

HAPPY PATIENTS HOSPITAL

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AGENDA

- Topics we had to learn
- What we already knew!
- Proof of Concept
- High level diagram
- Environment setup - Procedure
- Environment setup - Challenges
- External references
- Cassandra table structure
- Code walkthrough
- Demo
- Challenges and Key takeaways

WHAT WE HAD TO LEARN

- Jersey
- Hazelcast
- ActiveMQ
- Cassandra Query Builder
- Tomcat server

WHAT WE ALREADY KNEW!

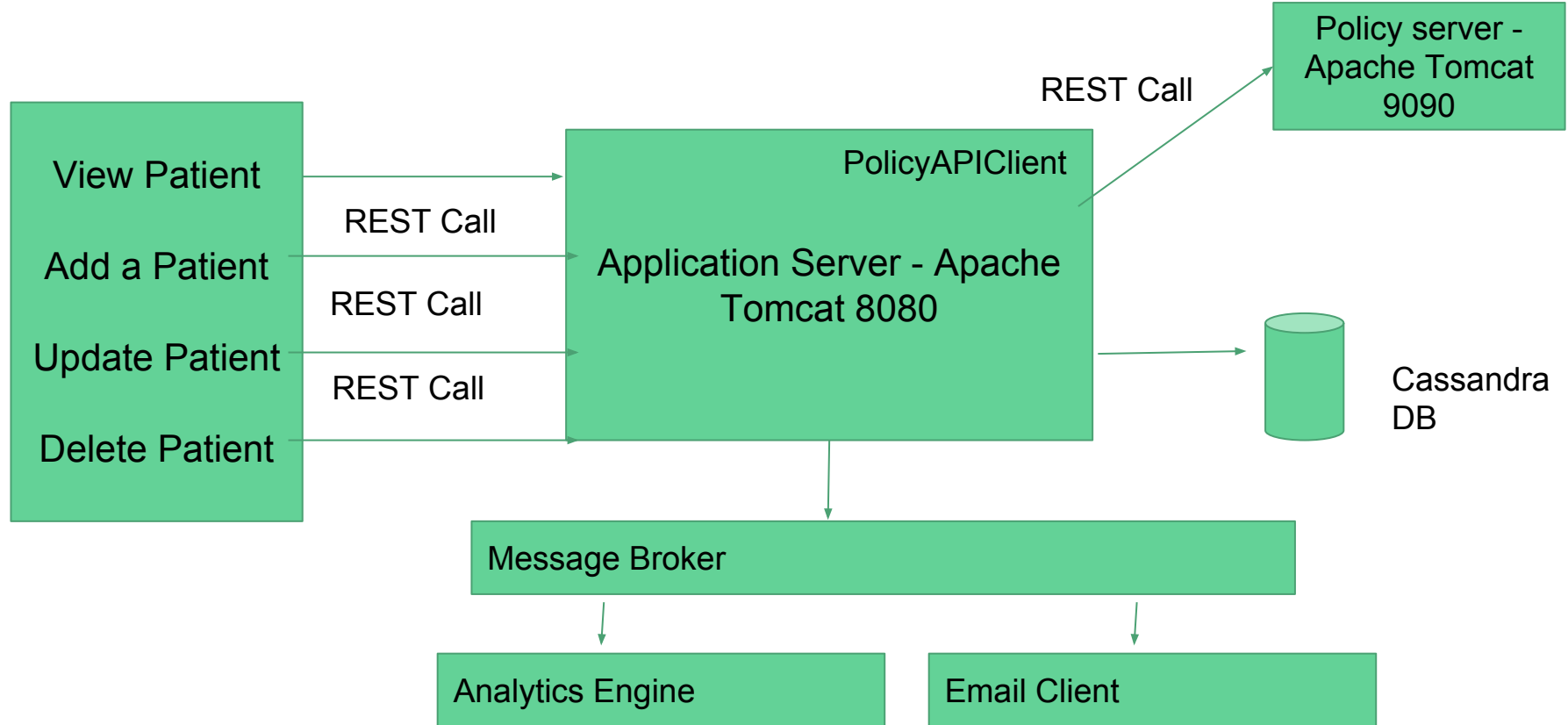
- Only CASSANDRA

LEARNT EACH AND EVERY OTHER
TOOL FROM SCRATCH!!!

PROOF OF CONCEPT

- Wrote separate proof of concepts to understand how the following components would work individually:
 - Jersey
 - Hazelcast
 - Activemq
- Used example code available and setup the environment on our machine.

HIGH LEVEL DIAGRAM



ENVIRONMENT SETUP - PROCEDURE

- Created a **Dynamic Web Project** on Eclipse.
- Downloaded the appropriate jars for the following tools:
 - Cassandra datastax jars
 - Hazelcast jars
 - Jersey jars
- 2 Apache Tomcat servers:
 - Main application server - Port 8080
 - Policy server - Port 9090
- Jersey
 - Defined URL path in web.xml
 - Defined individual REST URLs for CRUD operations.
 - Set the MediaType as JSON
- ActiveMQ
 -

ENVIRONMENT SETUP - CHALLENGES

- To learn to build Cassandra queries using QueryBuilder.
 - Each operation had a separate syntax.
- Connecting to Cassandra from Java required many extra jars.
- The setup of 2 Tomcat servers and make them communicate with each other.

EXTERNAL REFERENCES

- Cassandra:
 - <https://docs.datastax.com/en/developer/java-driver/3.1/manual/>
 - <https://docs.datastax.com/en/drivers/java/2.0/com/datastax/driver/core/querybuilder/QueryBuilder.html>
 - <https://www.javacodegeeks.com/2014/05/connecting-to-cassandra-from-java.html>
- Hazelcast:
 - <http://docs.hazelcast.org/docs/2.1/manual/html/ch01.html>
 - <http://www.baeldung.com/java-hazelcast>
- Jersey:
 - <https://www.mkyong.com/webservices/jax-rs/jersey-hello-world-example/>
 - <https://www.youtube.com/watch?v=EfEUDAHgrGQ>
- ActiveMQ:
 - <http://activemq.apache.org/hello-world.html>
 - <http://www.javarticles.com/2015/10/activemq-standalone-broker-example.html>

CASSANDRA TABLE STRUCTURE

Create table happy_patients (

Id int,

Name text,

Dob text,

Phone text,

Address text,

Treatment text,

Diagnosis text,

Primary key (id));

CODE WALKTHROUGH

DEMO

KEY TAKEAWAYS

- Learnt many new applications.
- Faced and overcame challenges which helped us learn and understand the tools in-depth.