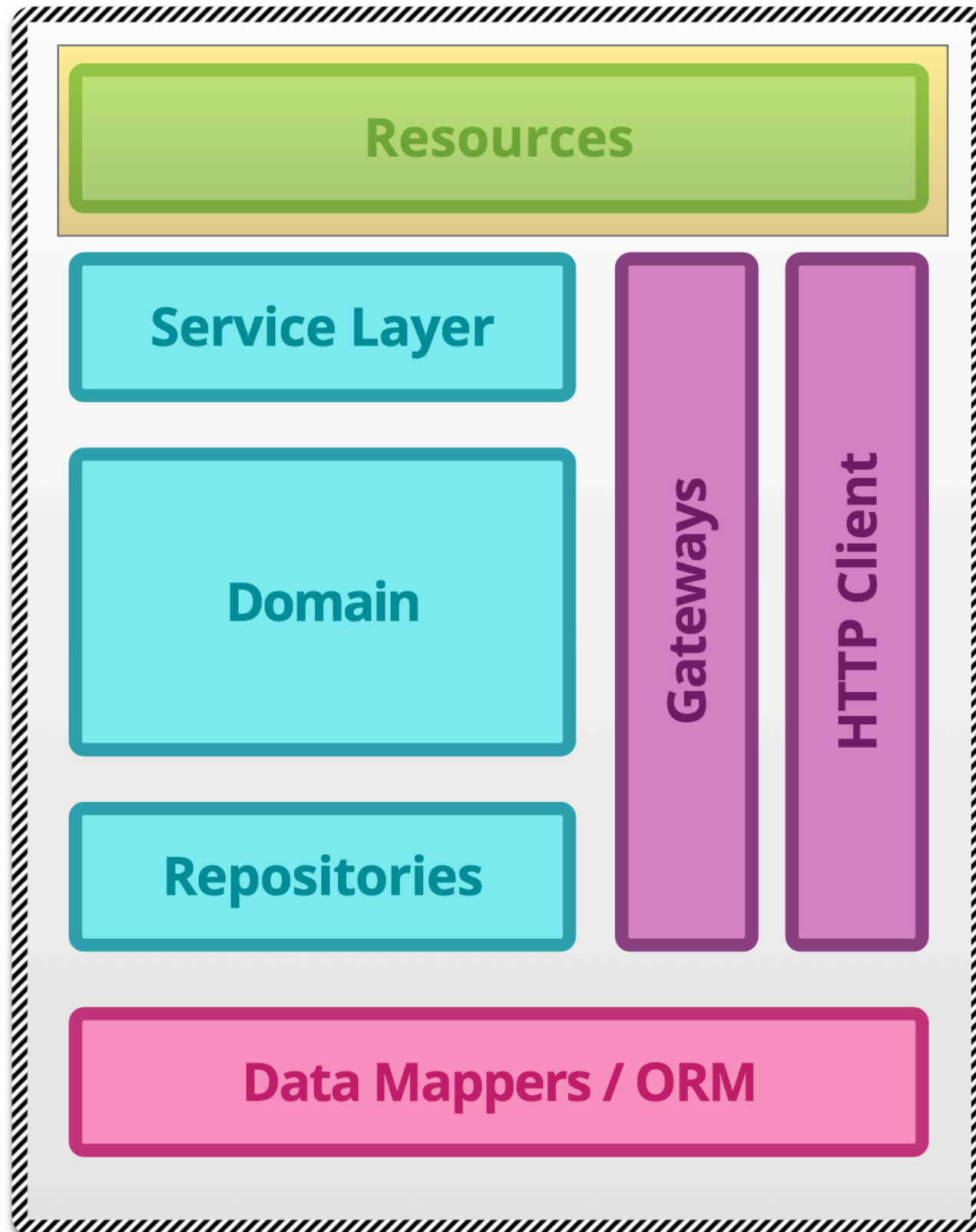
**Domain**



**External**



**Persistence**



**Network Boundary**



**Protocol**



**Domain**

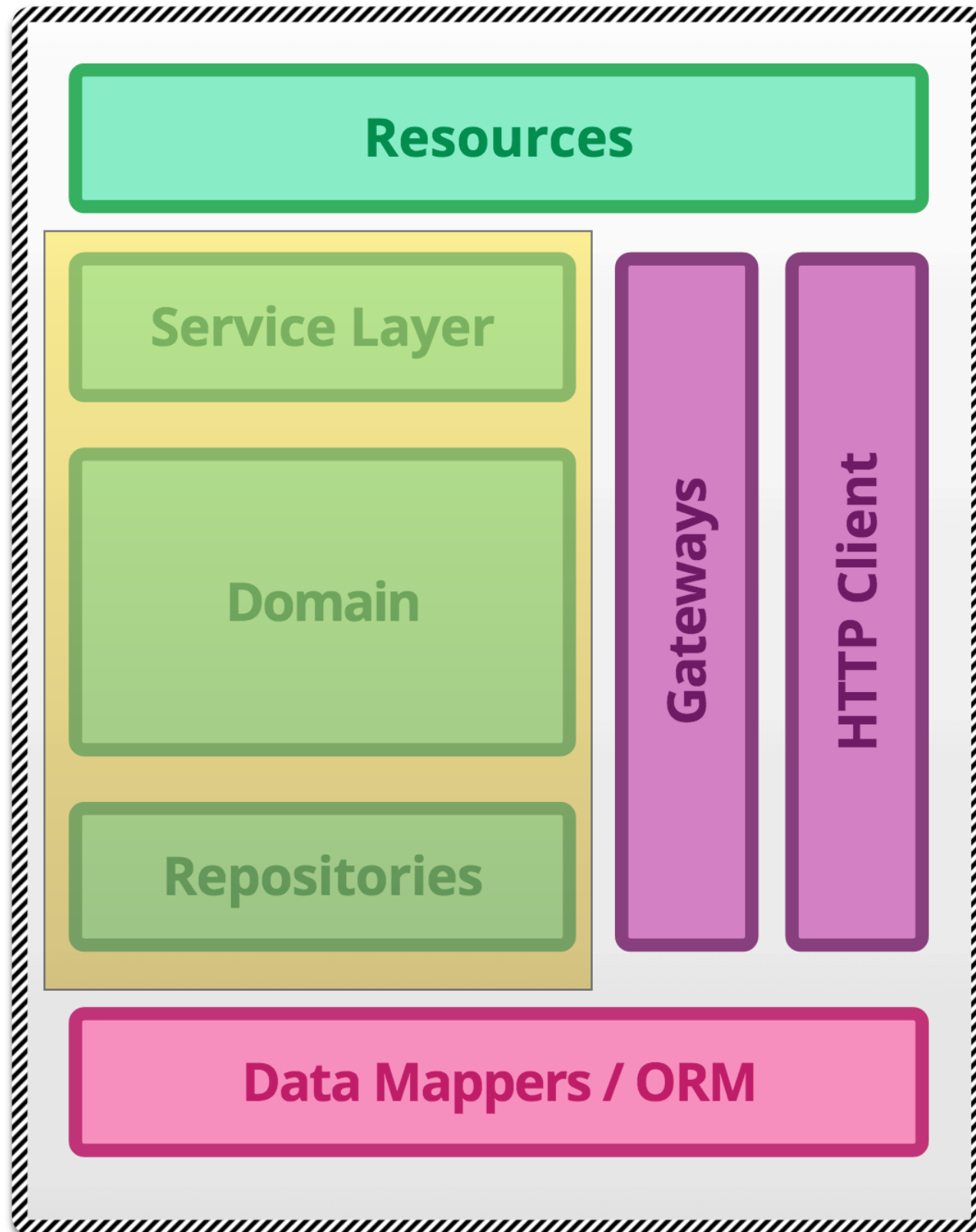


**External**



**Persistence**





**Network Boundary**



**Protocol**



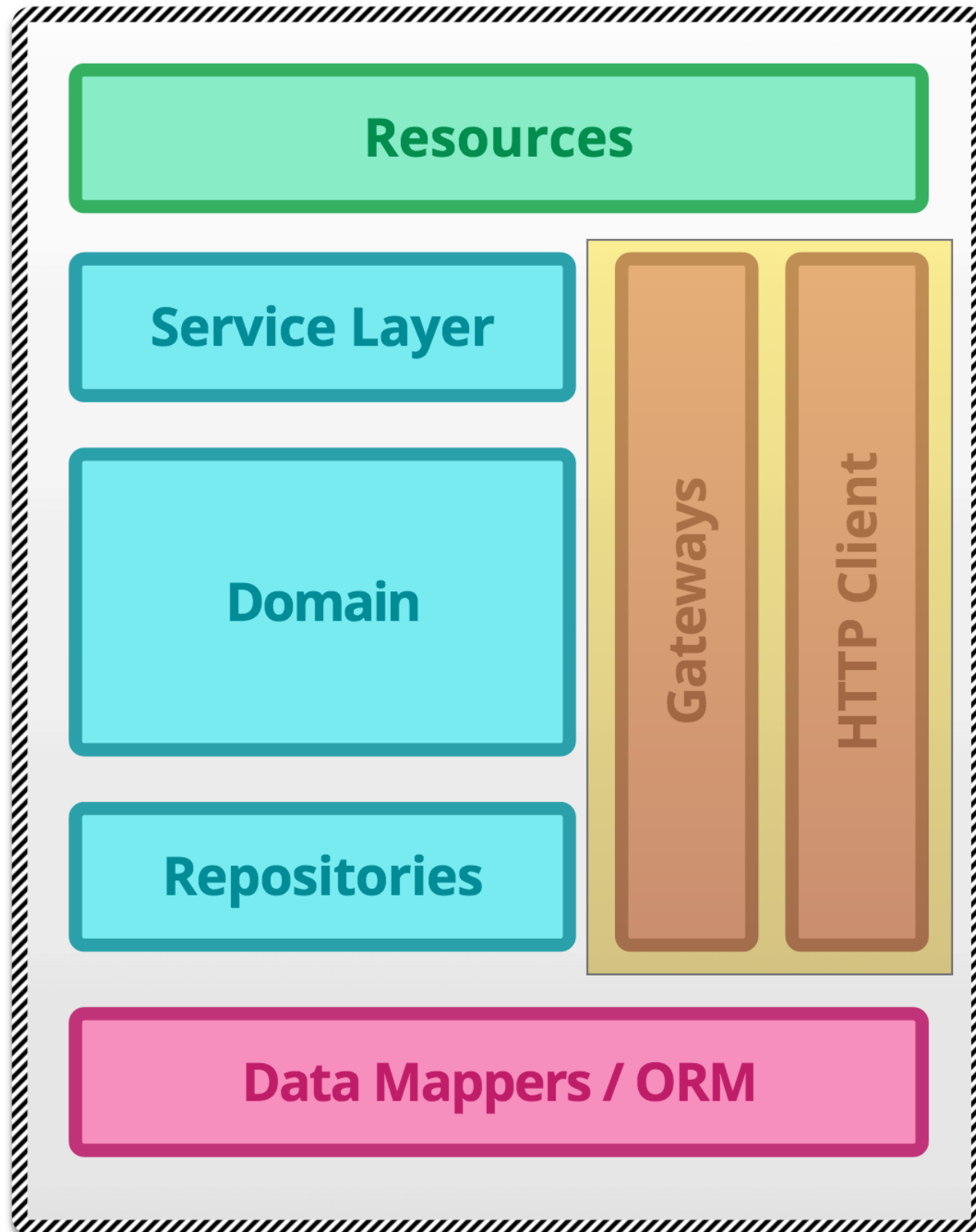
**Domain**



**External**



**Persistence**



**Network Boundary**



**Protocol**



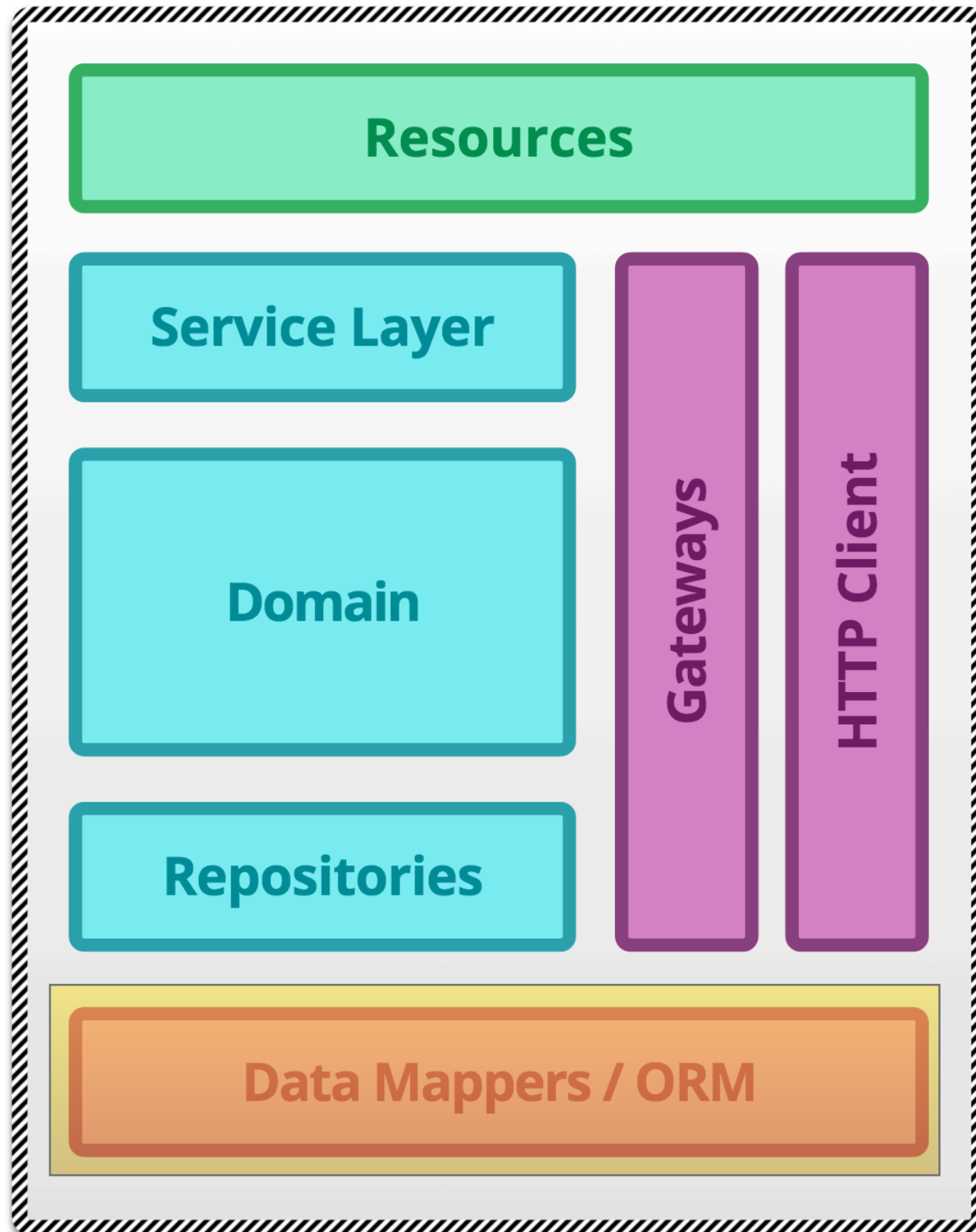
**Domain**



**External**



**Persistence**



Network Boundary



Protocol



Domain

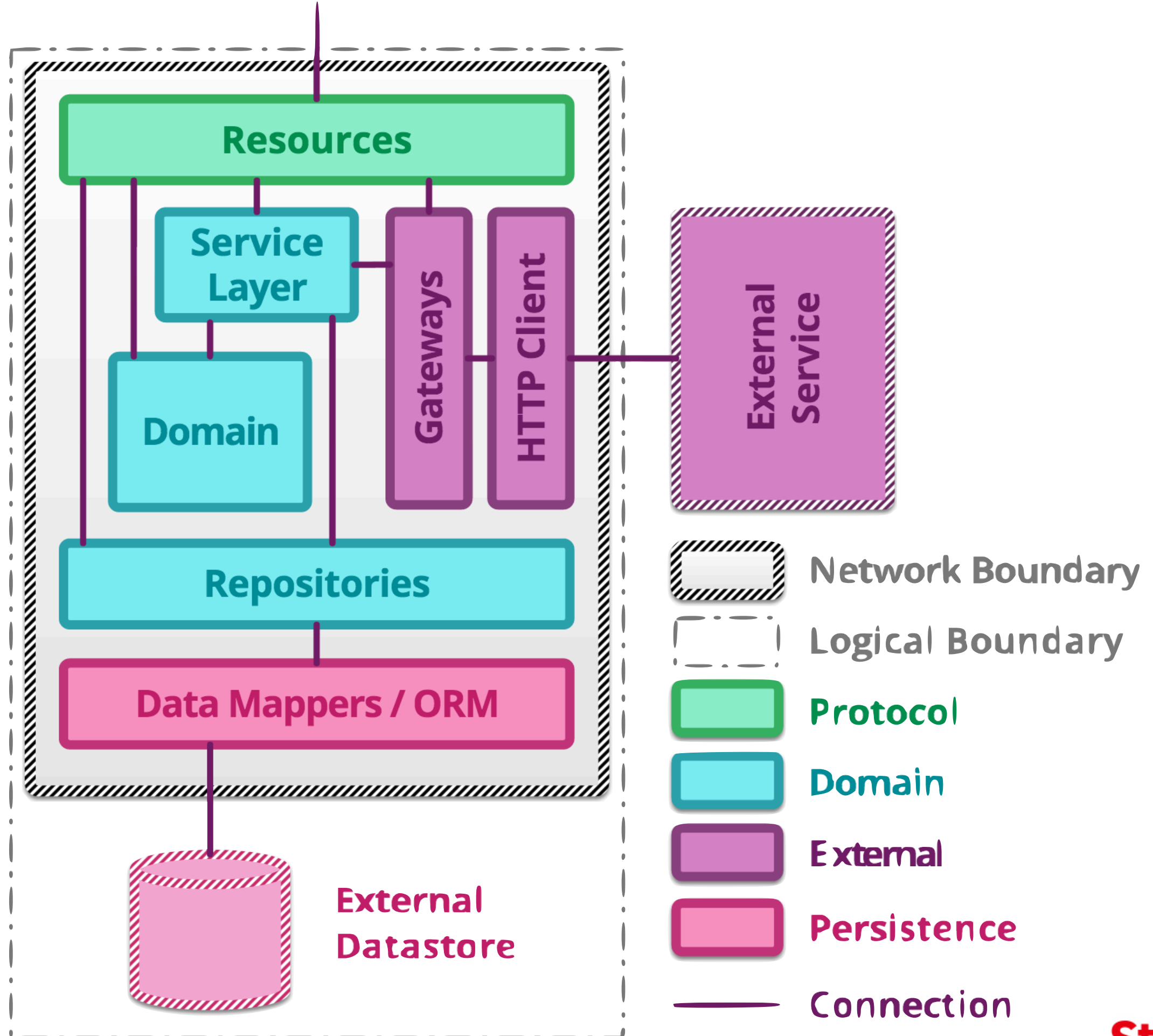


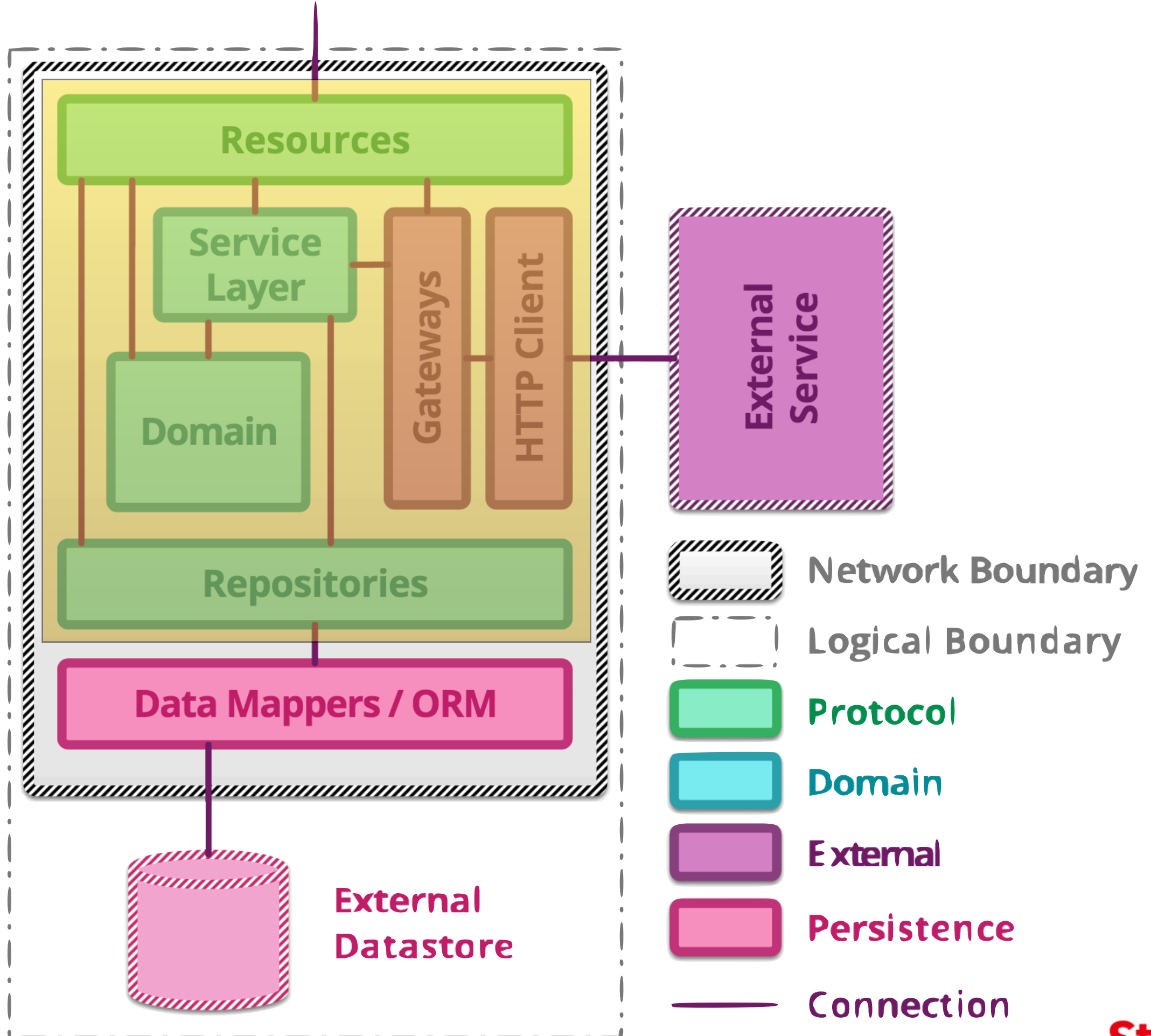
External

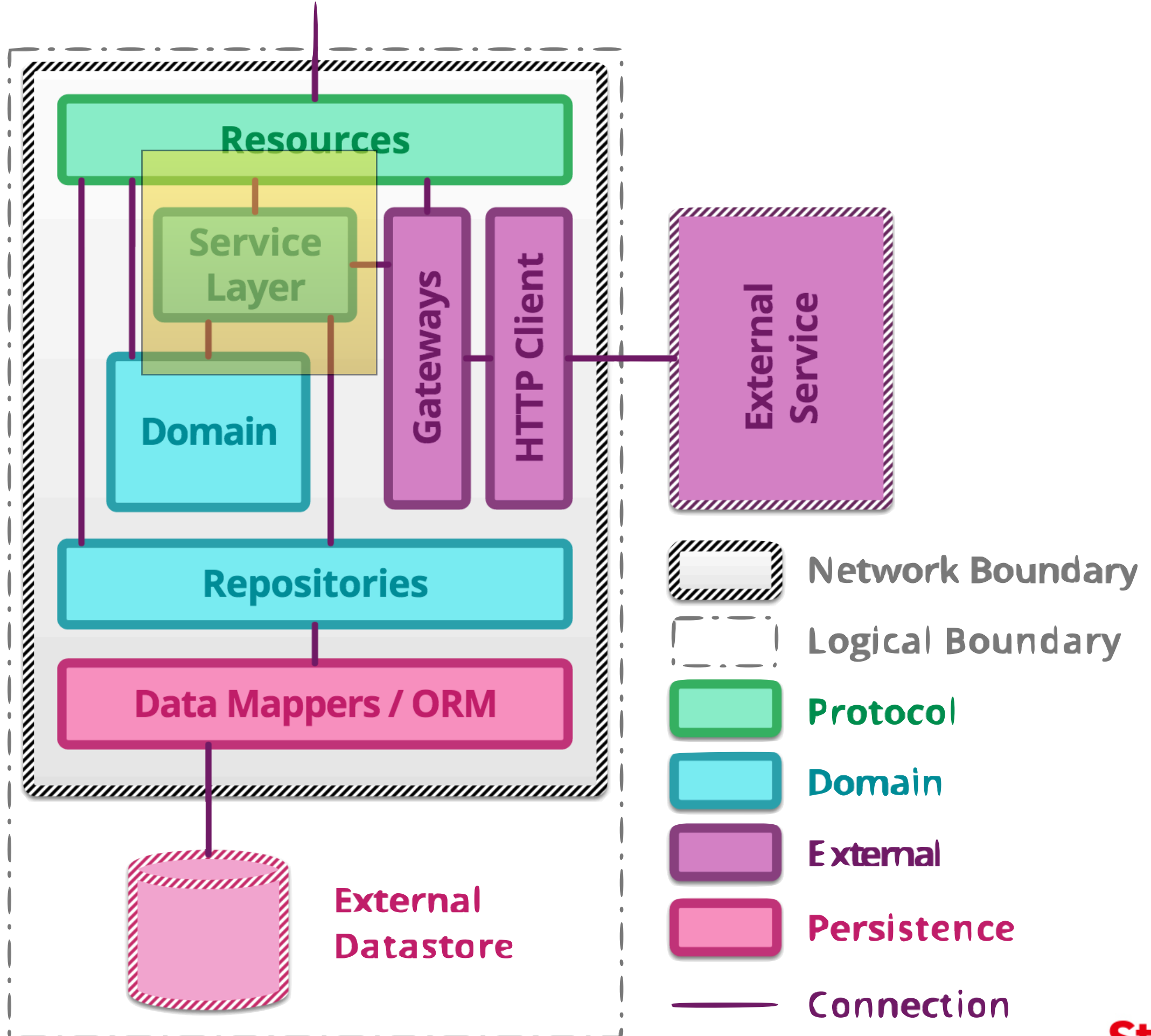


Persistence

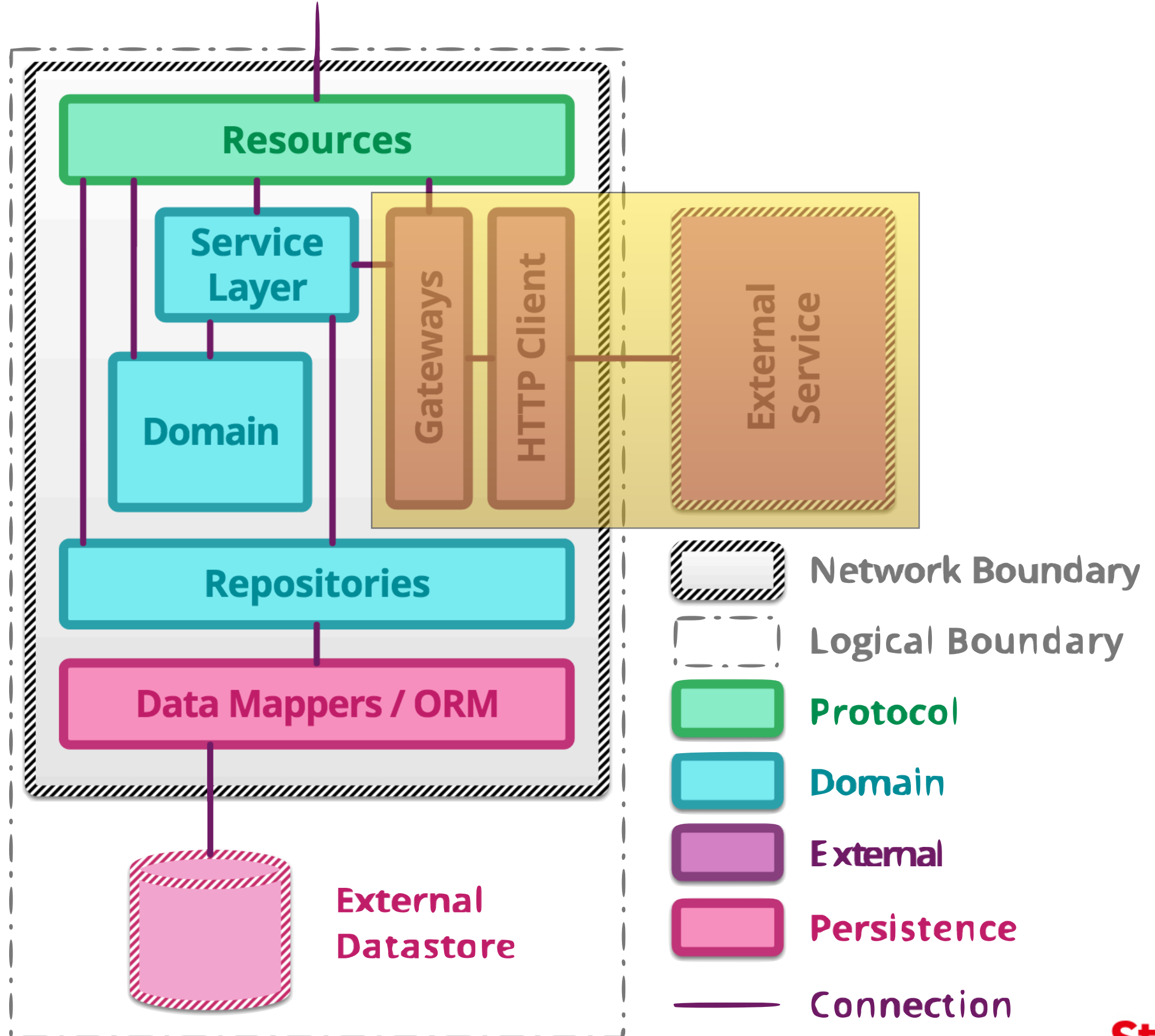
# 微服务与外部存储



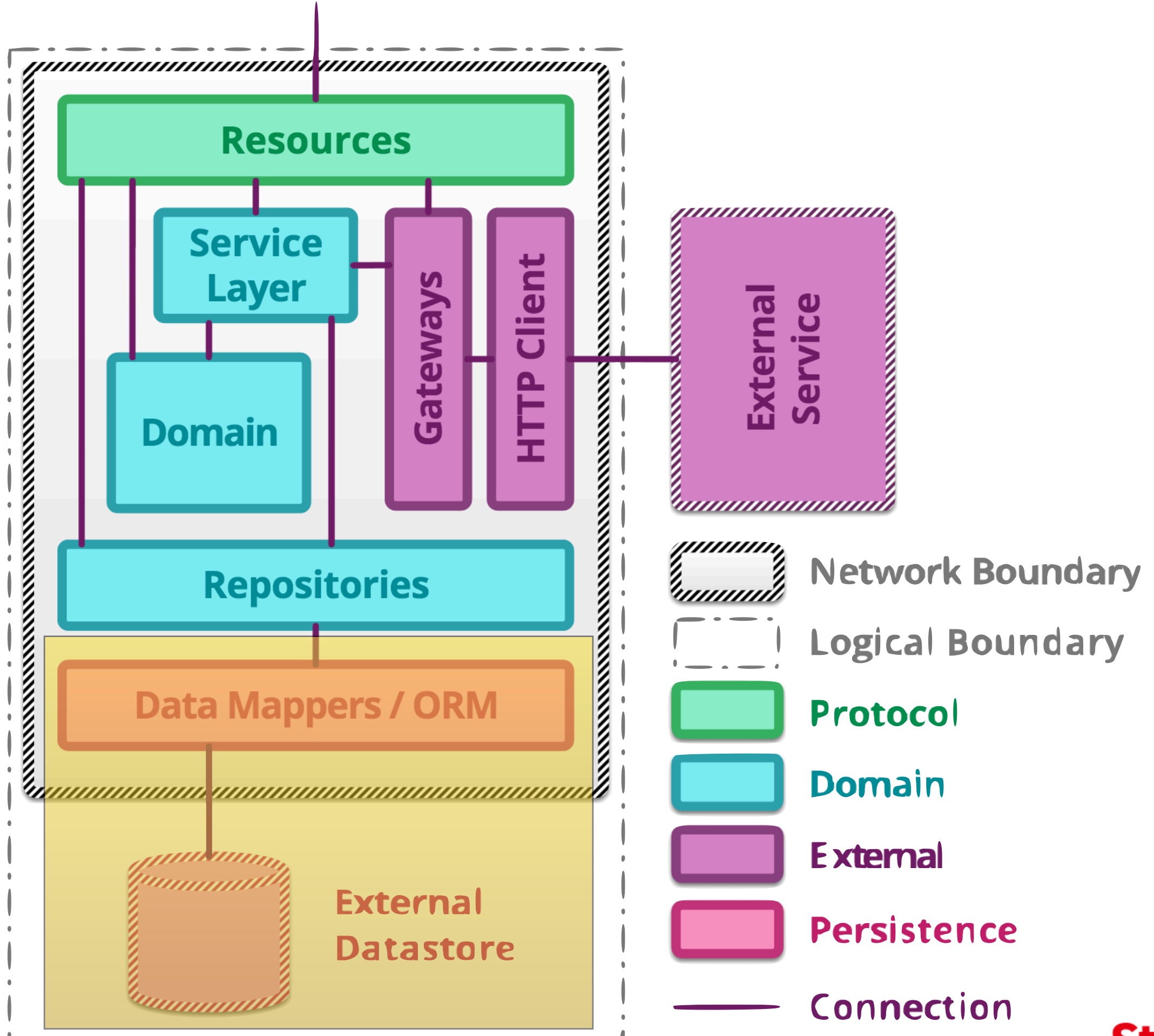


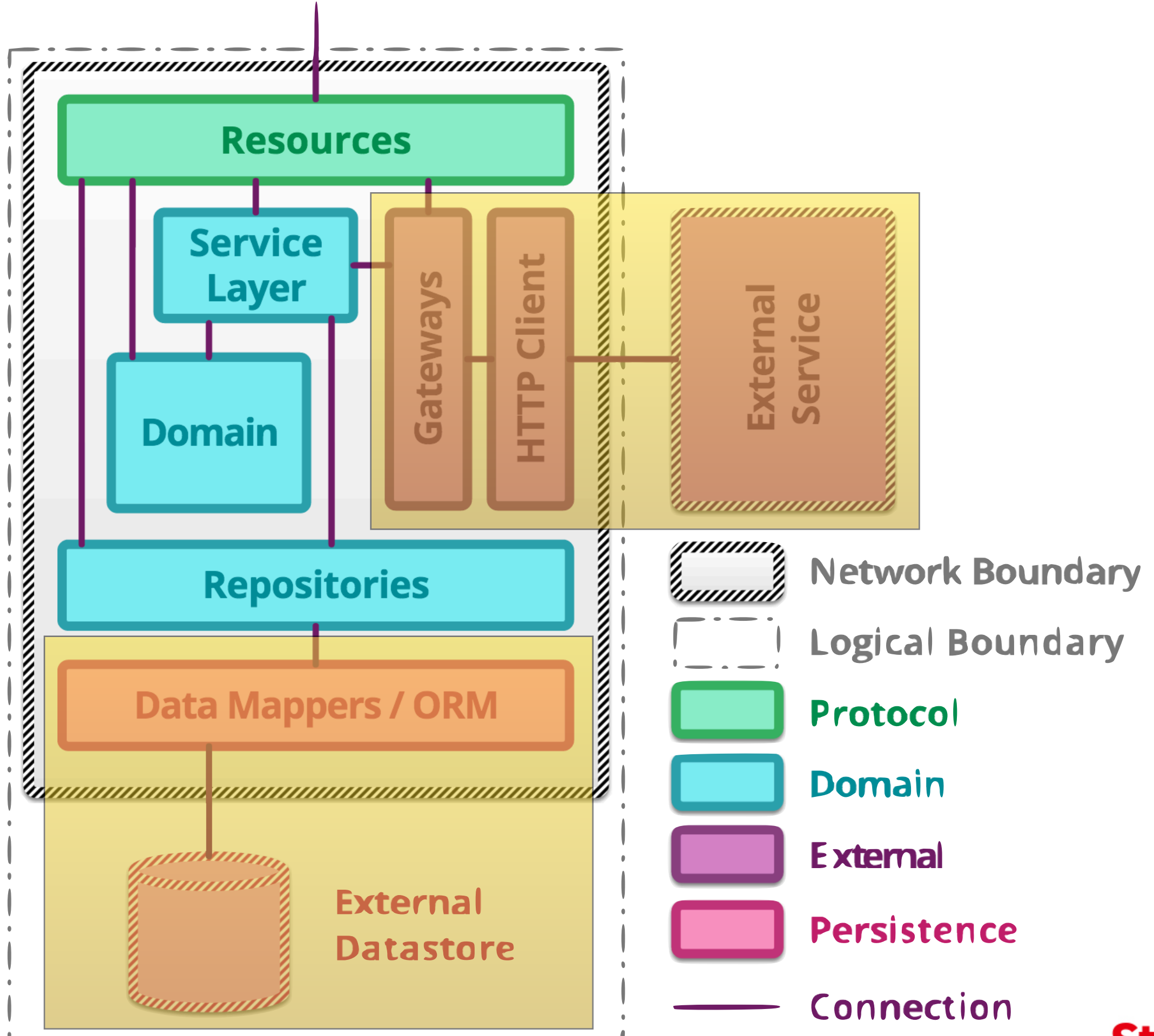




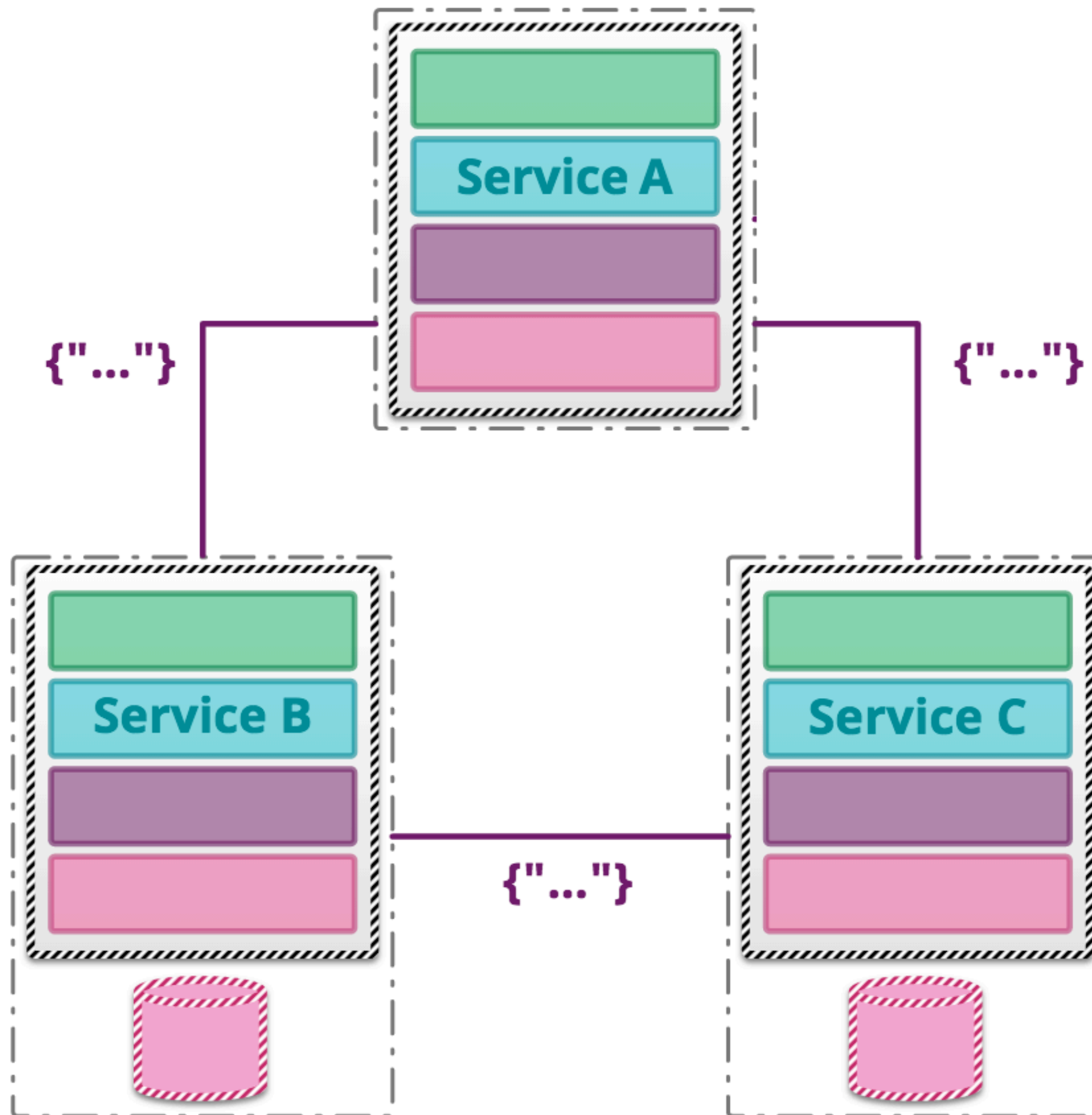


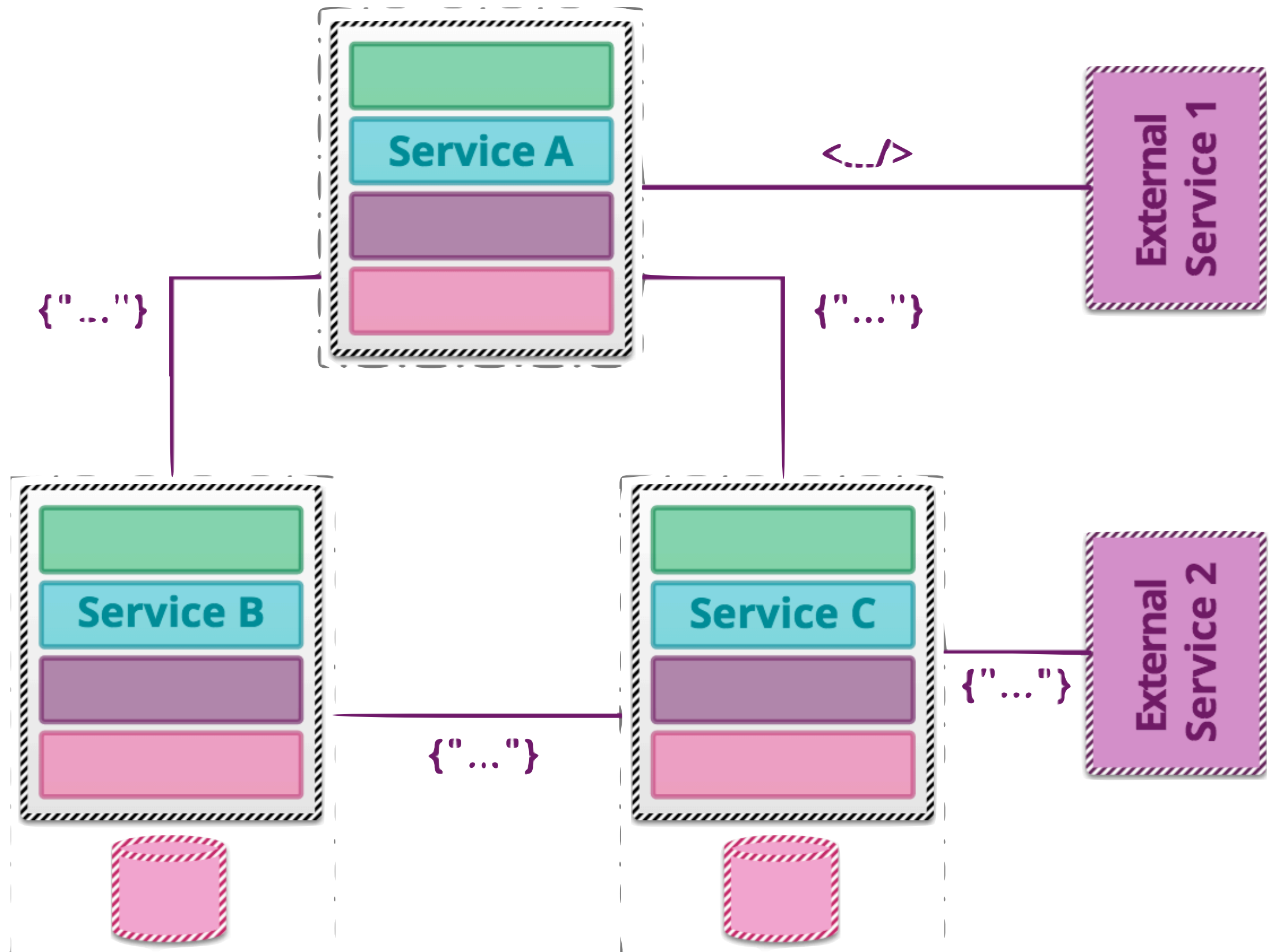






# 微服务间联系





# 测试分类/策略

# 测试金字塔



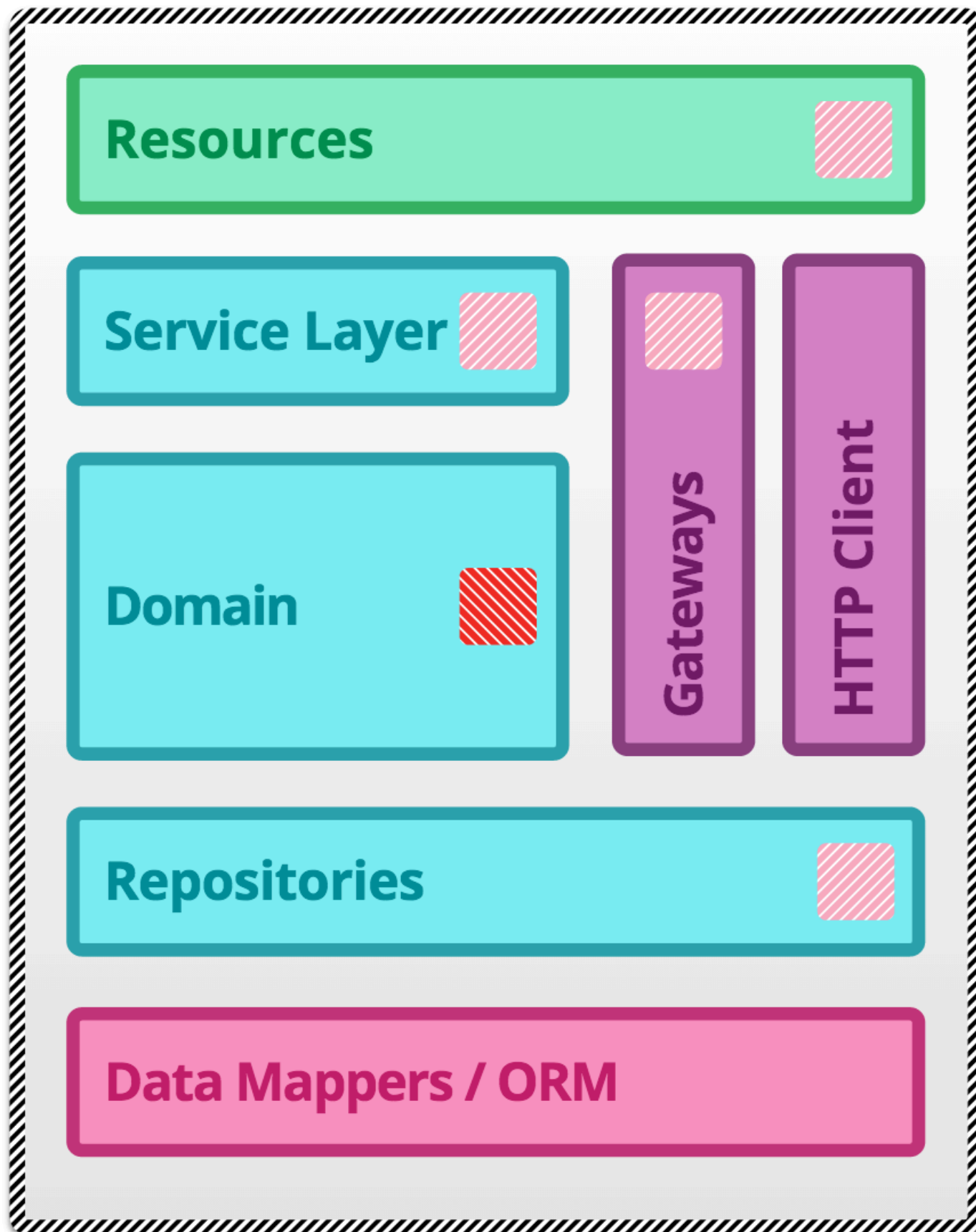
# 测试金字塔





# 单元测试 Unit Testing

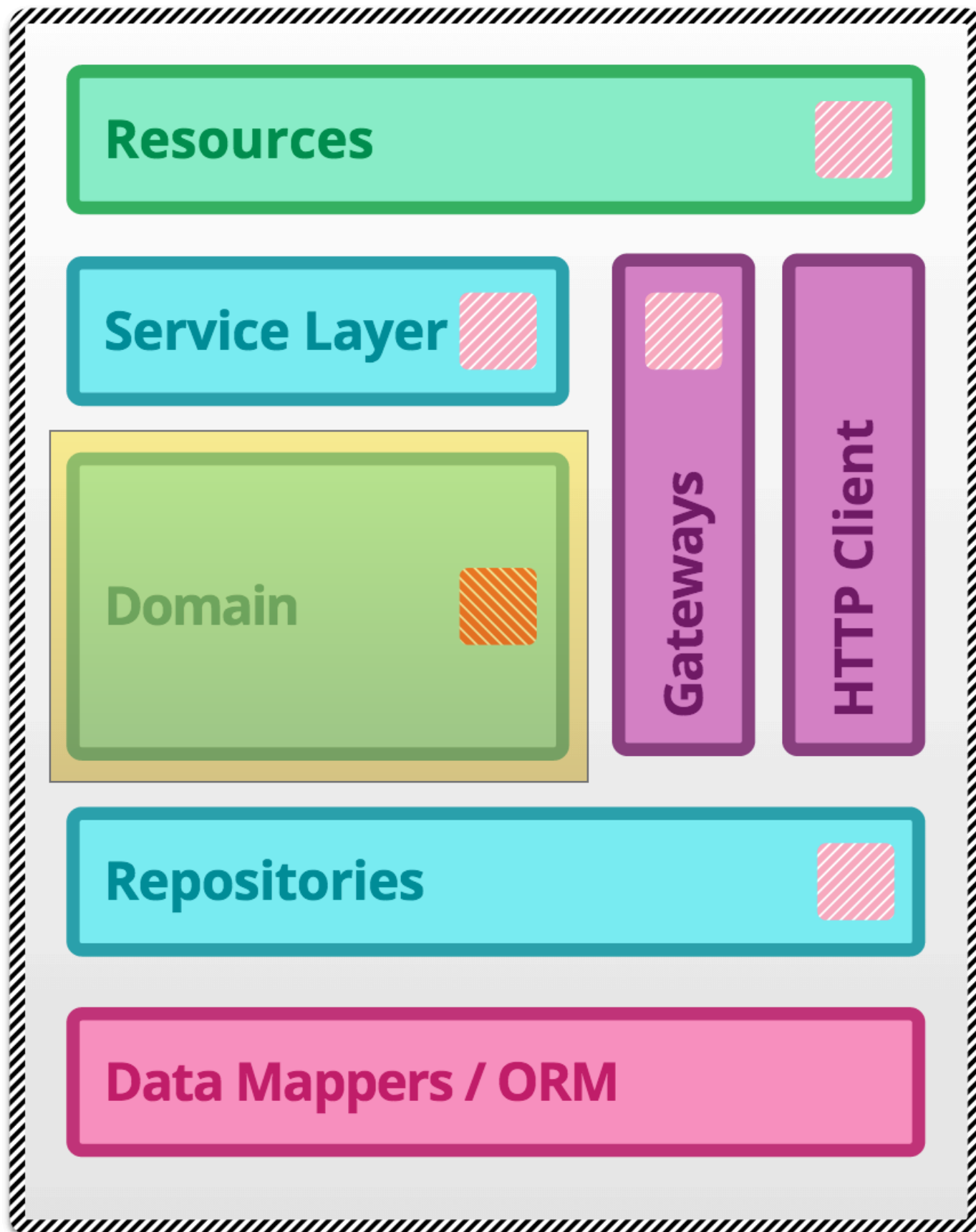
- 又称为模块测试
- 针对程序模块来进行正确性检验的测试工作
- 程序单元是应用的最小可测试部件
- 协作型 Sociable、孤立型 Solitary
- 范围局限在服务内部



**Unit - Solitary**



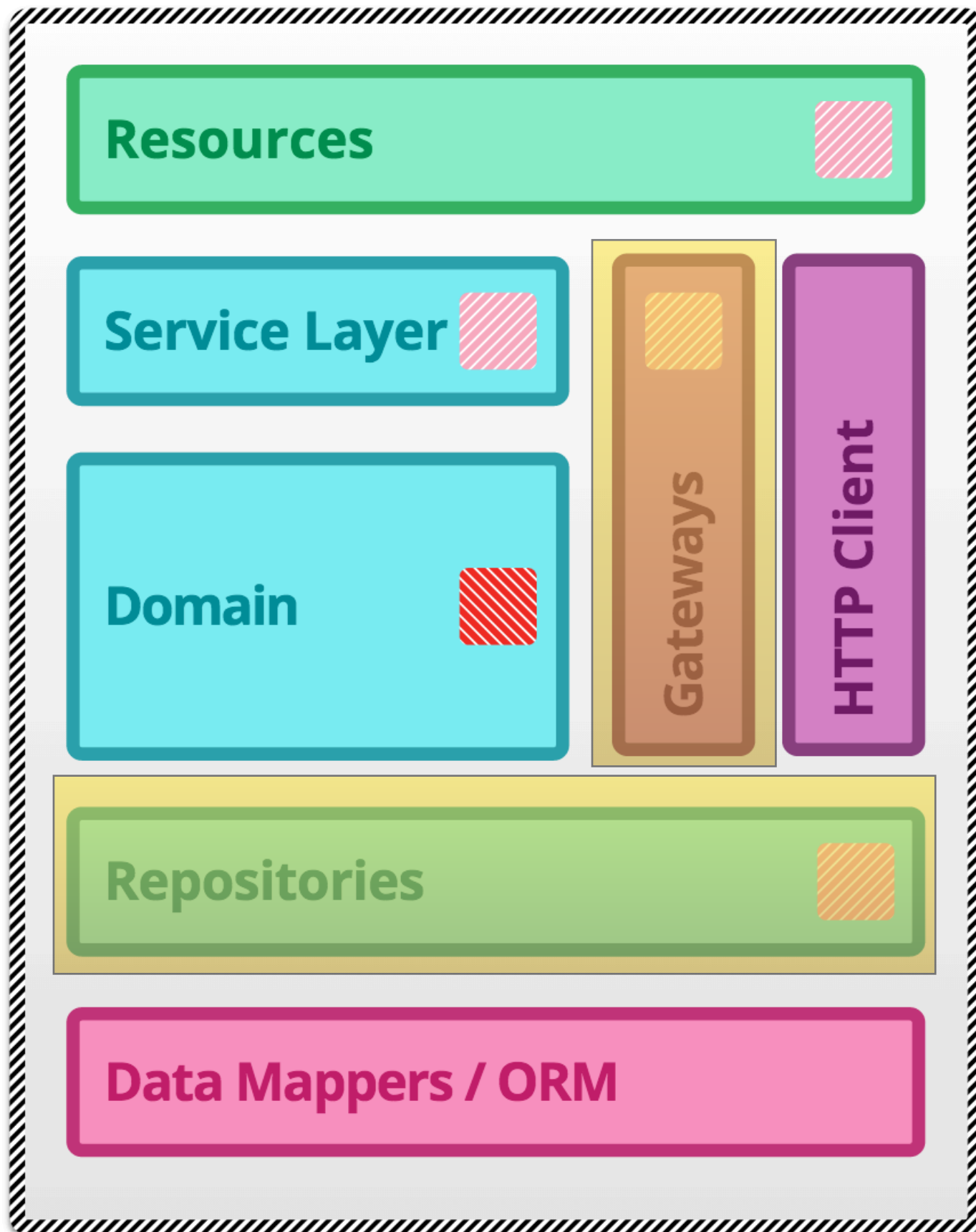
**Unit - Sociable**



**Unit - Solitary**



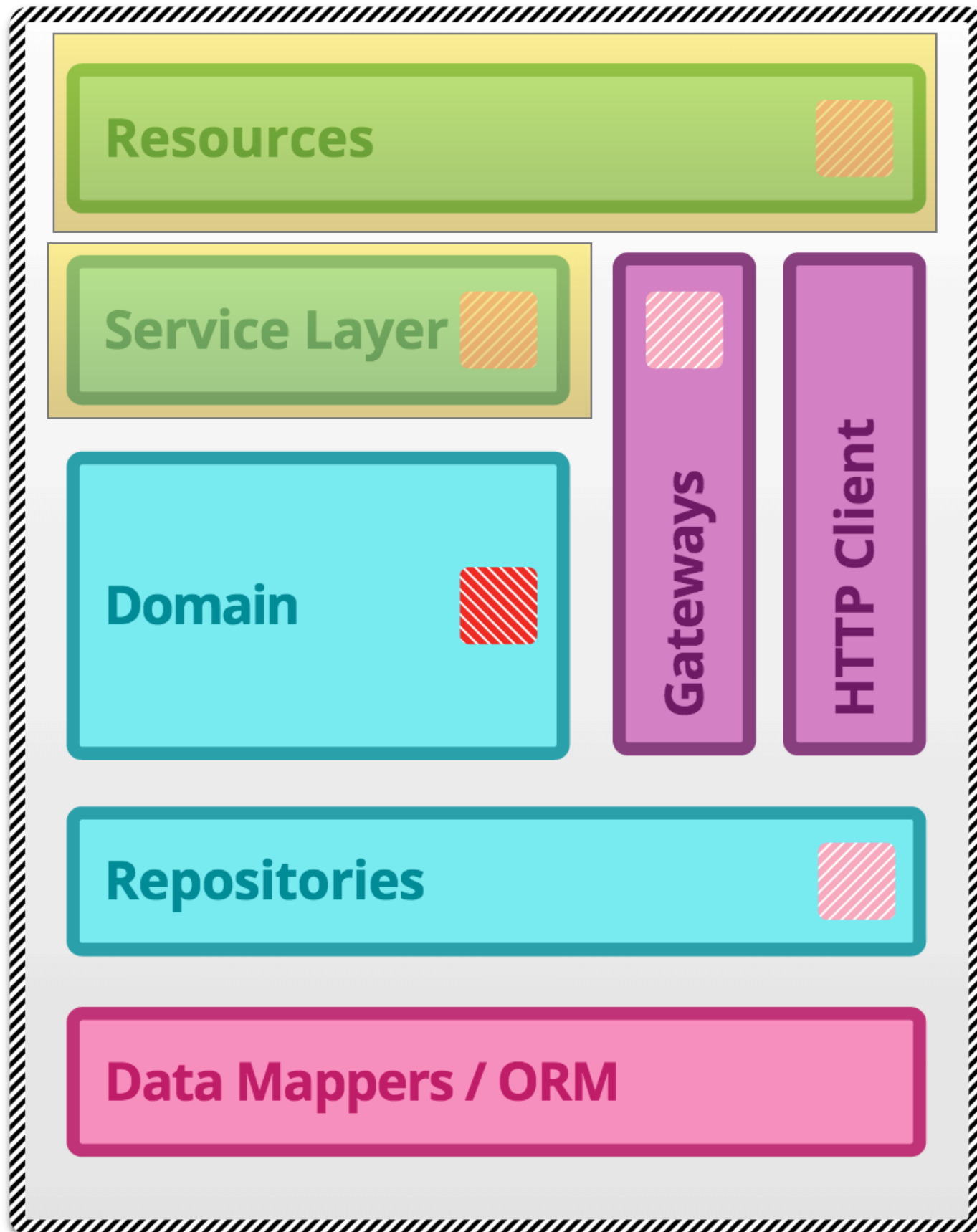
**Unit - Sociable**



**Unit - Solitary**



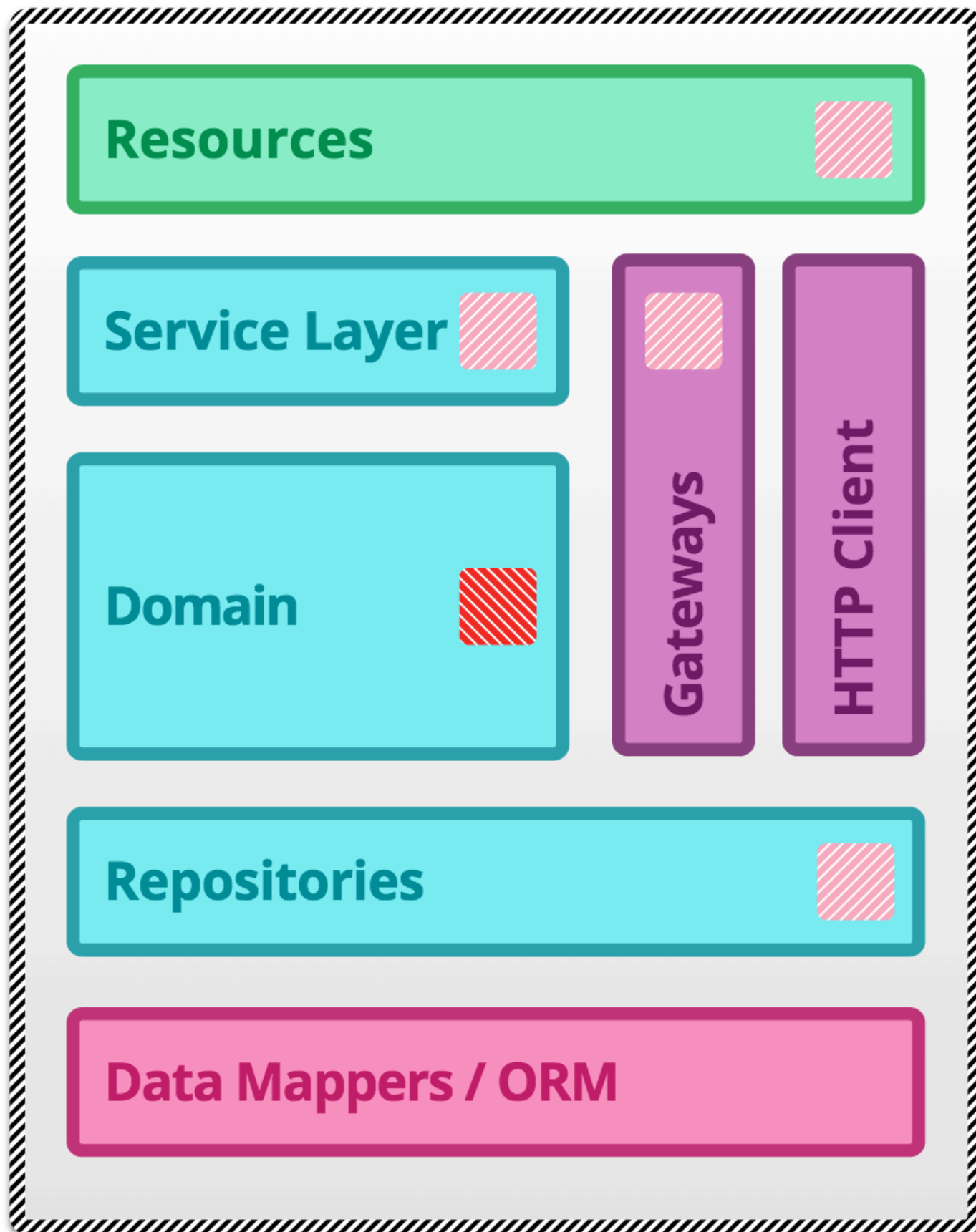
**Unit - Sociable**



**Unit - Solitary**



**Unit - Sociable**

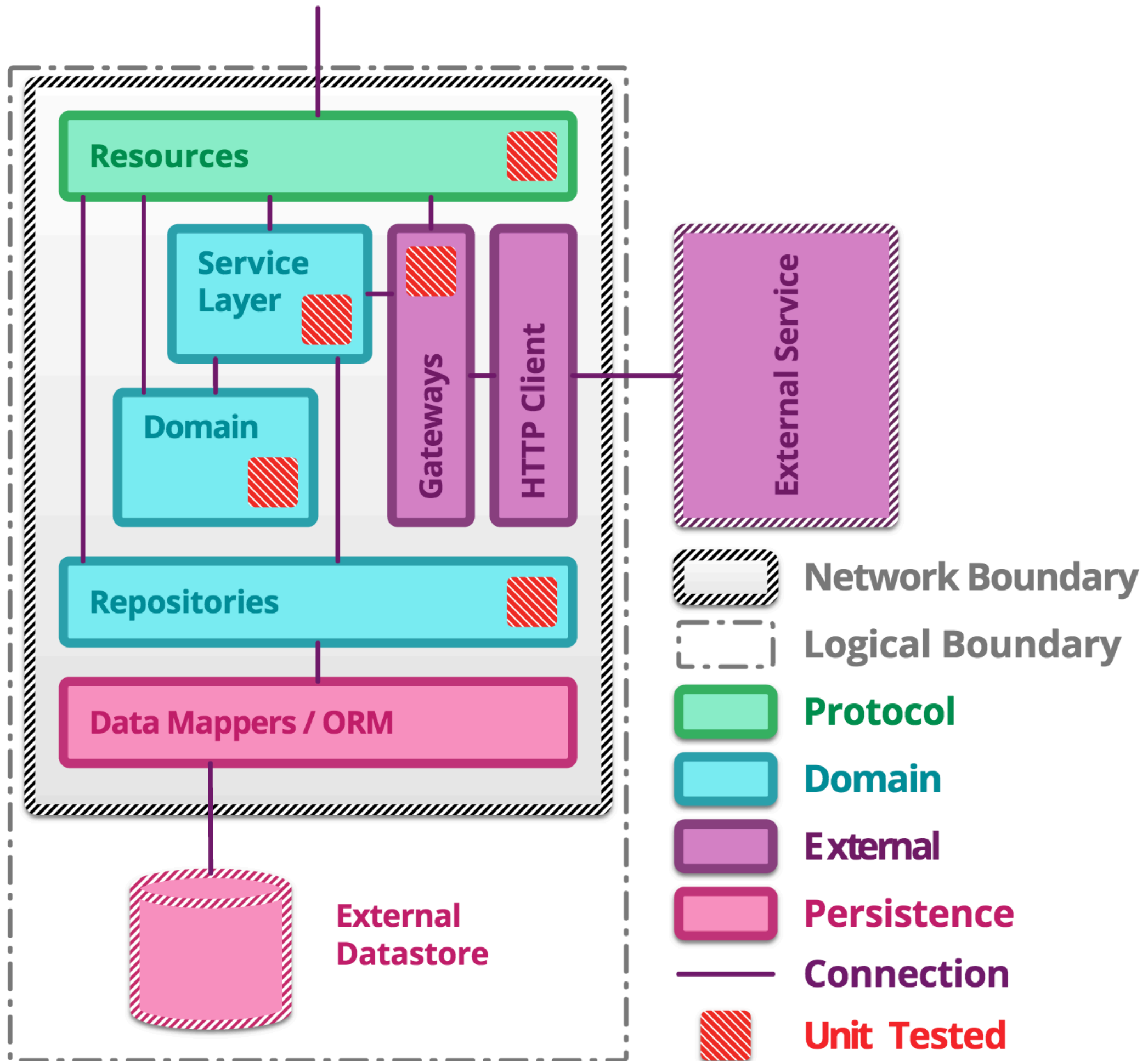


**Unit - Solitary**



**Unit - Sociable**





# 测试工具/框架

- JUnit
- TestNG
- AssertJ
- Mockito

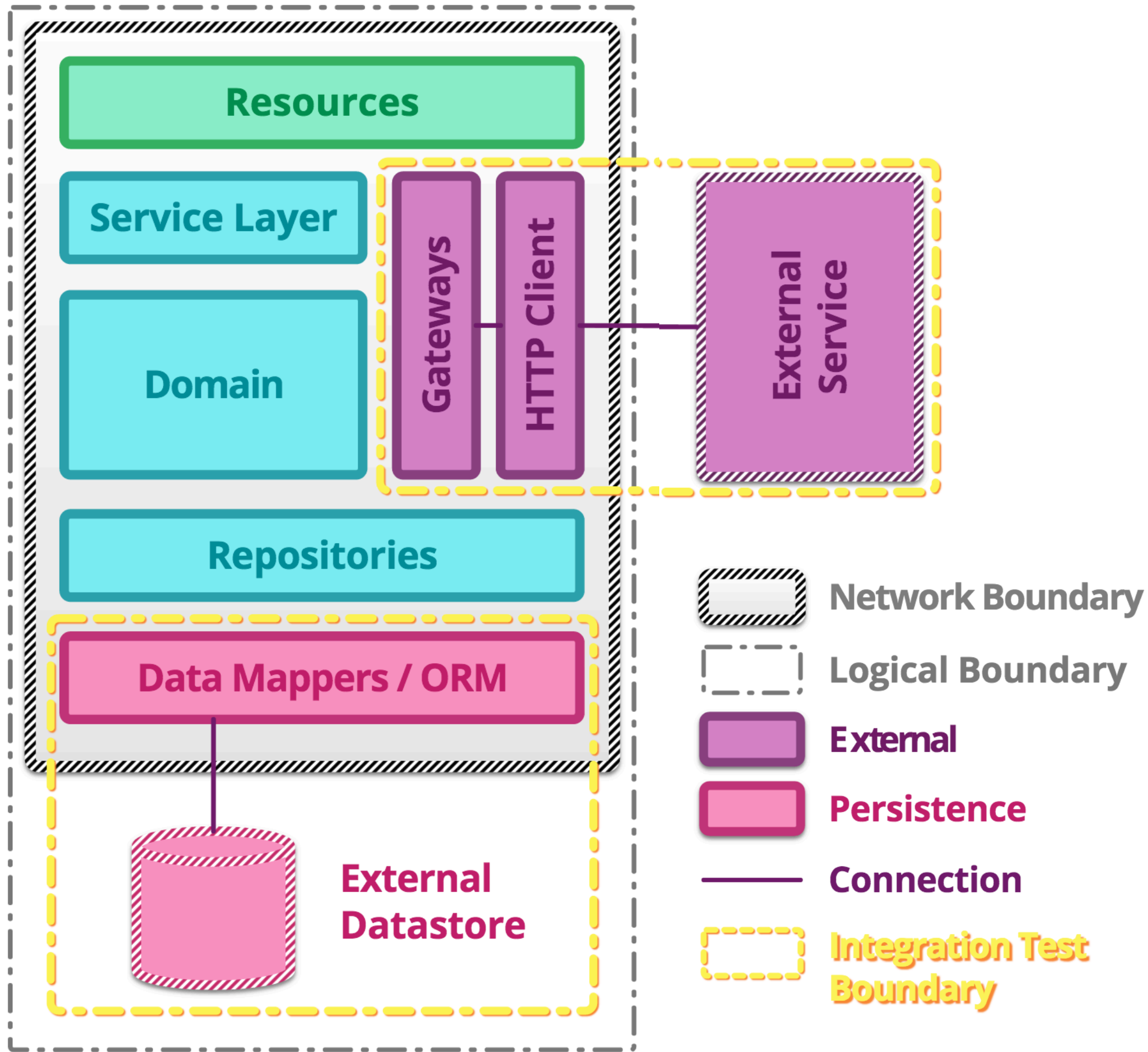


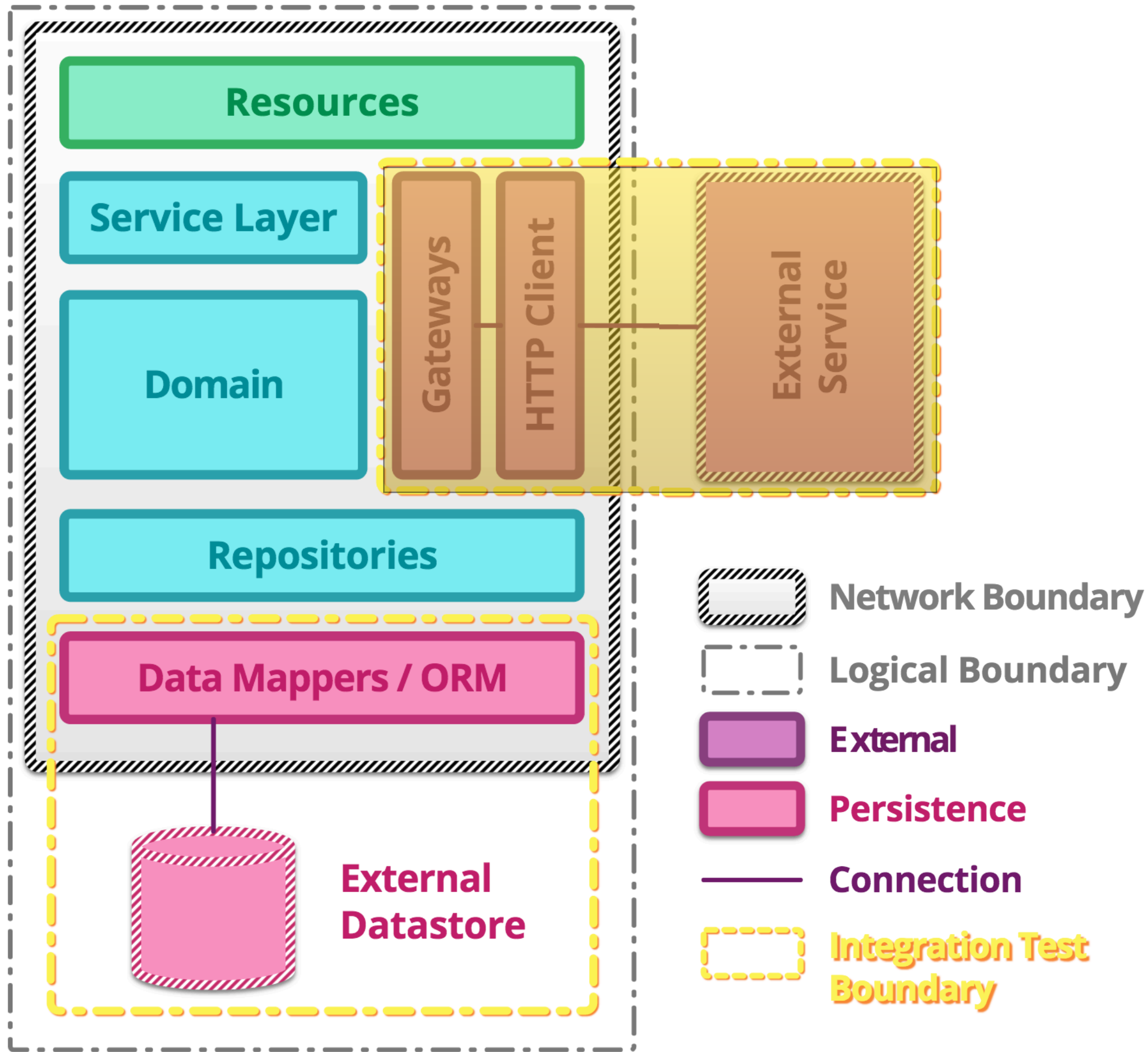
# 测试替代 Test Doubles

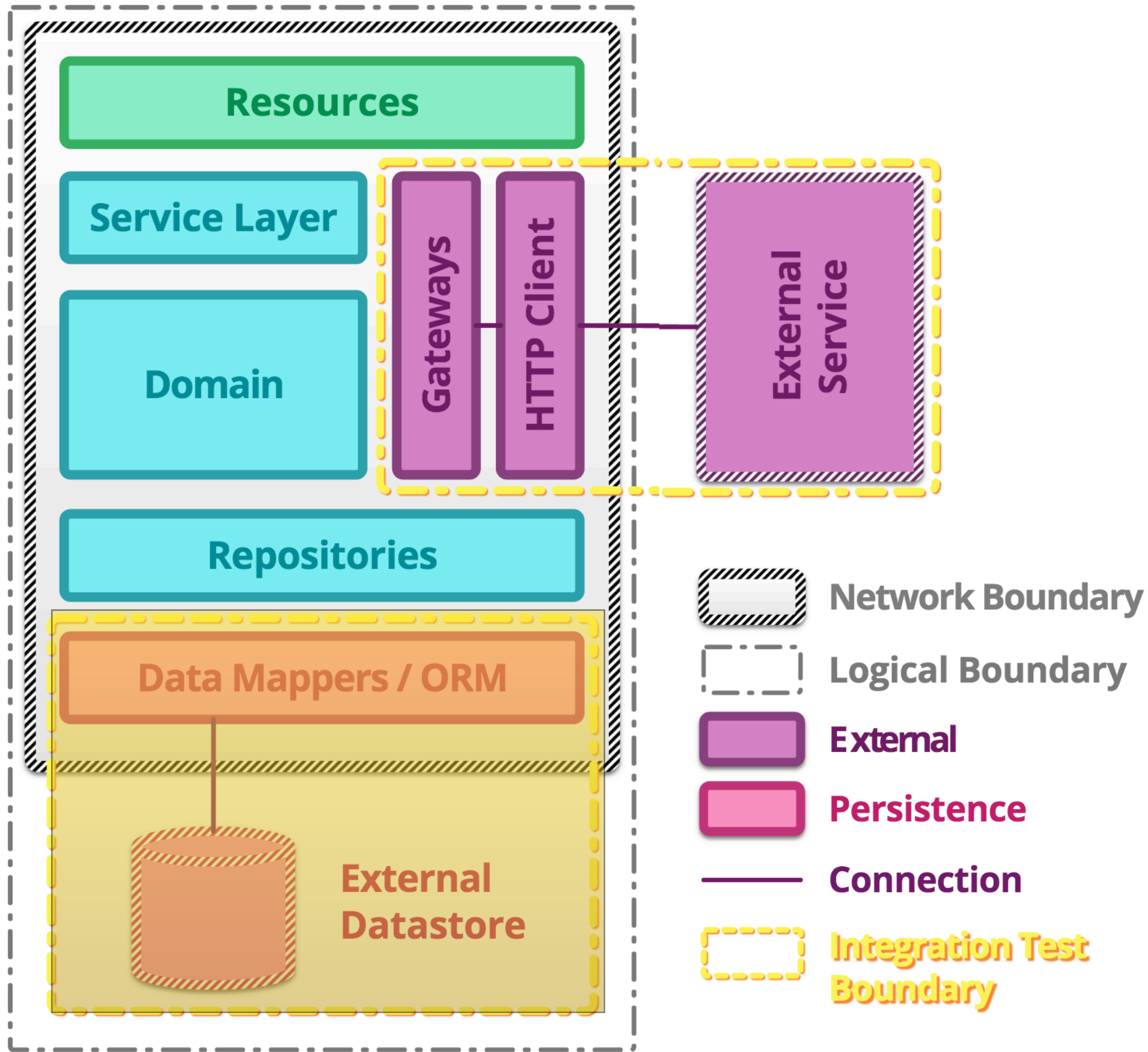
- Dummy
- Fake
- Stubs
- Mocks

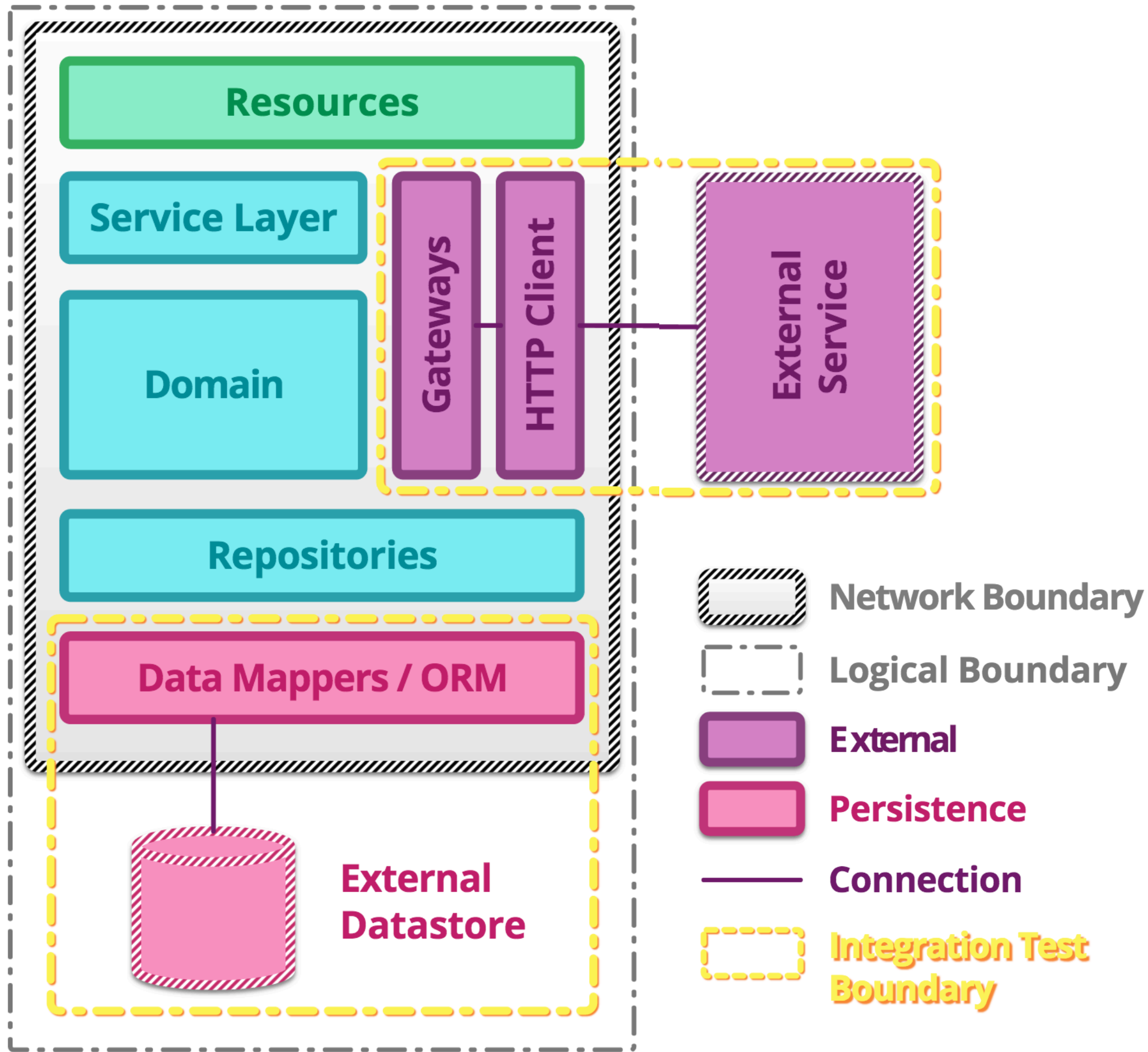
# 集成测试 Integration Testing

通过验证通信路径和组件之间的交互以检  
测接口缺陷

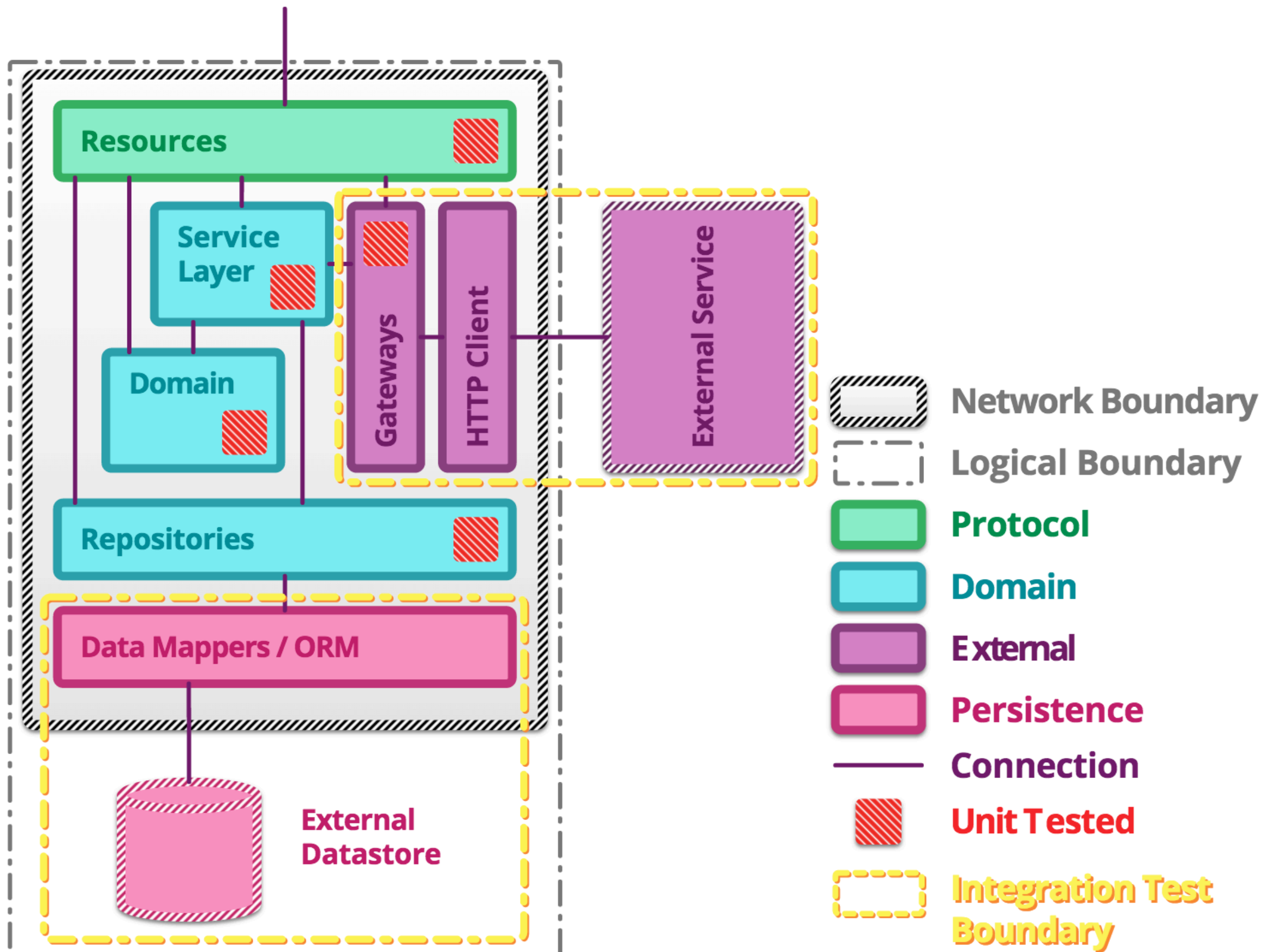












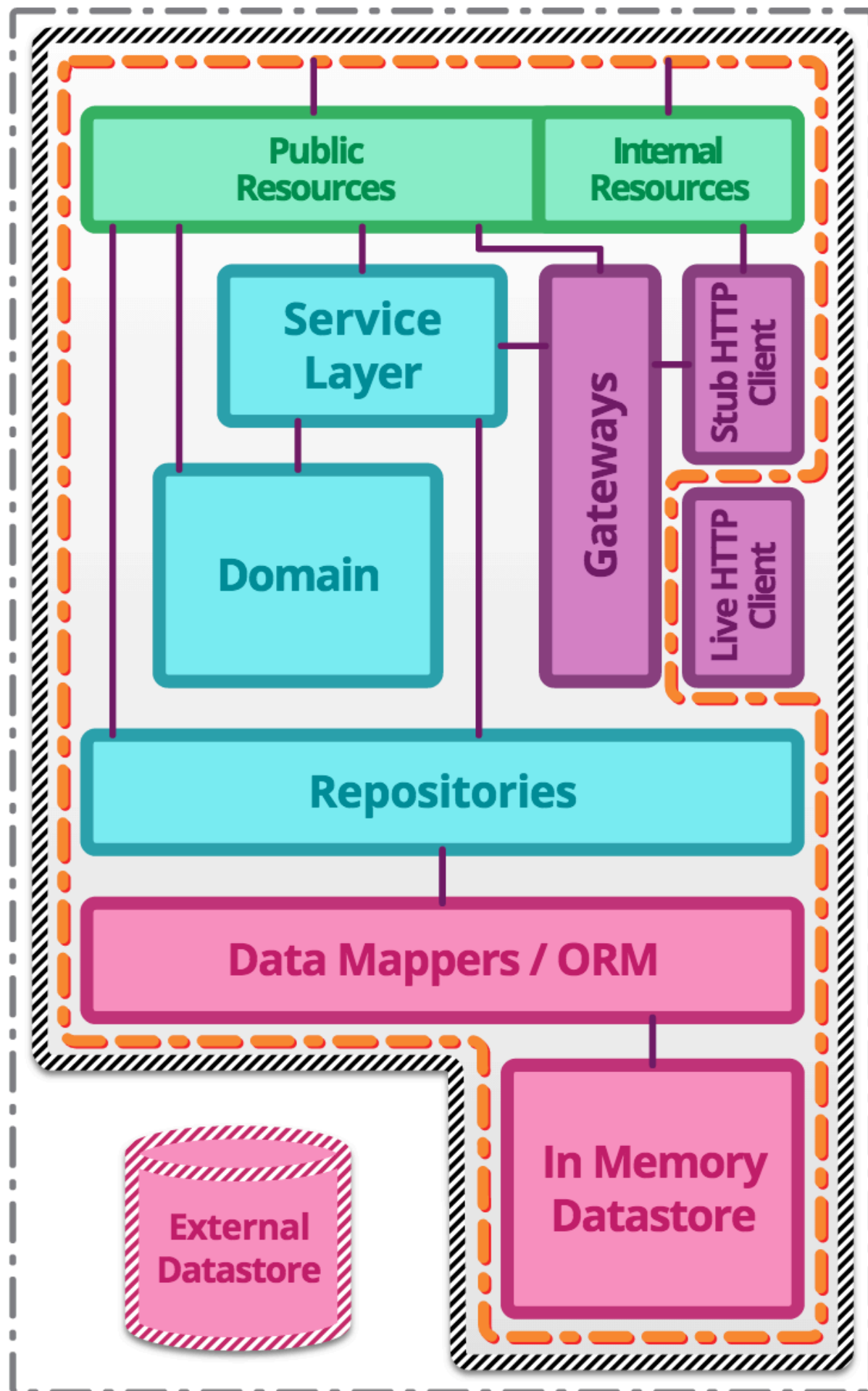


# 测试工具/框架

- WireMock
- mountebank
- Arquillian

# 组件测试 Component Testing

# 贯穿应用层和领域层的测试



**Protocol**



**Domain**



**Network Boundary**



**Logical Boundary**



**External**



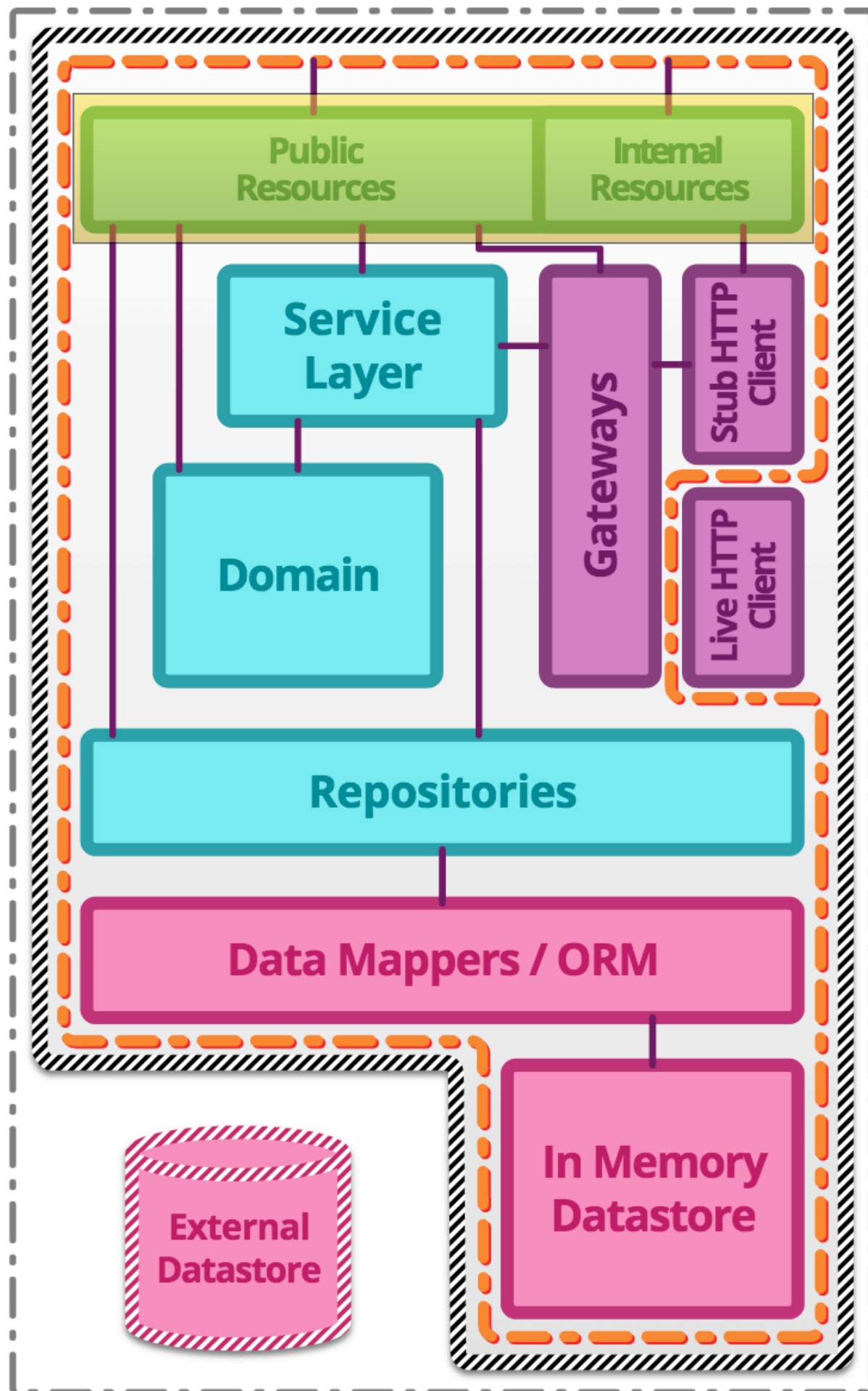
**Persistence**



**Communication**



**Component Boundary**



**Protocol**



**Domain**



**Network Boundary**



**Logical Boundary**



**External**



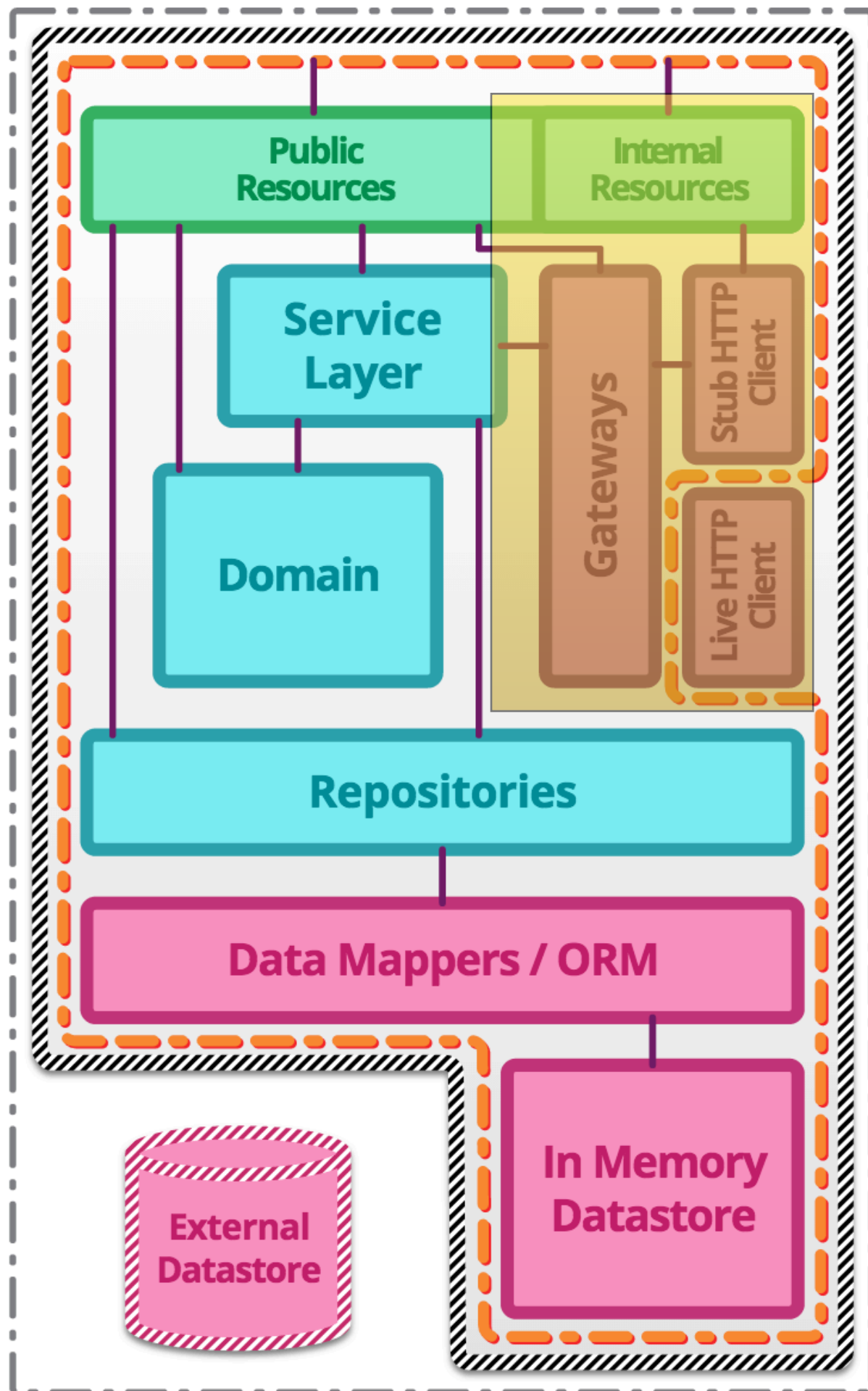
**Persistence**



**Communication**



**Component Boundary**



Protocol



Domain



Network Boundary



Logical Boundary



External



Persistence

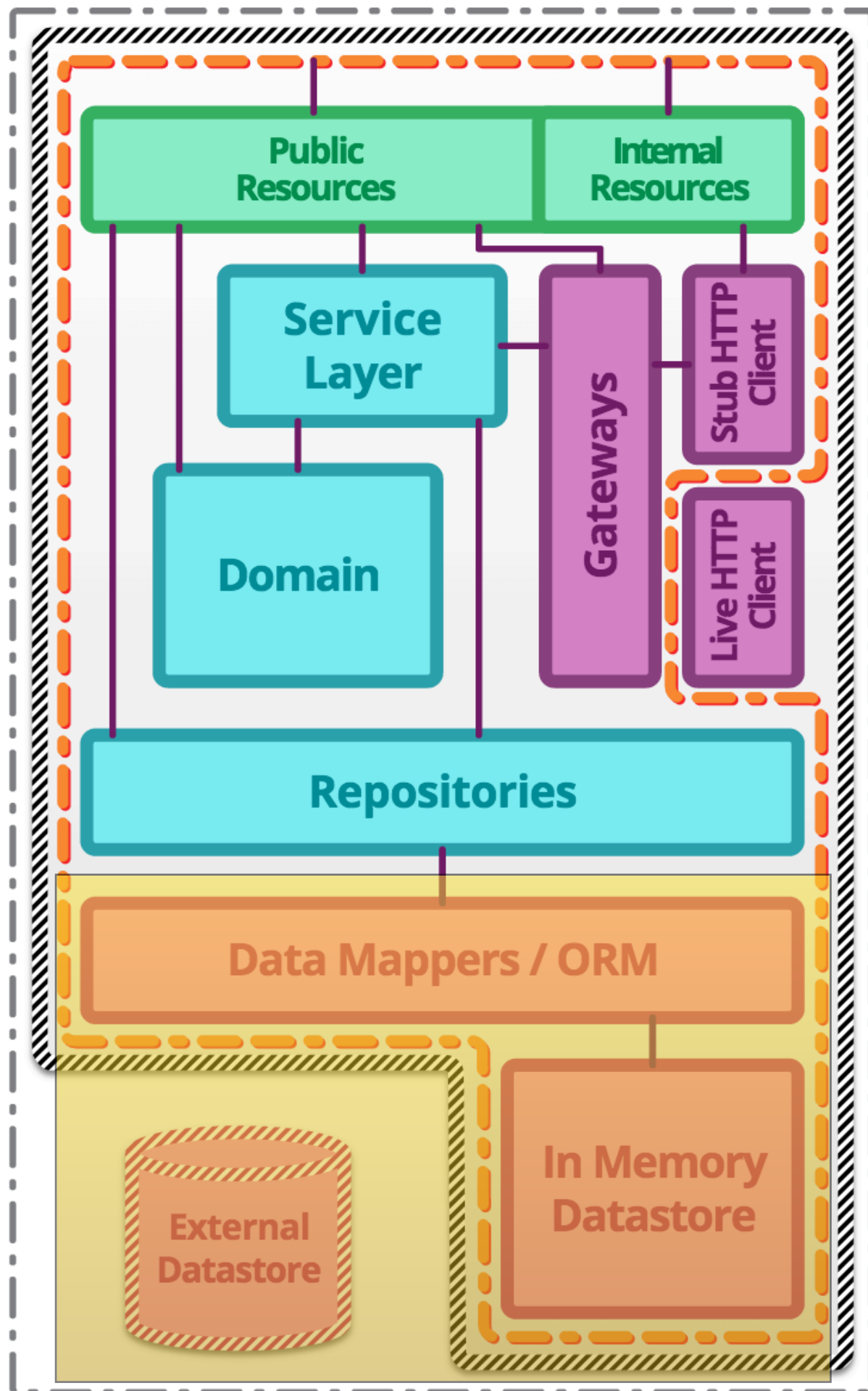


Communication



Component Boundary





Protocol



Domain



Network Boundary



Logical Boundary



External



Persistence



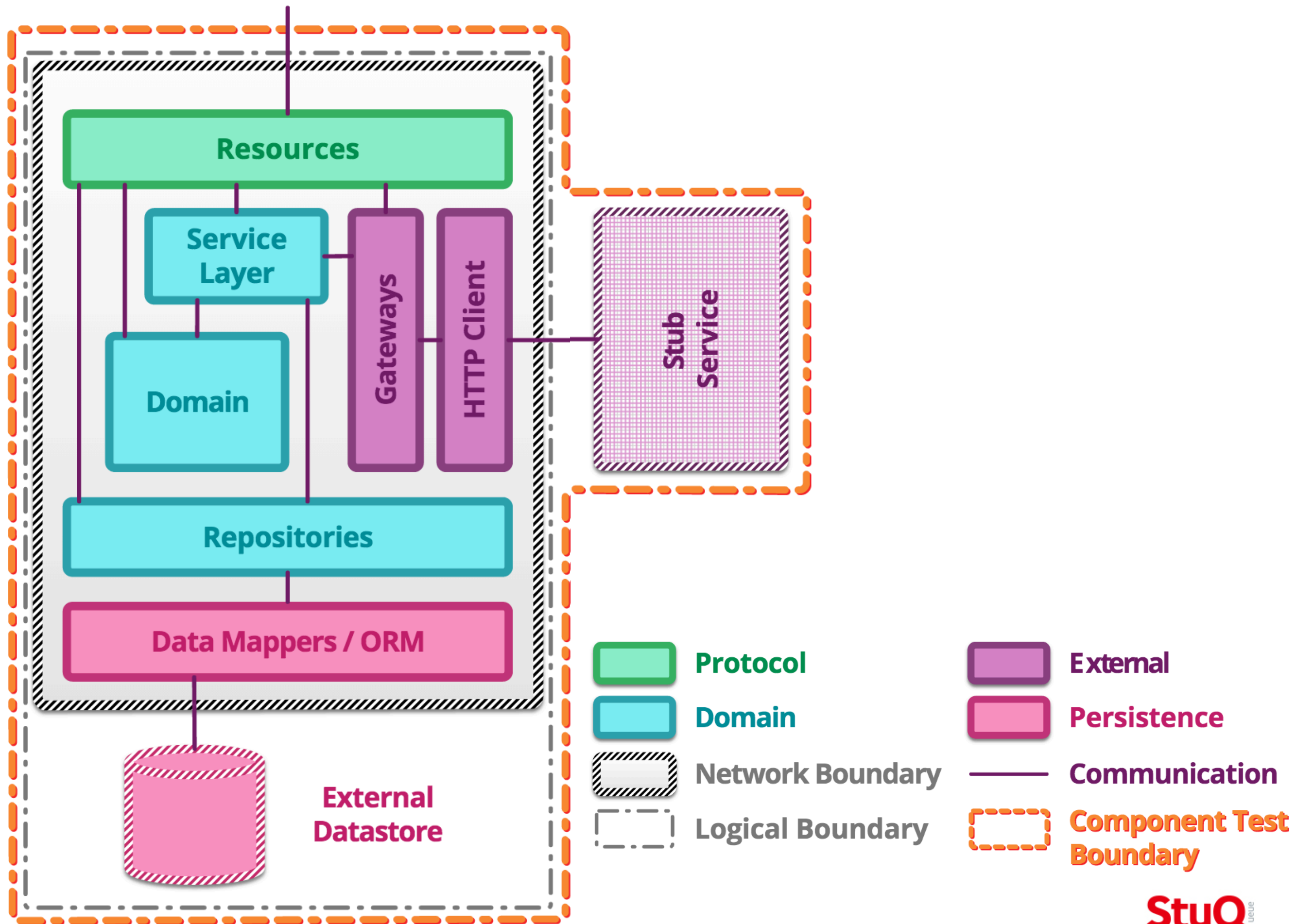
Communication

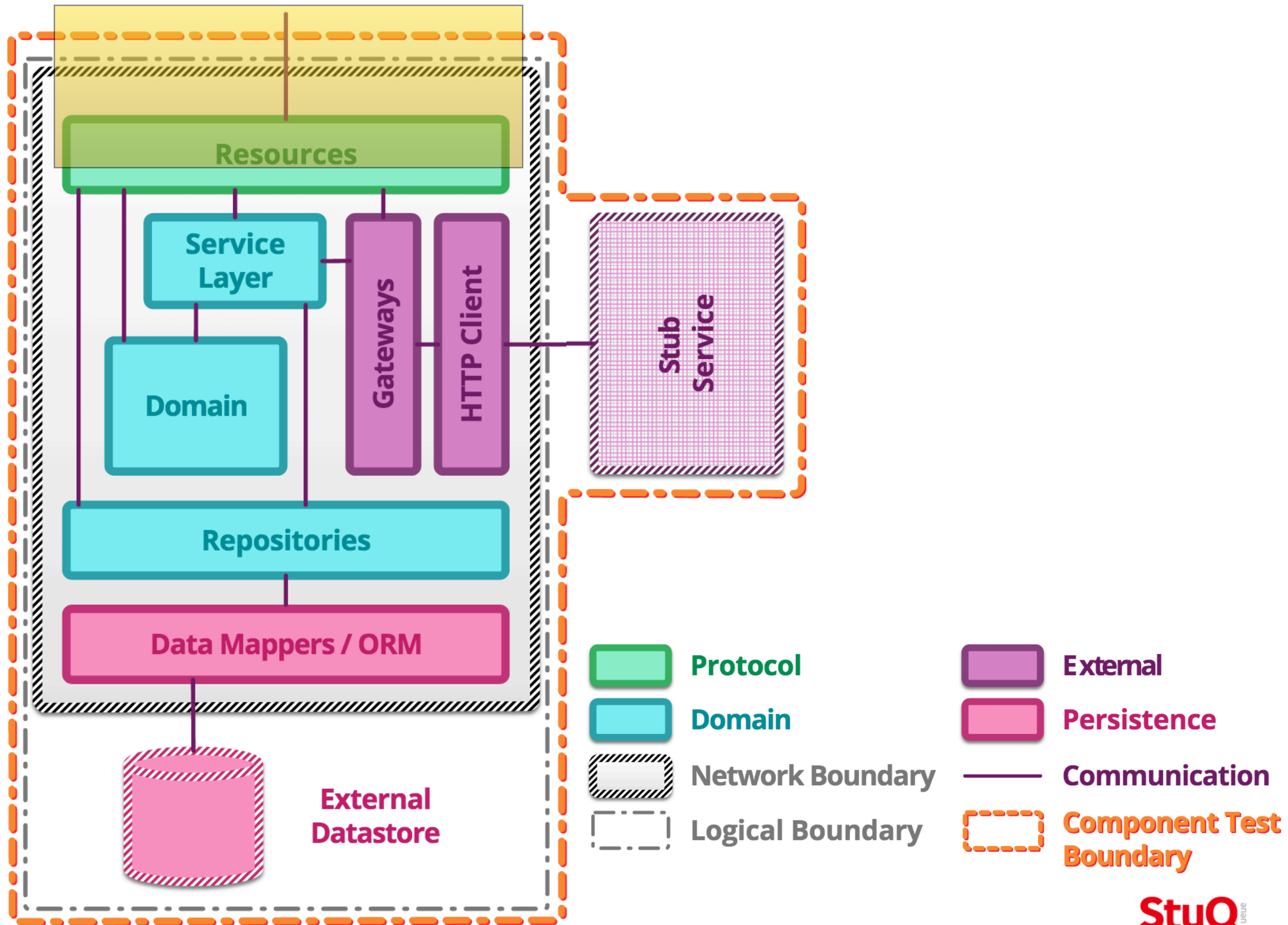


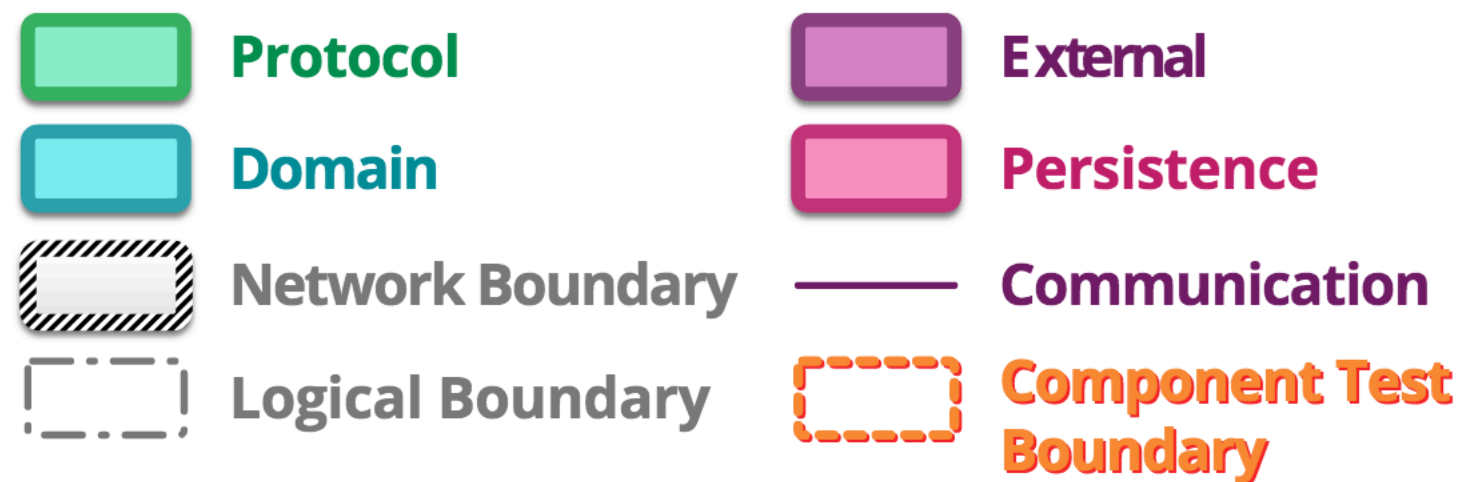
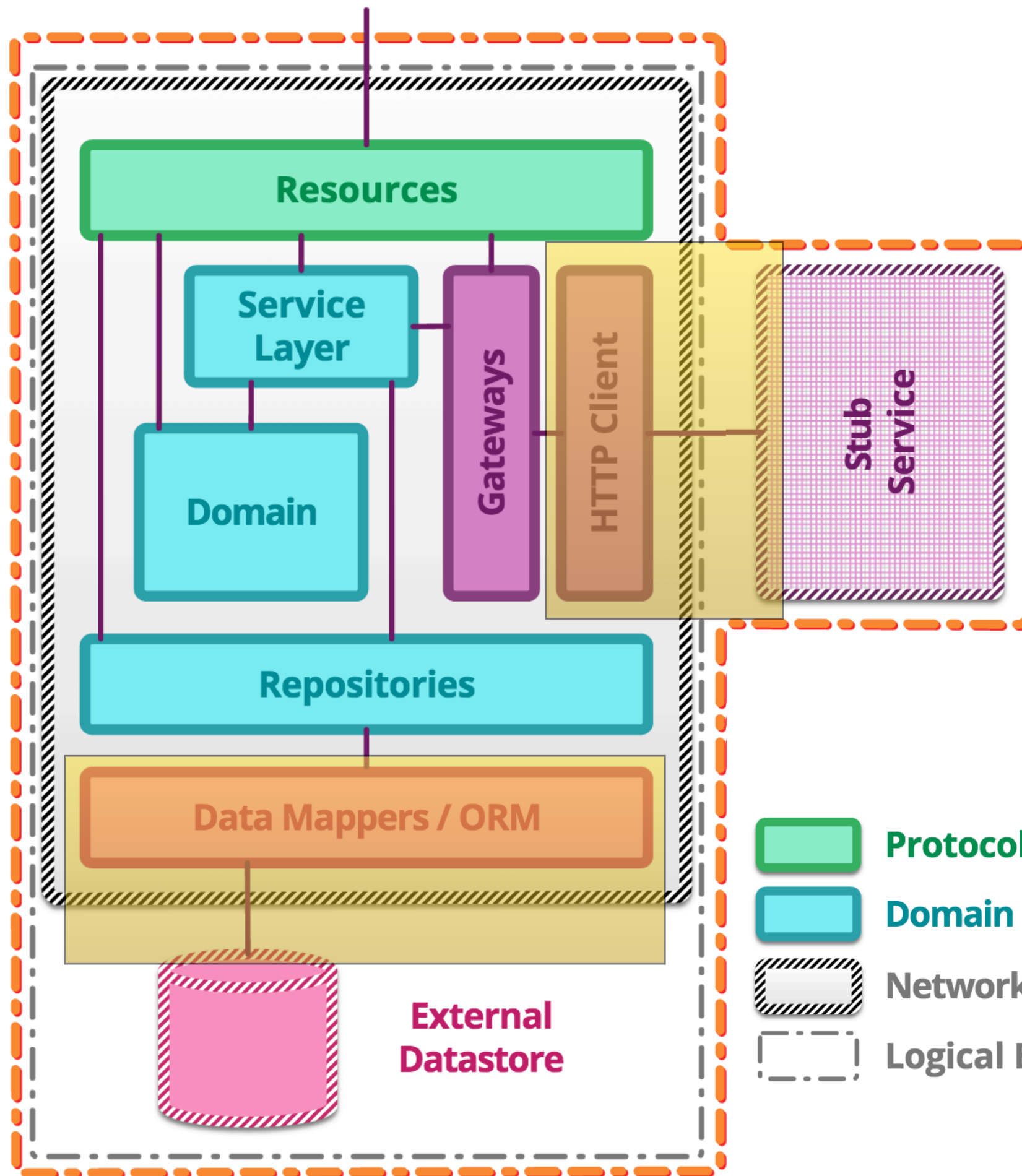
Component Boundary



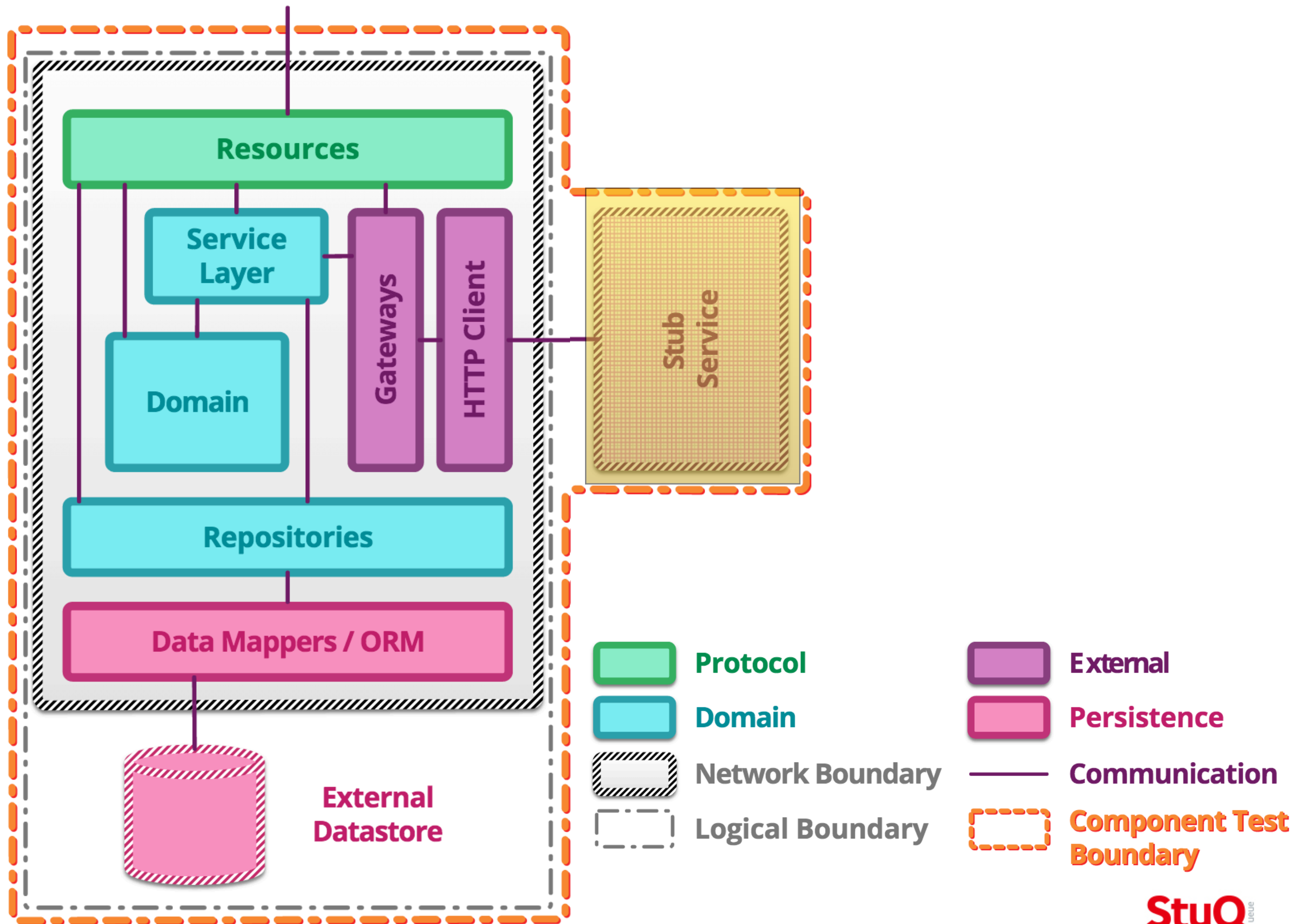


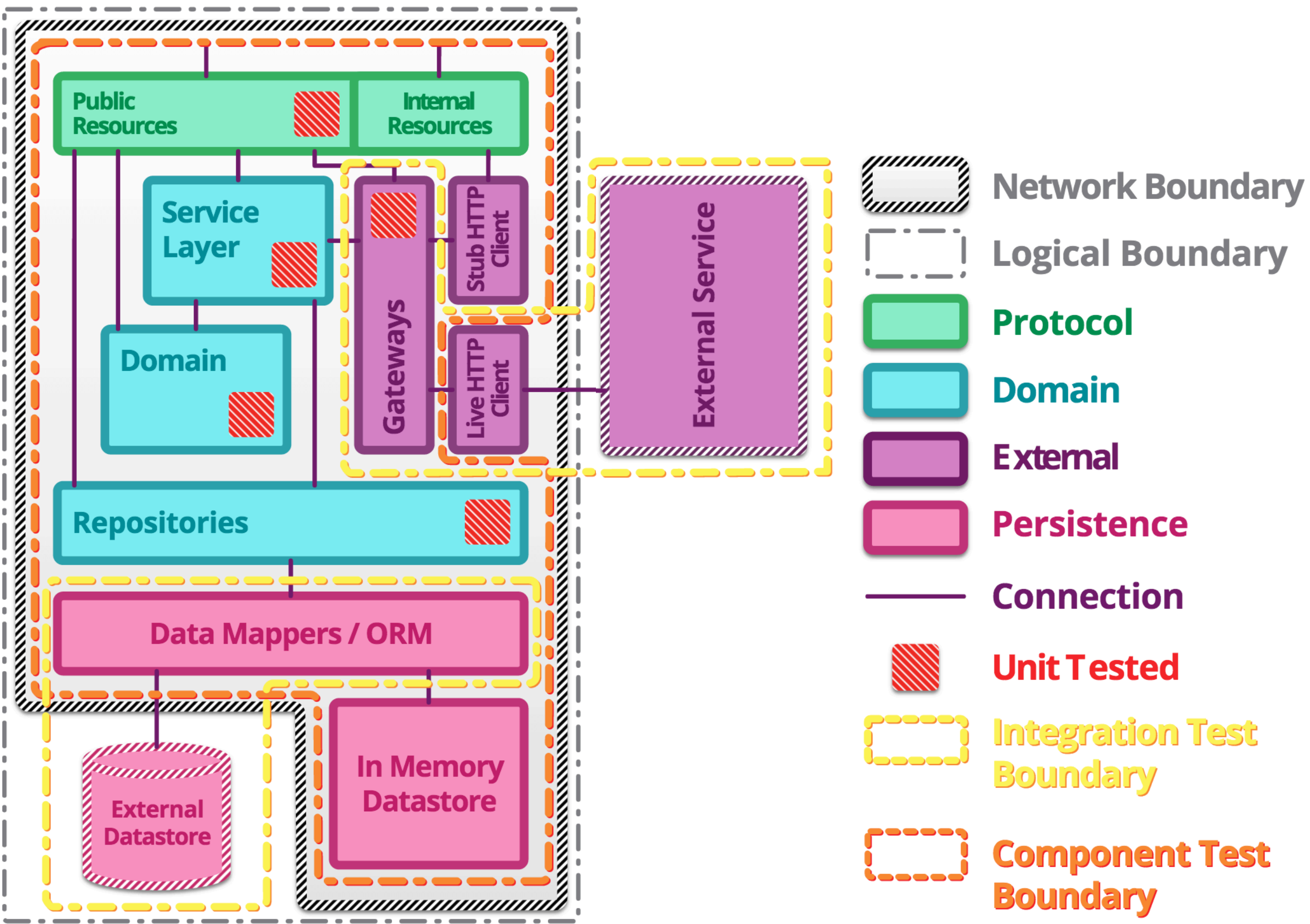












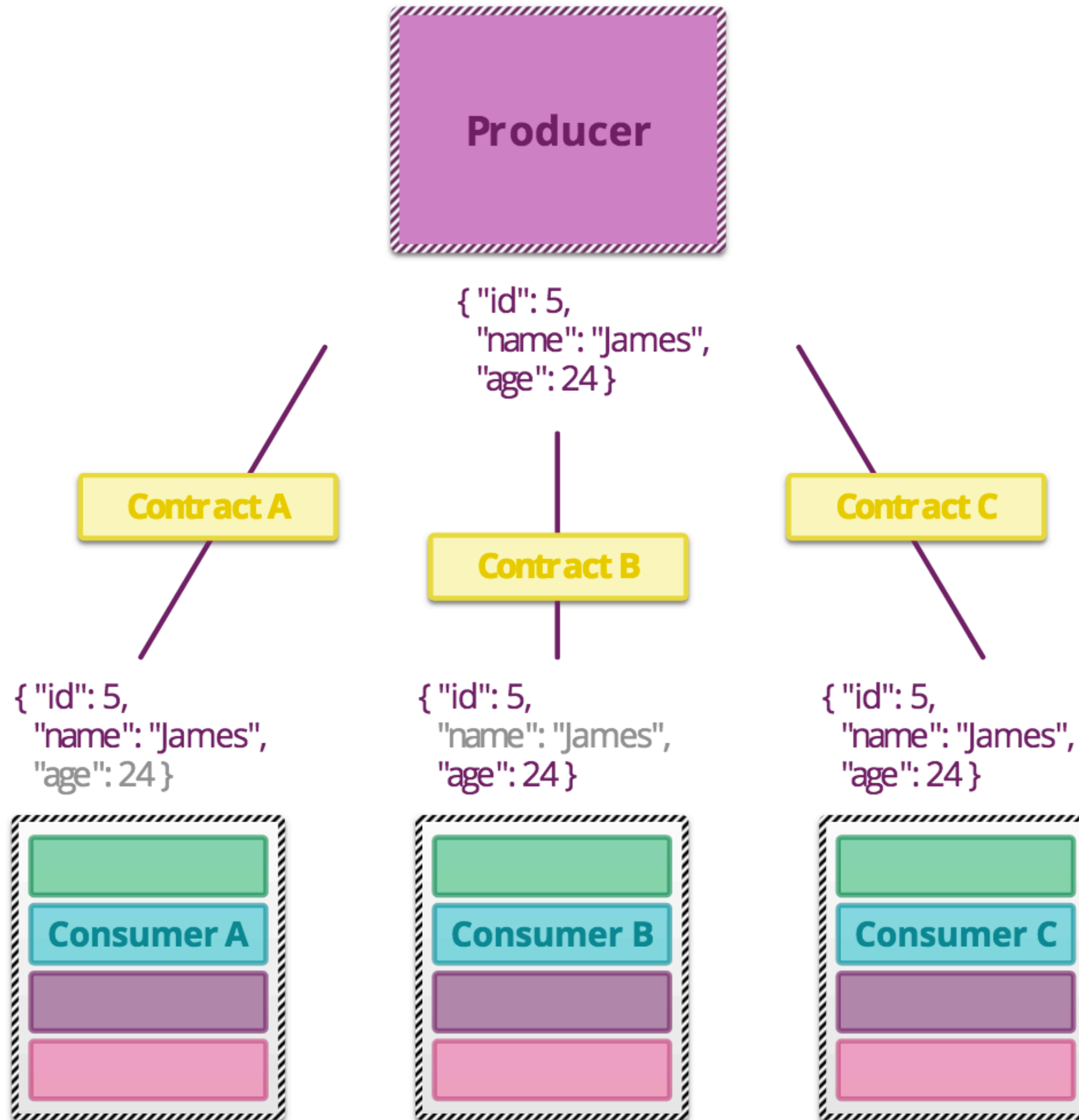
# 测试工具/框架

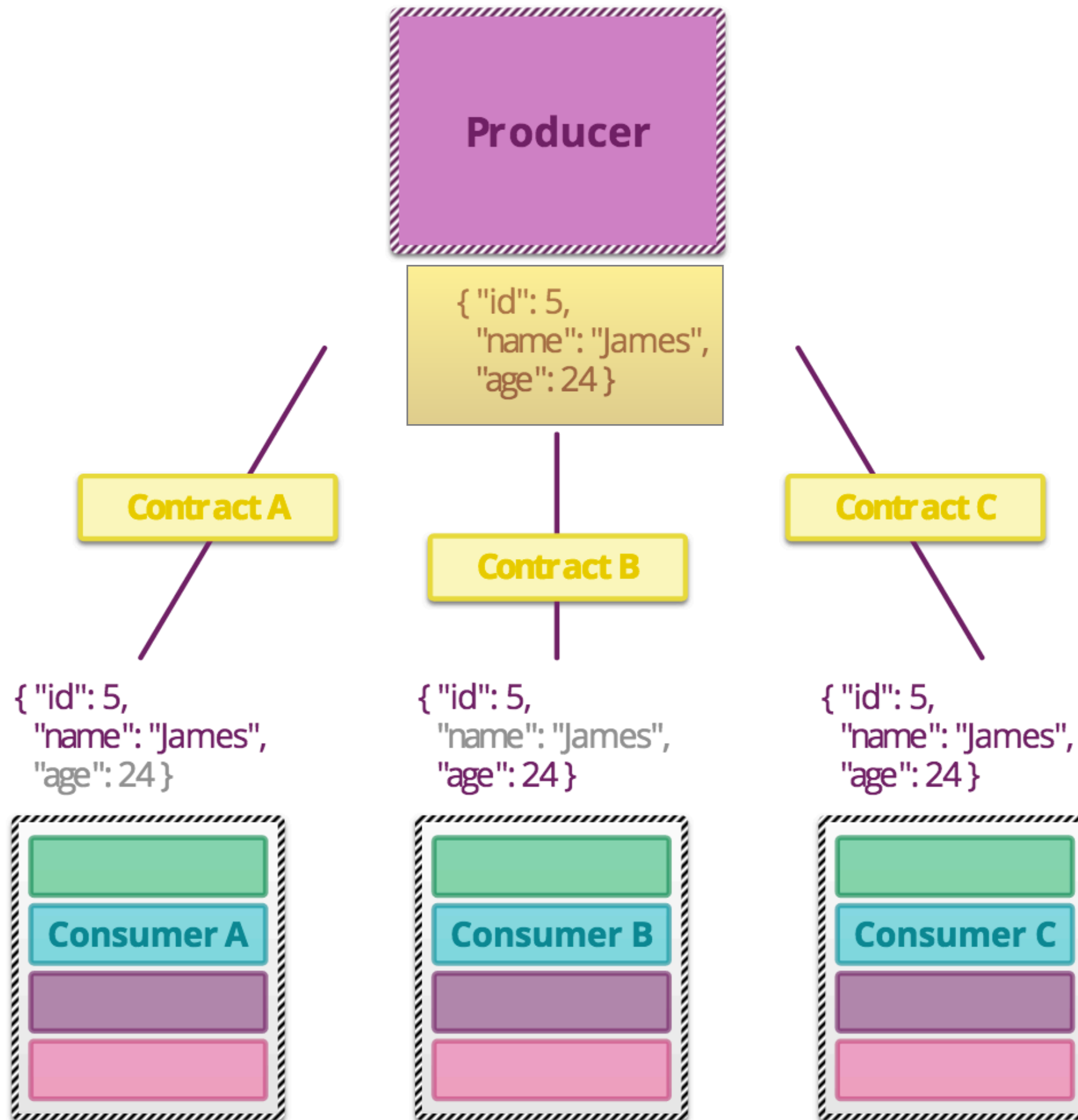
- WireMock
- RestAssured
- Arquillian

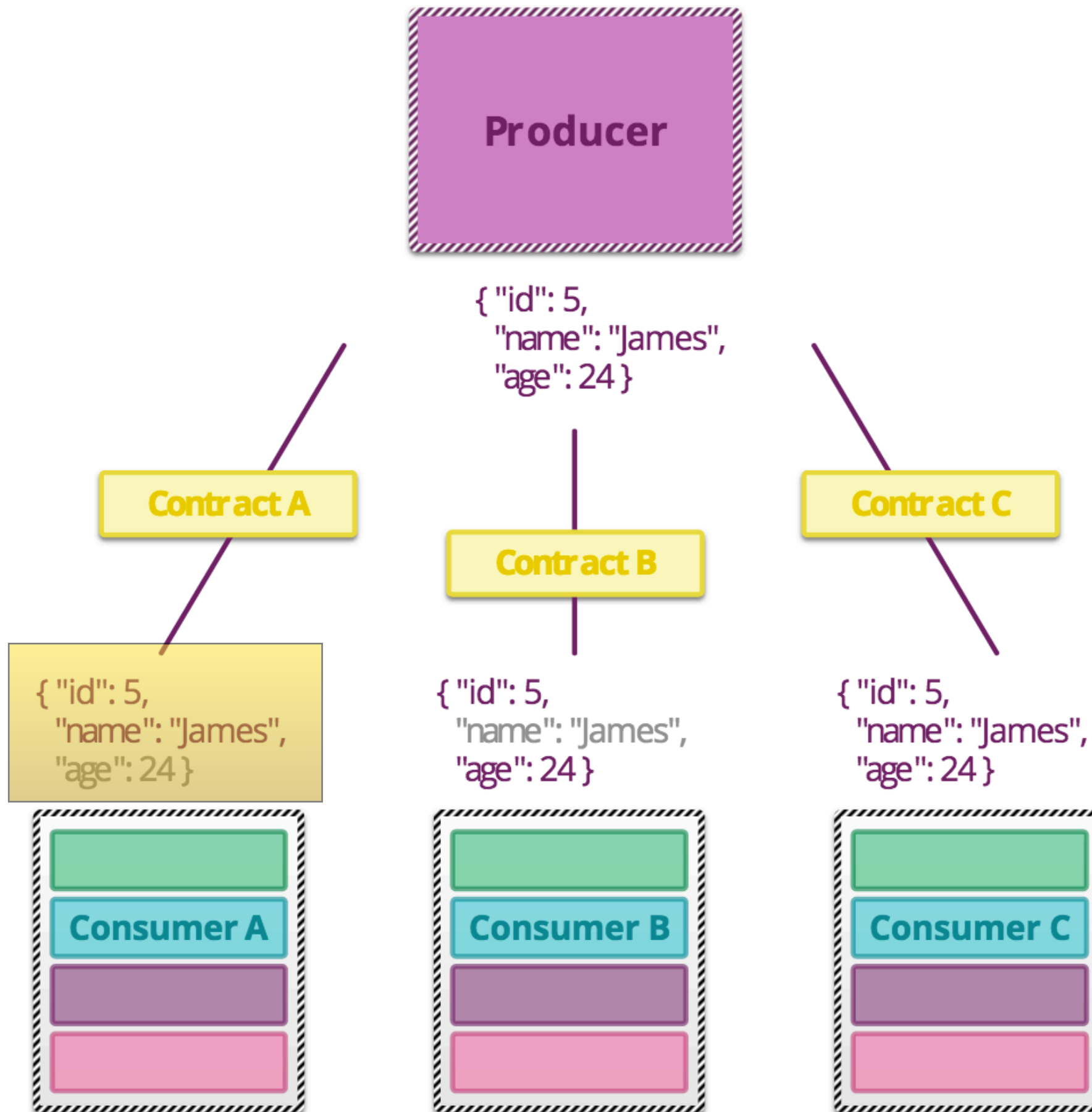
# 契约测试 Contract Testing

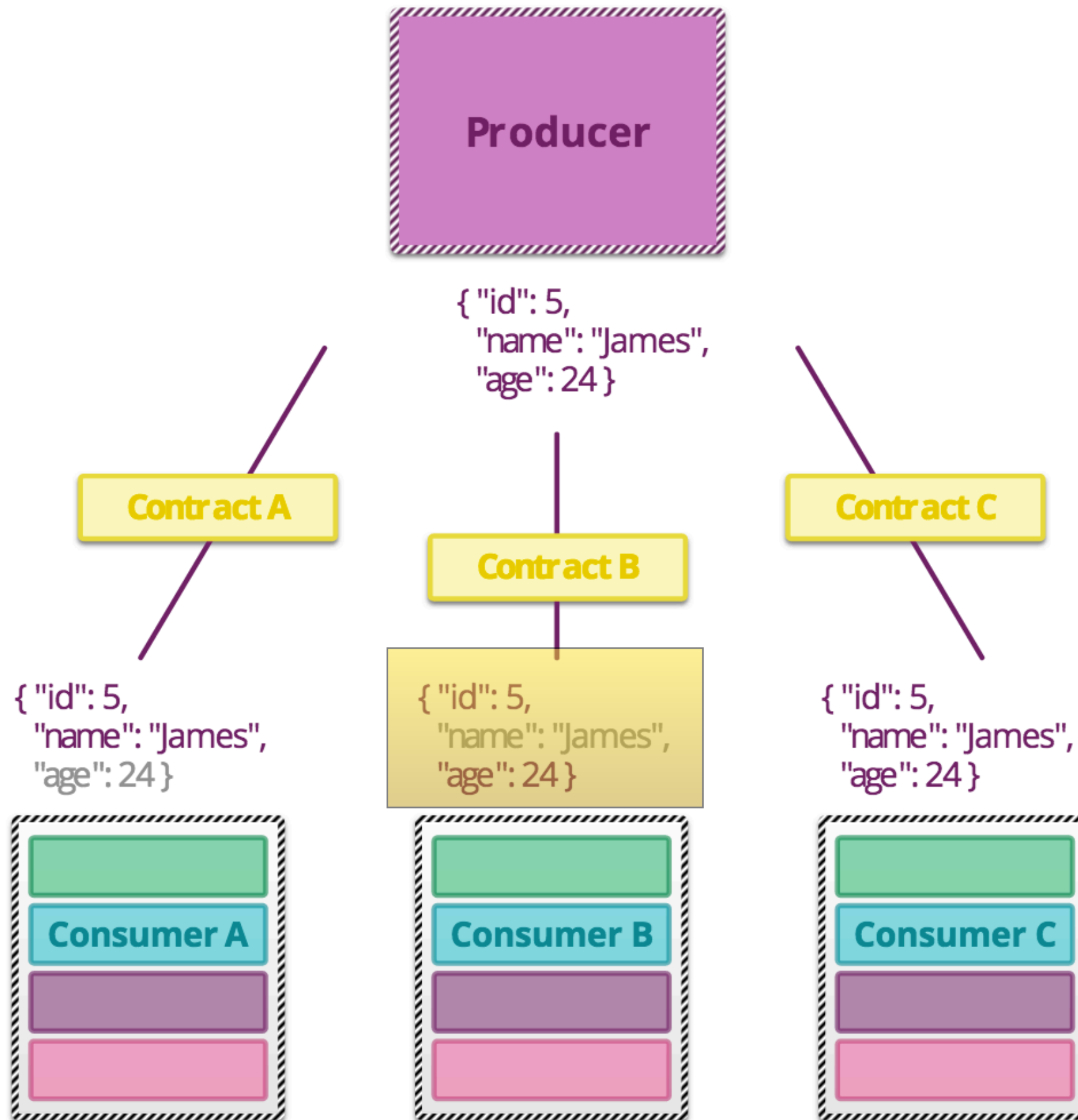
测试外部服务的边界，以查看服务调用的  
输入/输出，并测试该服务是否符合契约  
预期

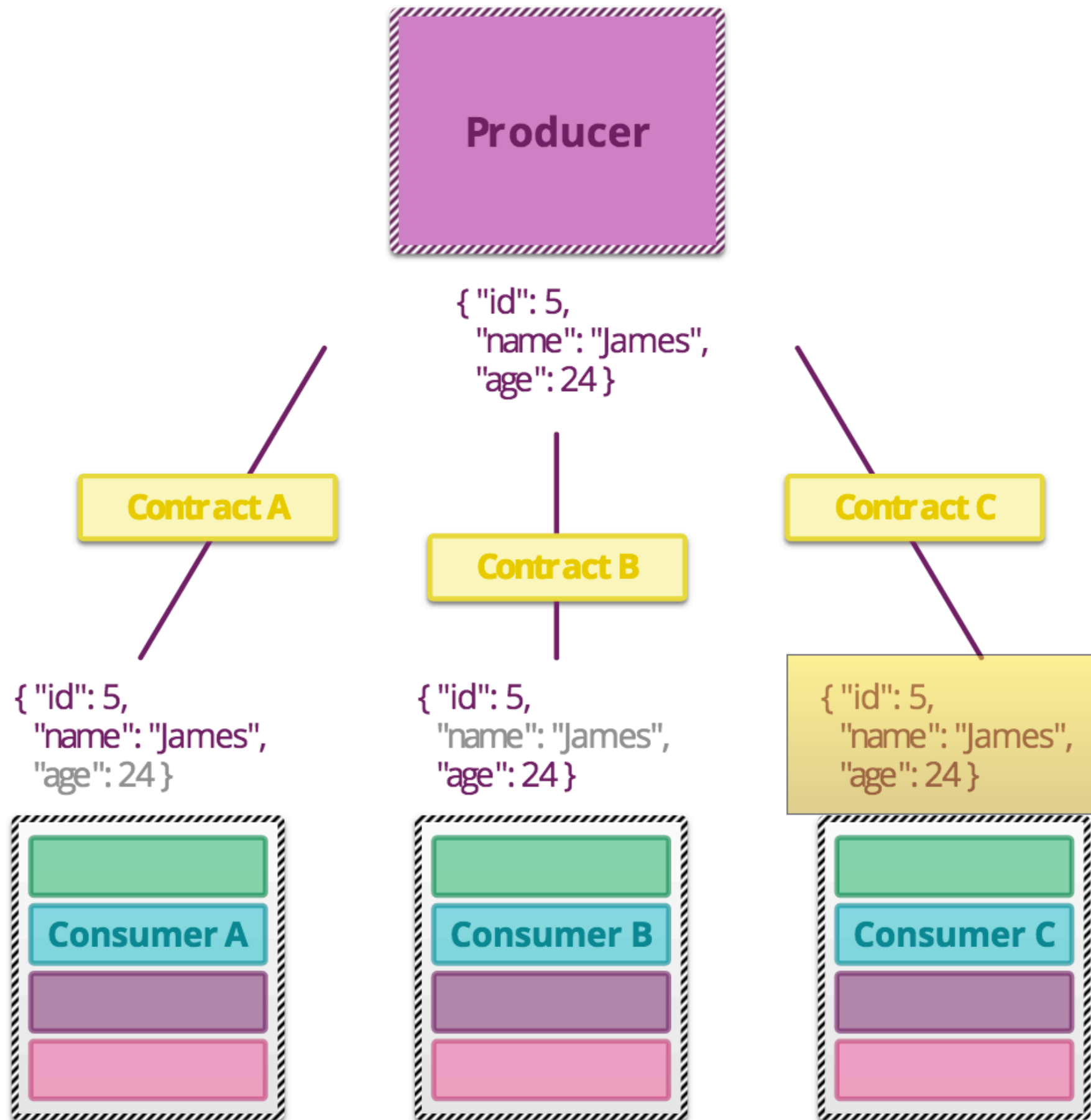


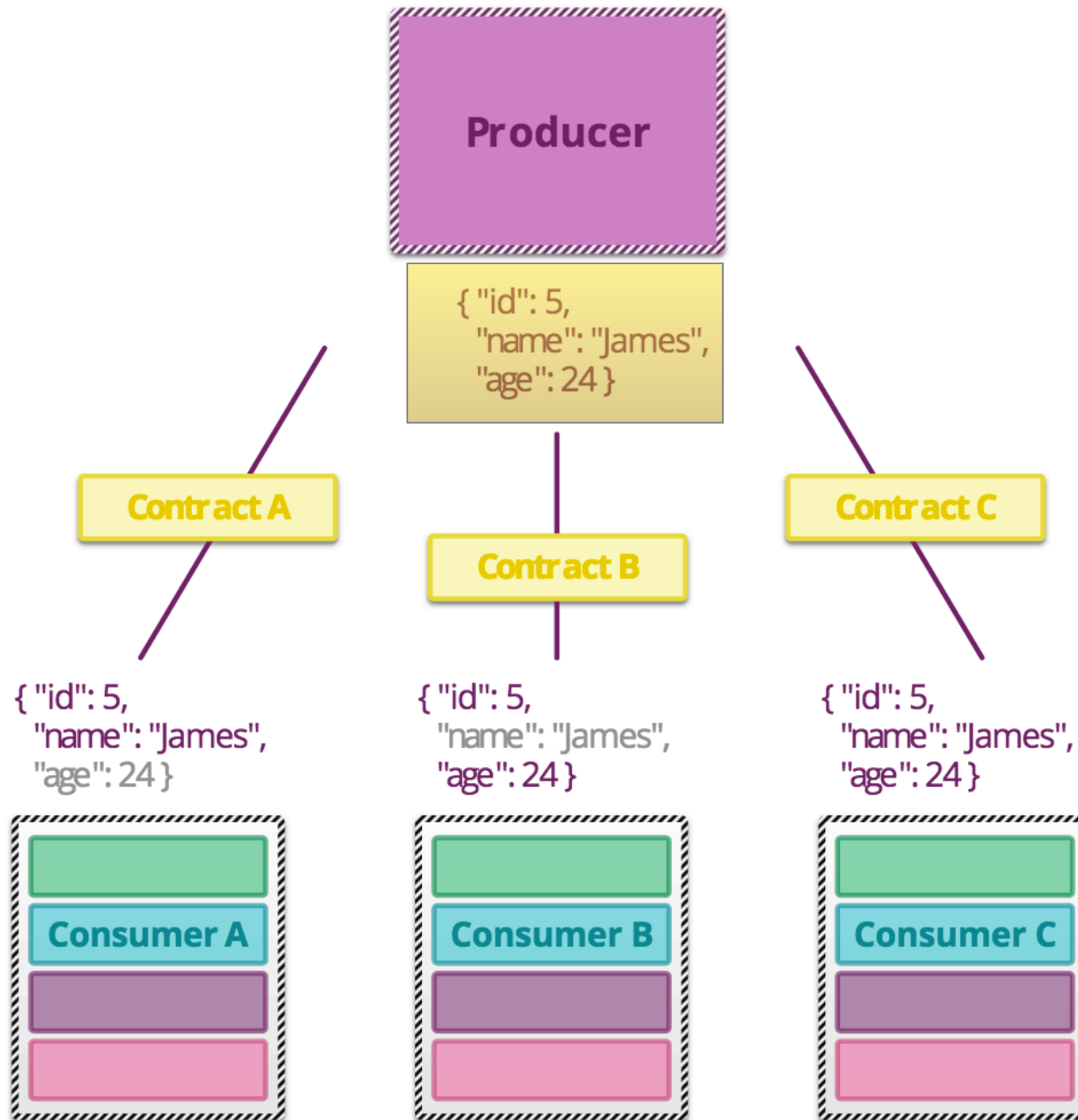


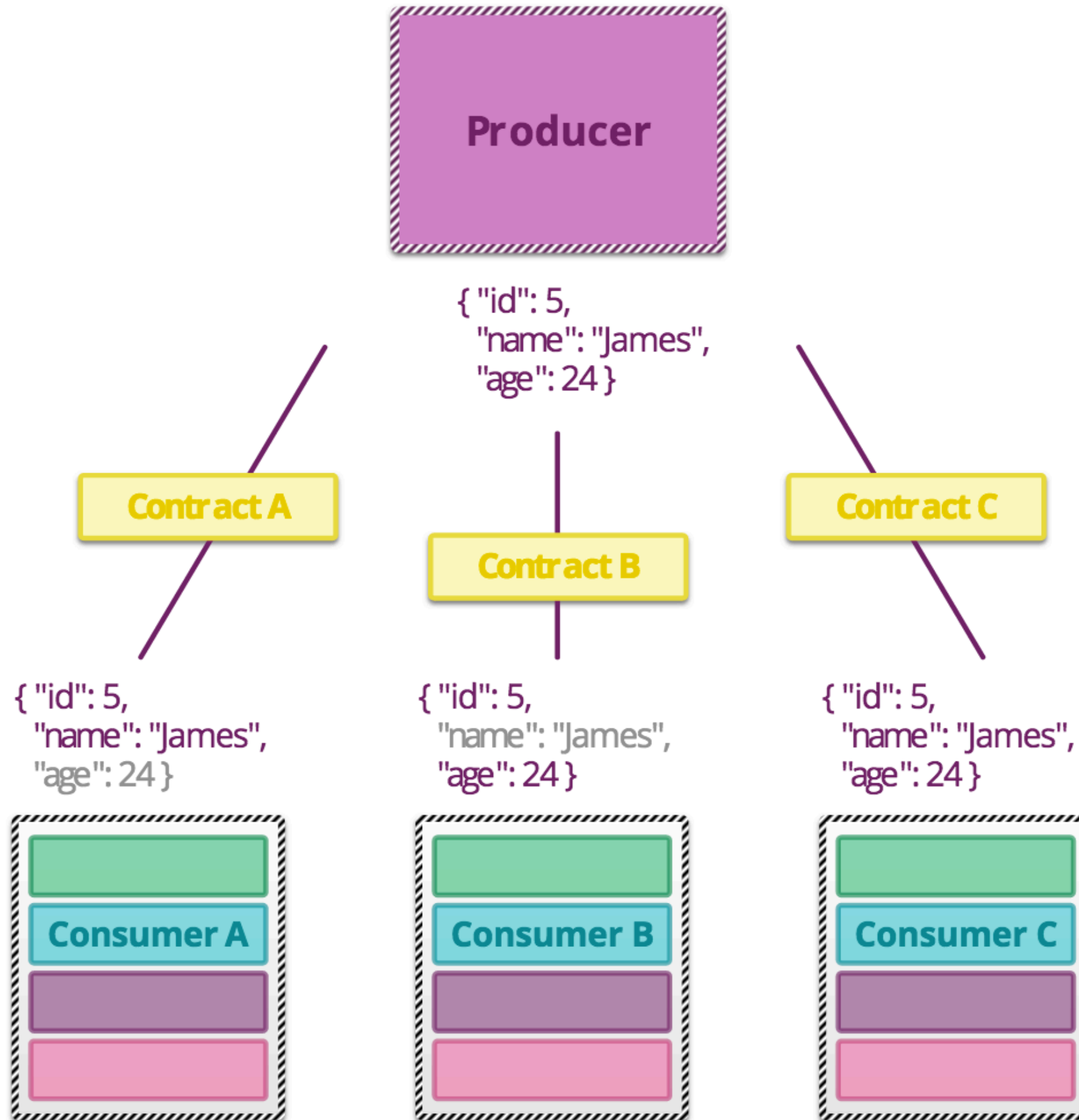












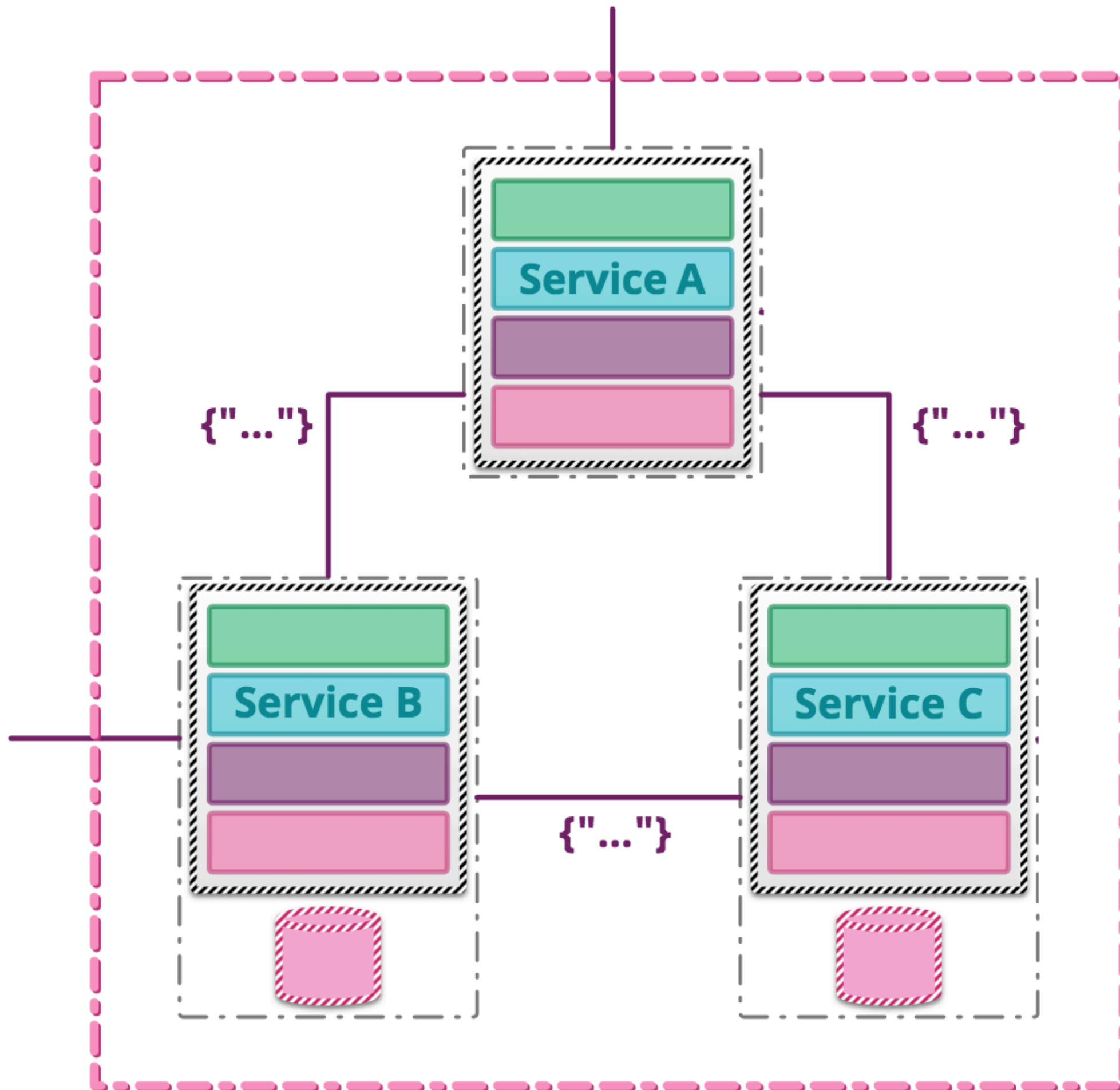
# 测试工具/框架

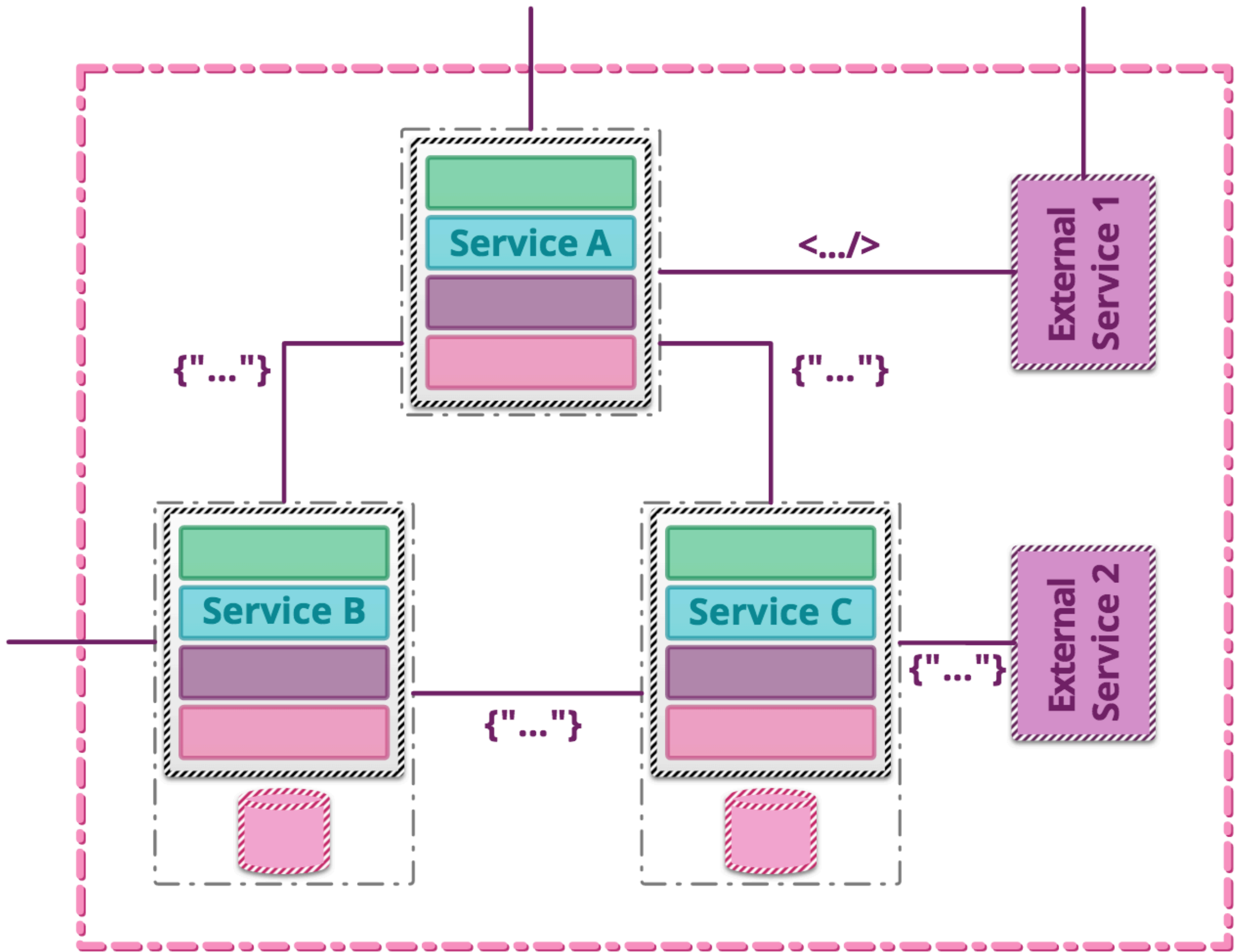
- Pact

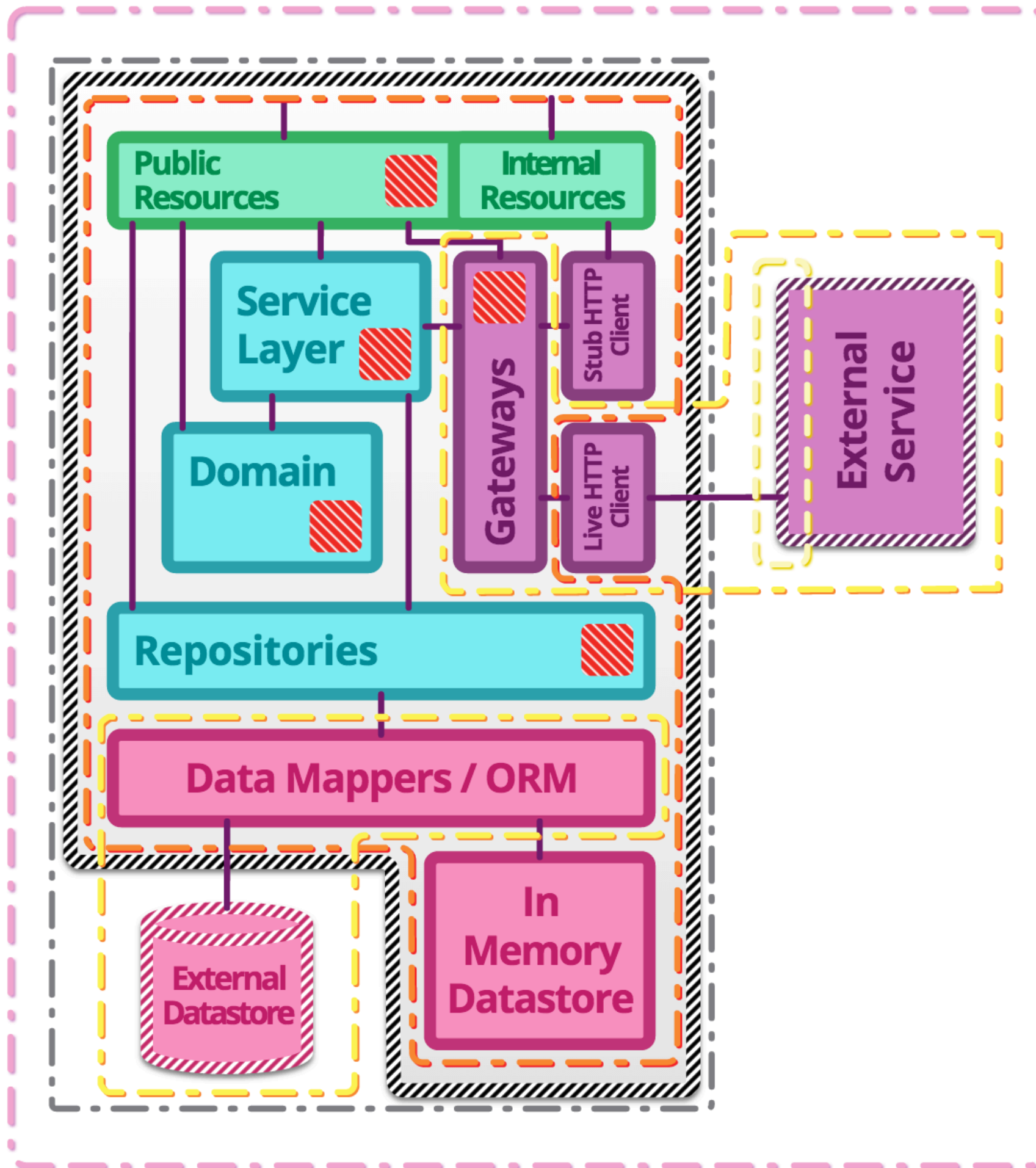


# 用户界面测试 End-to-End Testing

验证系统完成需求并达成目标的测试









# THANKS!

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