

# Securing a Kafka Cluster

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HANDLING CRYPTOGRAPHY CONTAINERS



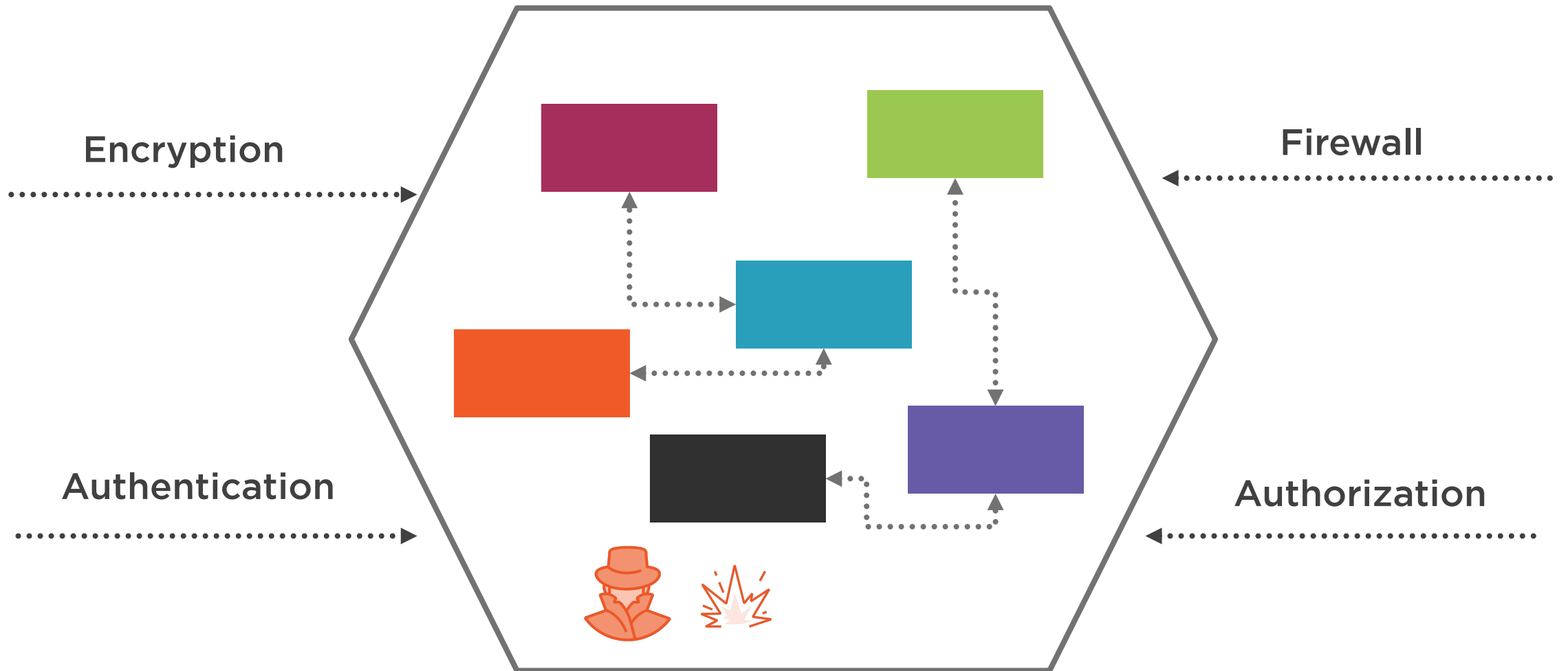
**Bogdan Sucaciu**

SOFTWARE ENGINEER

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# Castle Security



# Prerequisites



## Docker

Starting and stopping  
containers; Docker  
Compose



## Java 11+

Understand Syntax

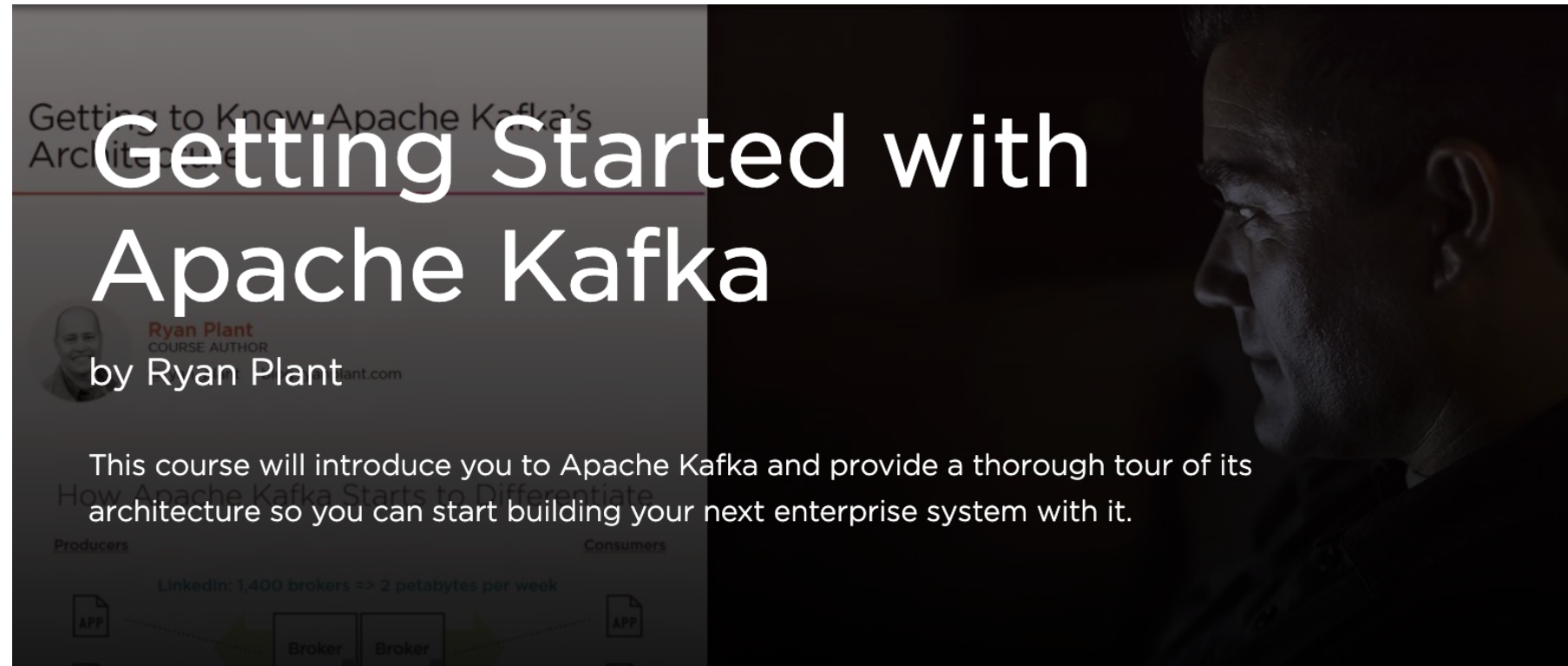


## Apache Kafka

Build Producers and  
Consumers; Topics,  
Brokers, Kafka  
Connect



# Pluralsight Courses



Getting to Know Apache Kafka's Architecture

## Getting Started with Apache Kafka

by Ryan Plant

This course will introduce you to Apache Kafka and provide a thorough tour of its architecture so you can start building your next enterprise system with it.

Producers Consumers

LinkedIn: 1,400 brokers => 2 petabytes per week

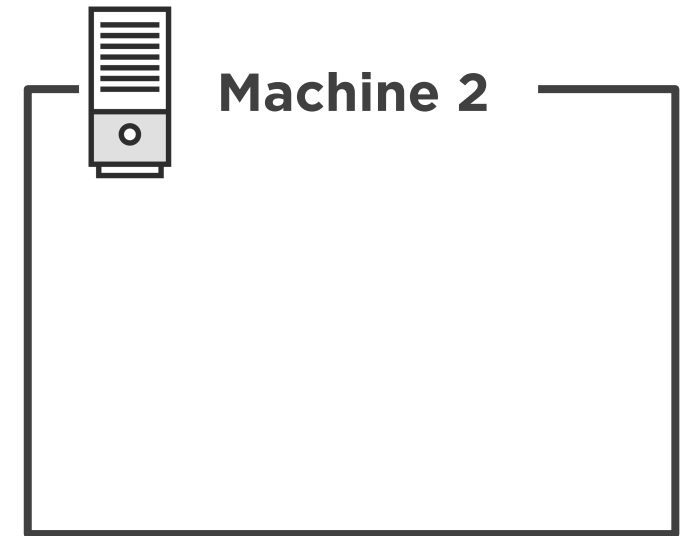
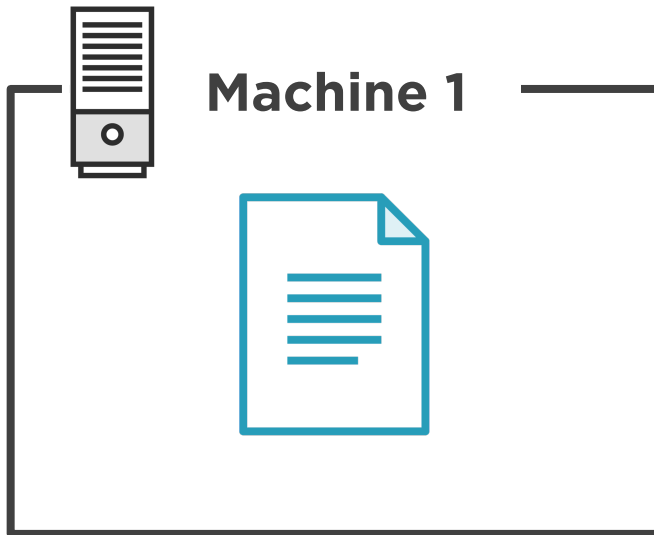
APP Broker Broker APP



# Data Security



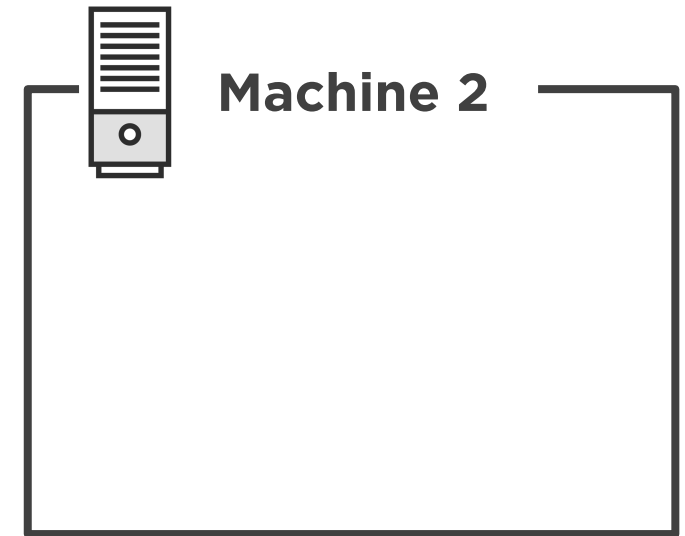
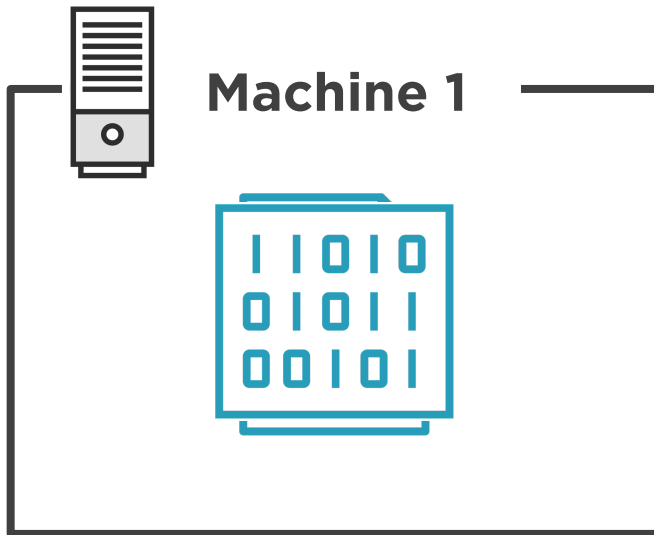
Malintended  
Person



# Data Encryption



Malintended  
Person



Transport Layer Security ( TLS )

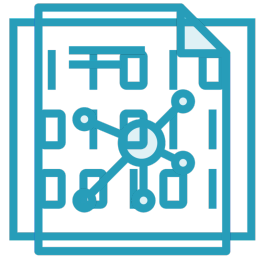


# Public Key Infrastructure

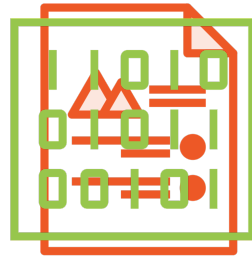
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# Cryptography



Symmetric  
Encryption



Asymmetric  
Encryption



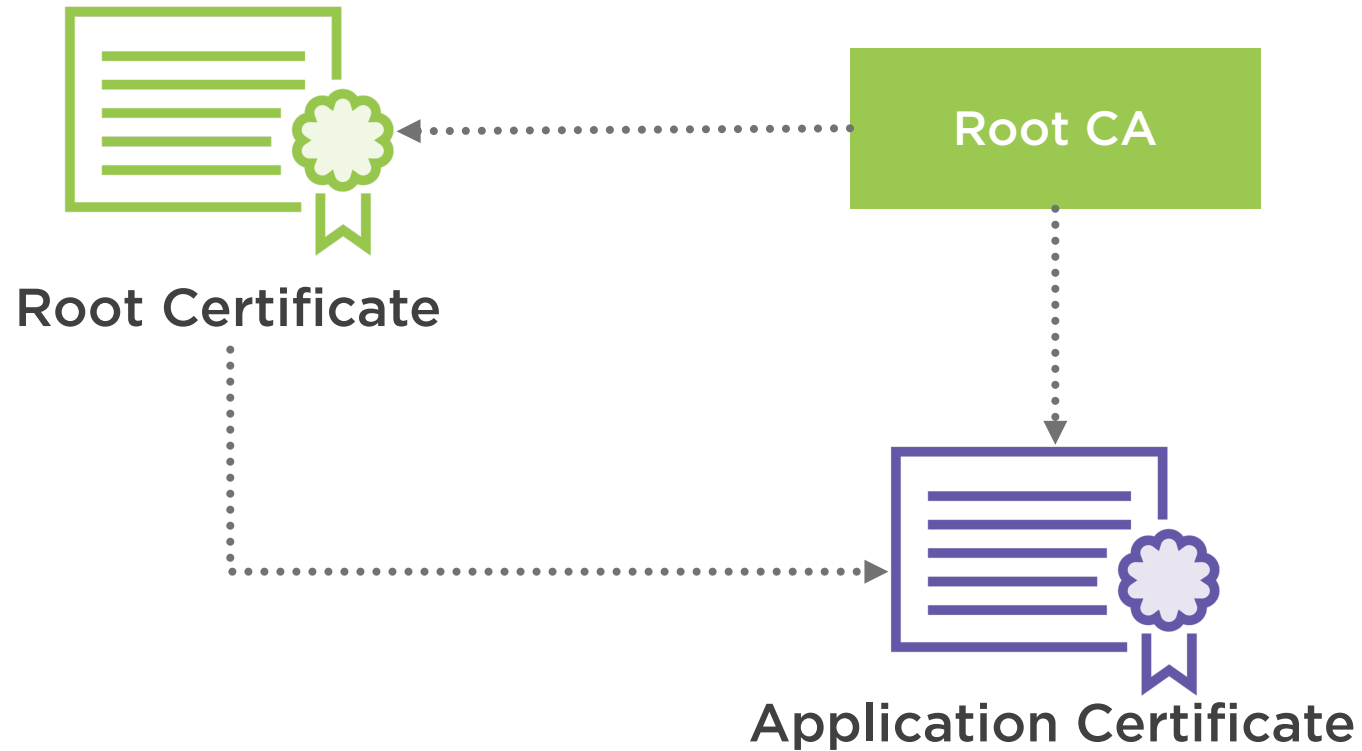
Certificates



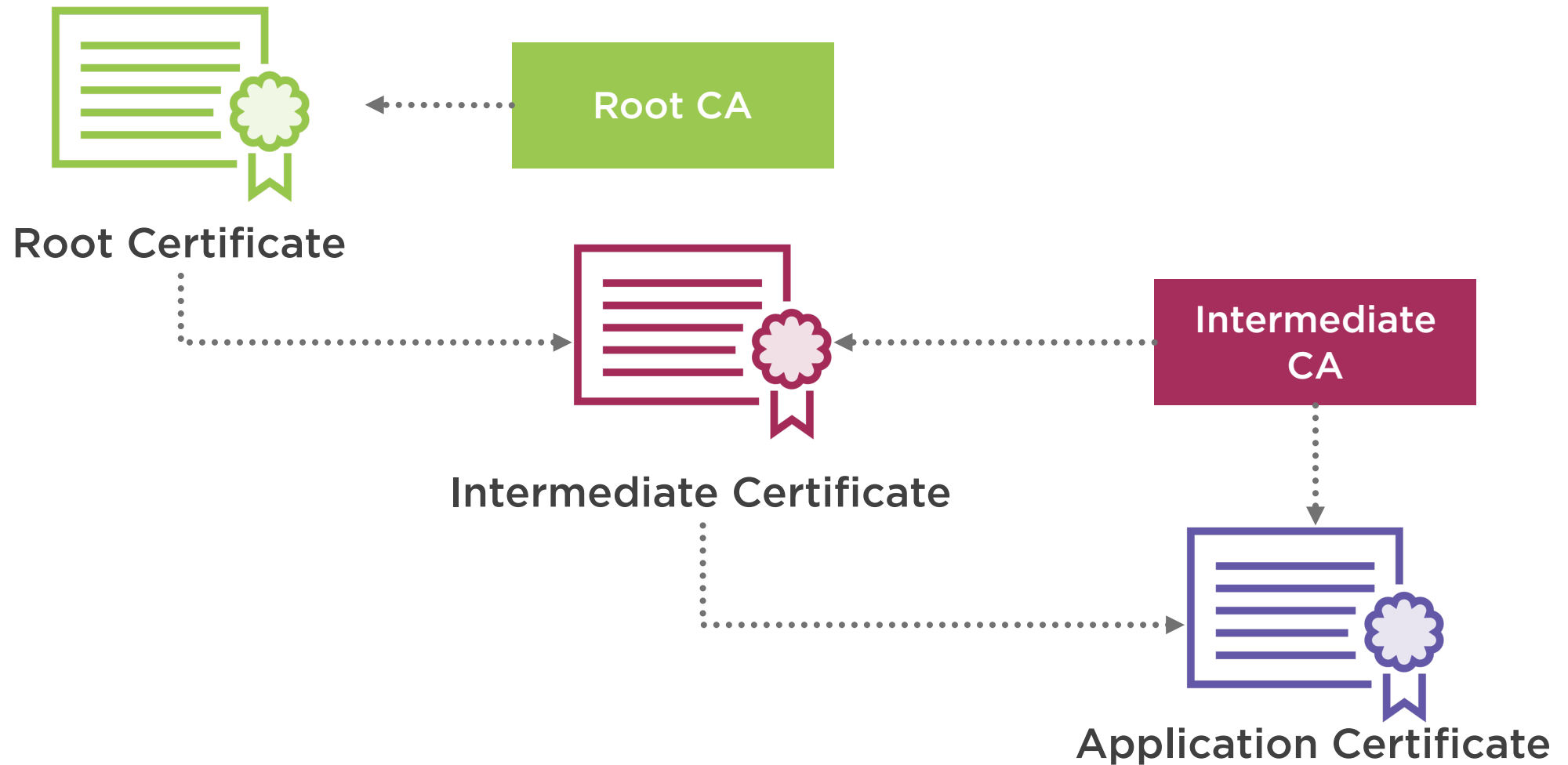
# Public Key Infrastructure ( PKI )



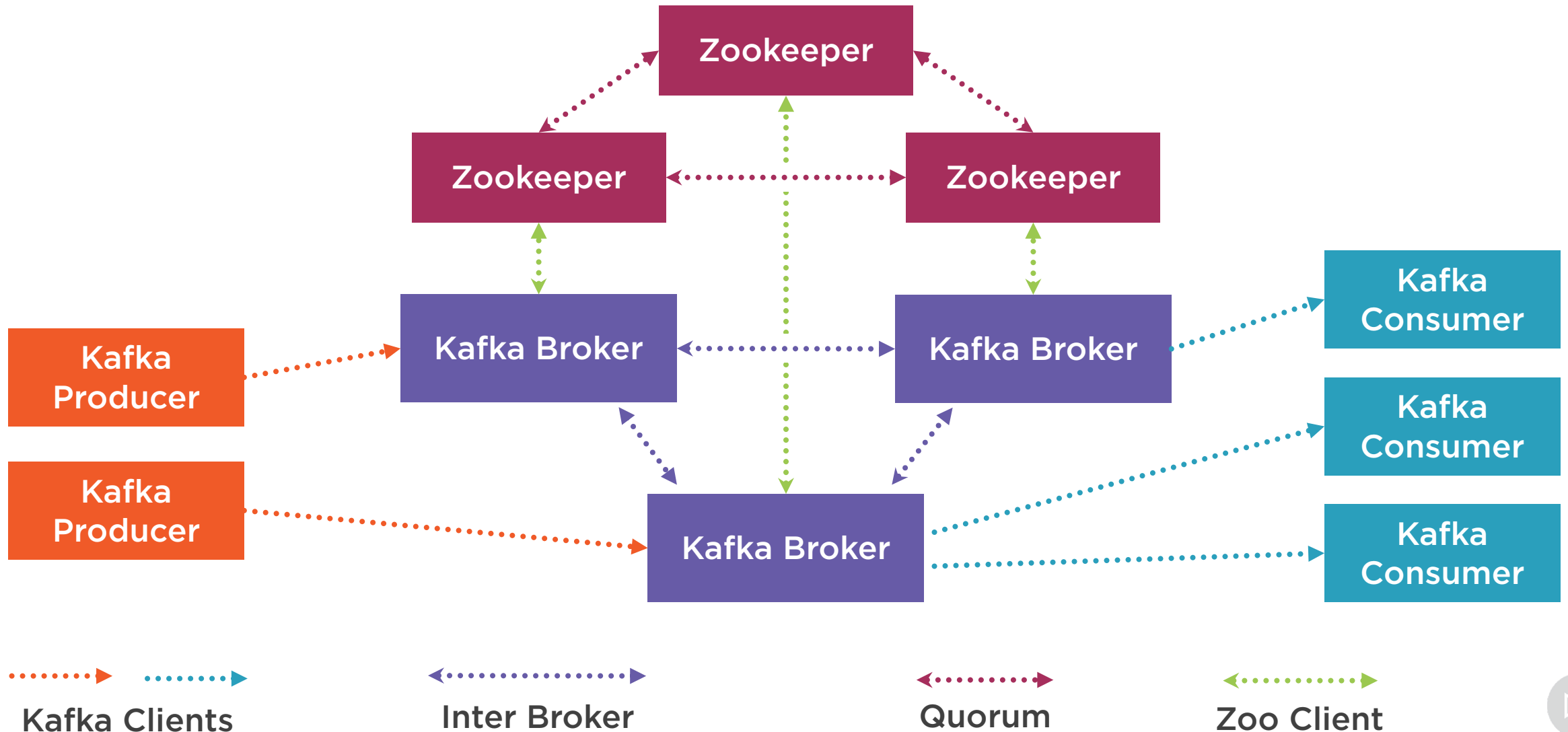
# Chain of Trust



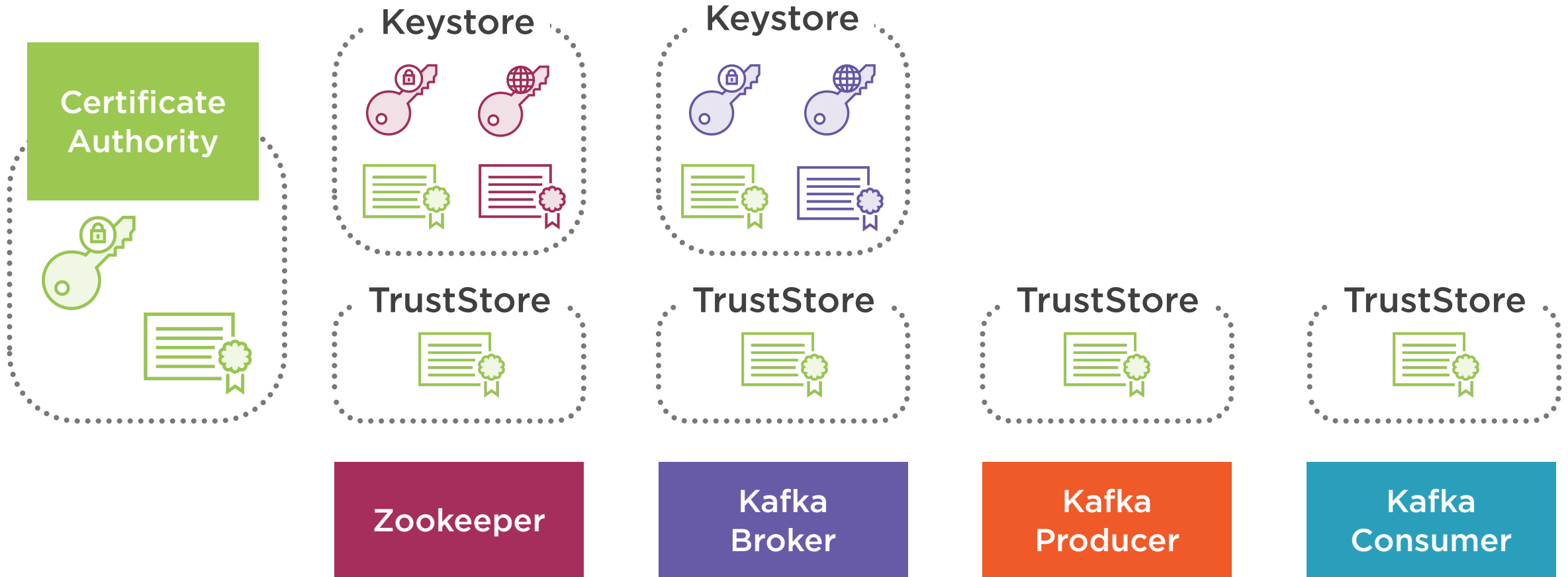
# Chain of Trust



# Communication Encryption



# Kafka PKI Setup



# Demo



## Create Keystores and Truststores

### Prerequisites:

- OpenSSL
- Keytool

