

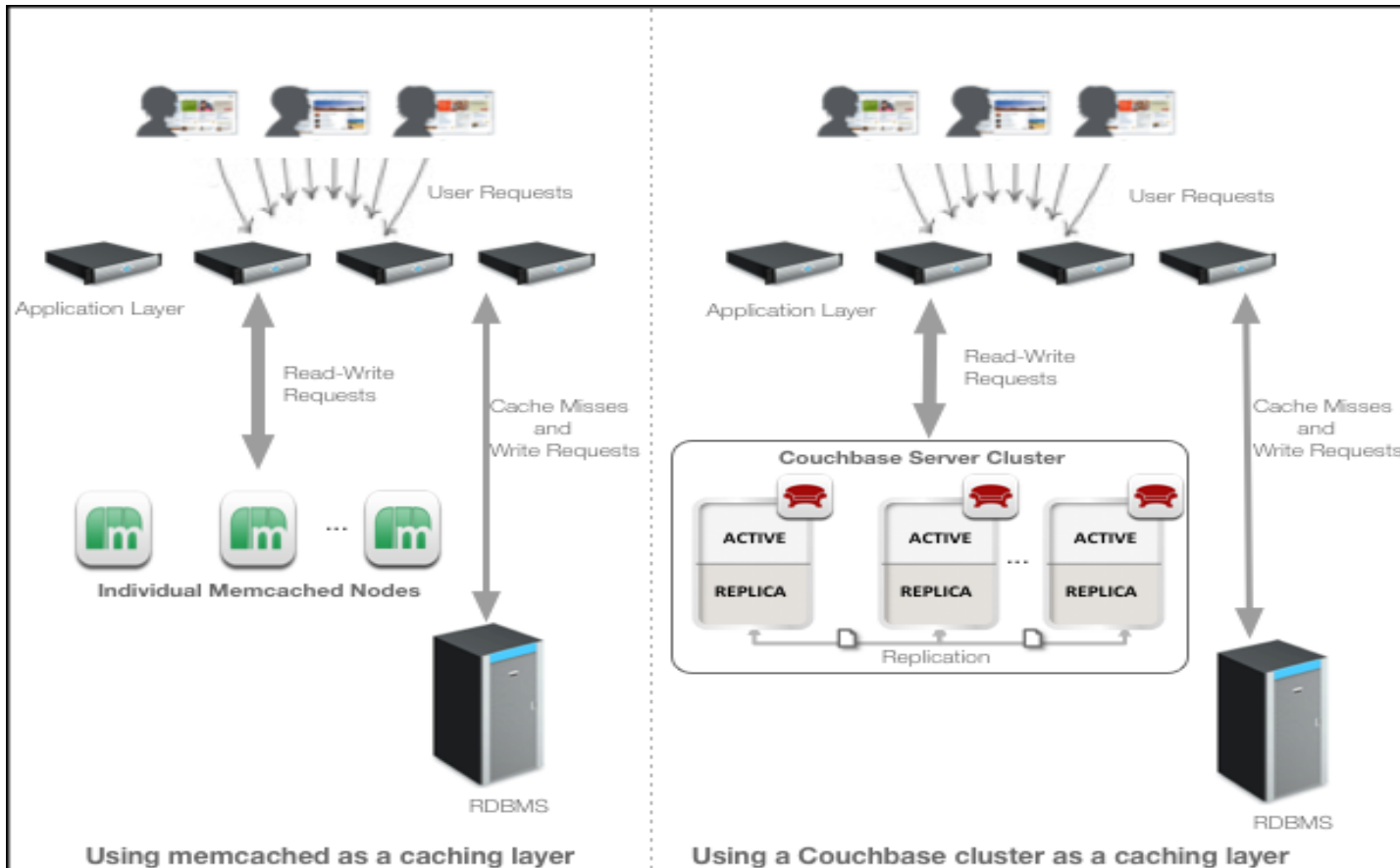




You've just launched your new web application, and by happy accident, it's gone viral and your usage has exploded from the few thousand users you originally expected to hundreds of thousands. If you are lucky, it will expand to millions within a few days.

With a little further planning, you may have decided to employ some kind of caching layer that allows you to store information in the RAM of your servers so that you don't have to make so many queries to the database for information that hasn't changed.

- Caching layer
- built-in distribution system that doesn't require changes to your application



# Couchbase Server

Couchbase Server addresses many of these problems. It has a caching layer built in, and a built-in distribution system that doesn't require changes to your application. You can also expand your database system on the fly, without taking your application down, changing the configuration, or restarting it.

# Introducing Couchbase Server





## NoSQL Document Database

# Couchbase Open Source Project

- Leading NoSQL database project focused on distributed database technology and surrounding ecosystem
- Supports both key-value and document-oriented use cases
- All components are available under the Apache 2.0 Public License
- Obtained as packaged software in both enterprise and community editions.



Couchbase  
Open Source Project



- Couchbase Server is a distributed, document-based database that is part of the NoSQL database movement. Couchbase Server is a persistent database that leverages an integrated RAM caching layer, enabling it to support very fast create, store, update, and retrieval operations.

# Couchbase Server



## Easy Scalability

Grow cluster without application changes, without downtime with a single click



## Consistent High Performance

Consistent sub-millisecond read and write response times with consistent high throughput



## Always On 24x365

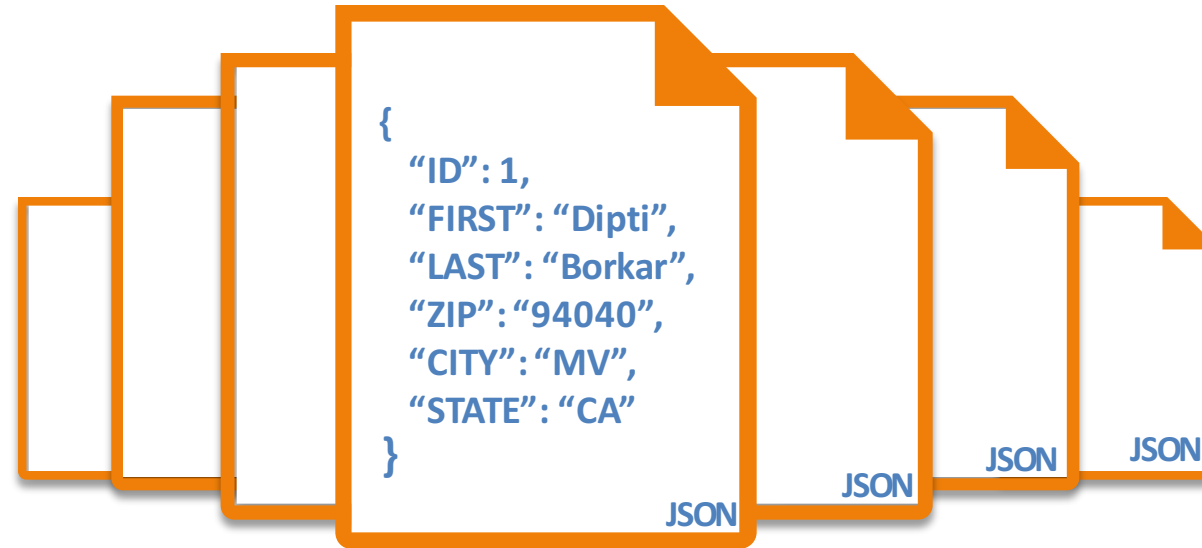
No downtime for software upgrades, hardware maintenance, etc.



## Flexible Data Model

JSON document model with no fixed schema.

# Flexible Data Model



- No need to worry about the database when changing your application
- Records can have different structures, there is no fixed schema
- Allows painless data model changes for rapid application development

# Features

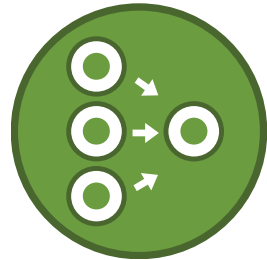
## JSON support



## Indexing and Querying



## Incremental Map Reduce



## Cross data center replication



- JSON support – natively stored as json, when you build an app, there is not conversion required. New doc viewing , editing capability.
- Indexing and querying – look inside your json, build views and query for a key, for ranges or to aggregate data
- Incremental mapreduce – powers indexing. Build complex views over your data. Great for real-time analytics
- N1QL – Couchbase query language [Nickel ]
- XDCR – replicate information from one cluster to another cluster

# Additional Couchbase Server Features

Built-in clustering – All nodes equal

Data replication with auto-failover

Zero-downtime maintenance

Built-in managed cache

Append-only storage layer

Online compaction

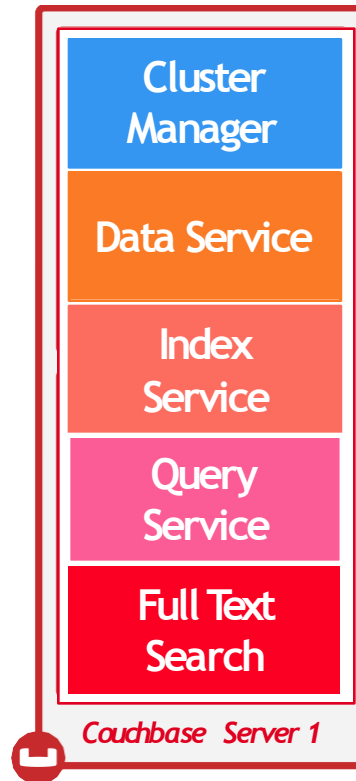
Monitoring and admin API & UI

SDK for a variety of languages

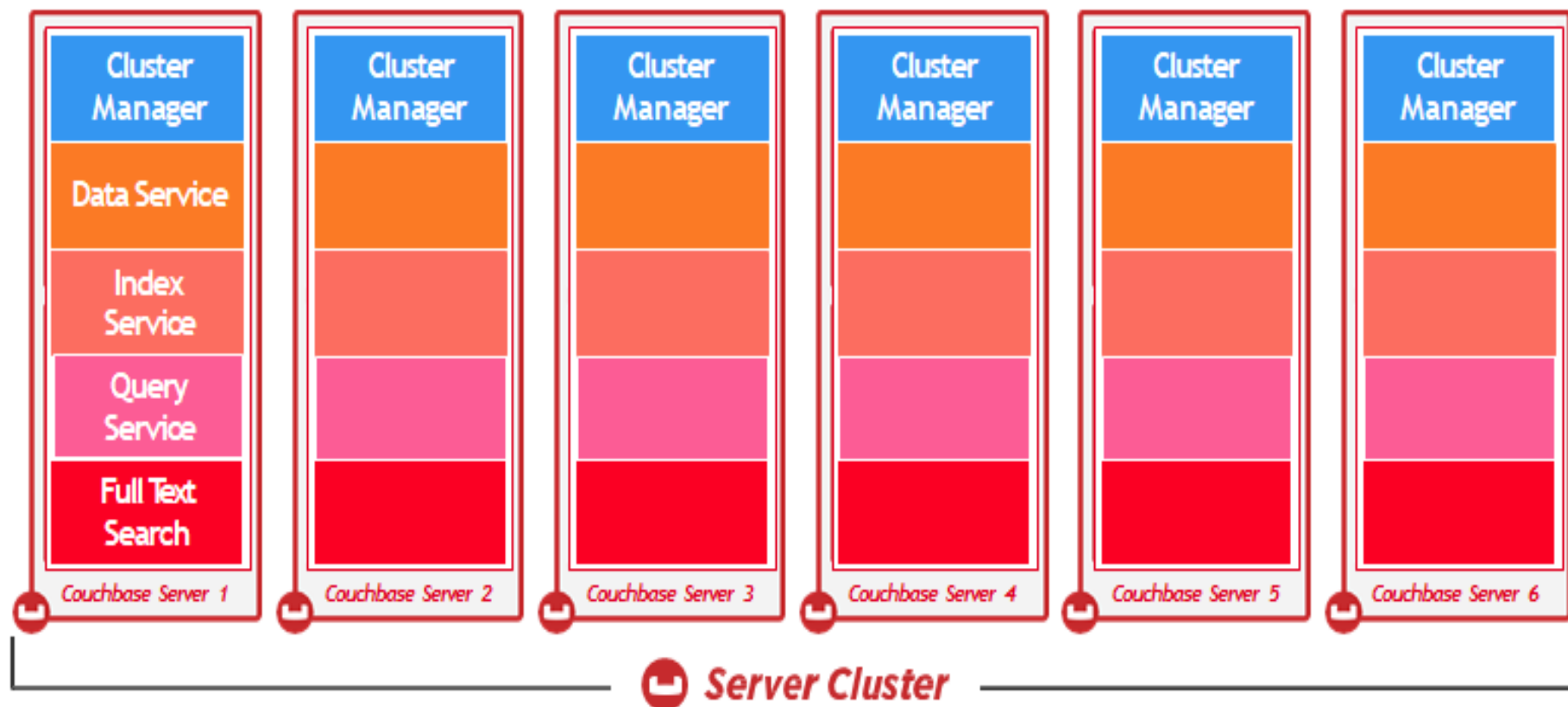
- All nodes are equal, single node type, easy to scale your cluster. No single point of failover
- Every node manages some active data and some replica data.
- Data is distributed across the cluster and hence the load is also uniformly distributed using auto sharding.
- We have a fixed number of shards that a key get hashed to. 1024 shards, distributed across the cluster.
- Replication within the cluster for high availability. Number of replicas are configurable with upto 3 replicas.
- With auto-failover or manual failover, replica information is immediately promoted to active
- Add multiple nodes at a time to grow and shrink your cluster.

# Couchbase Architecture

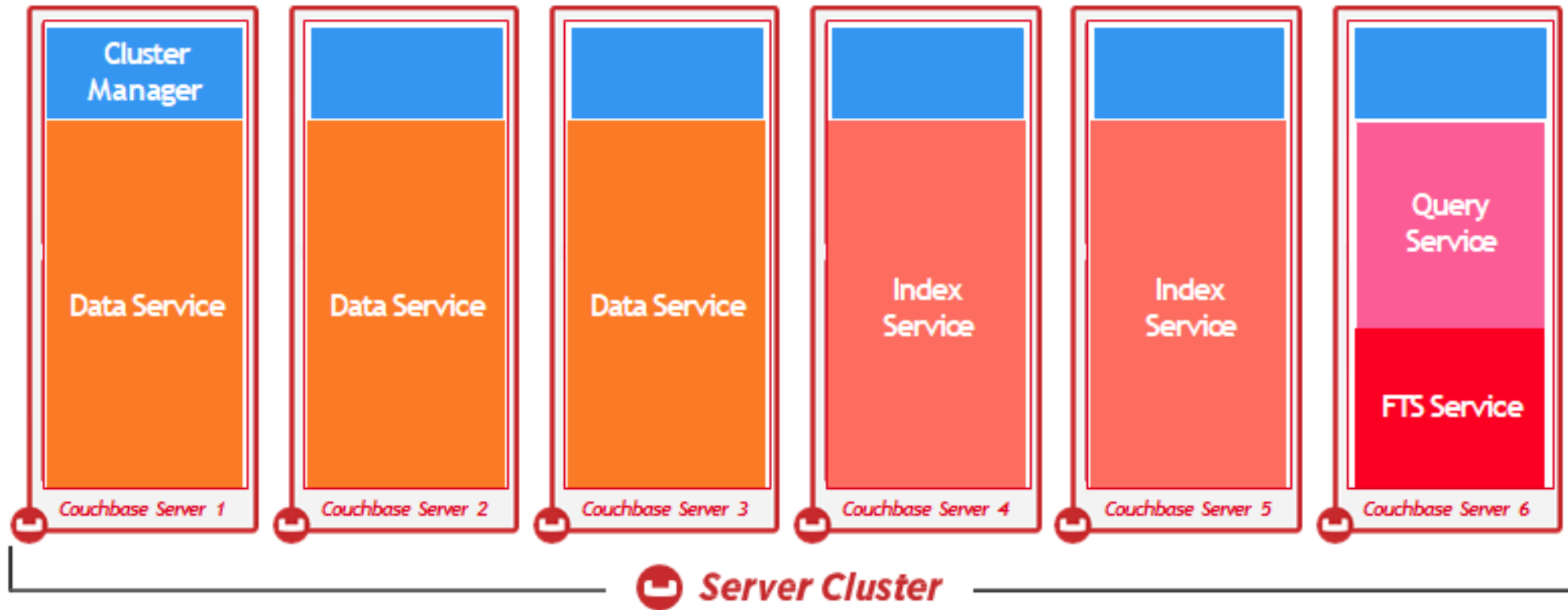




# Choice of Services



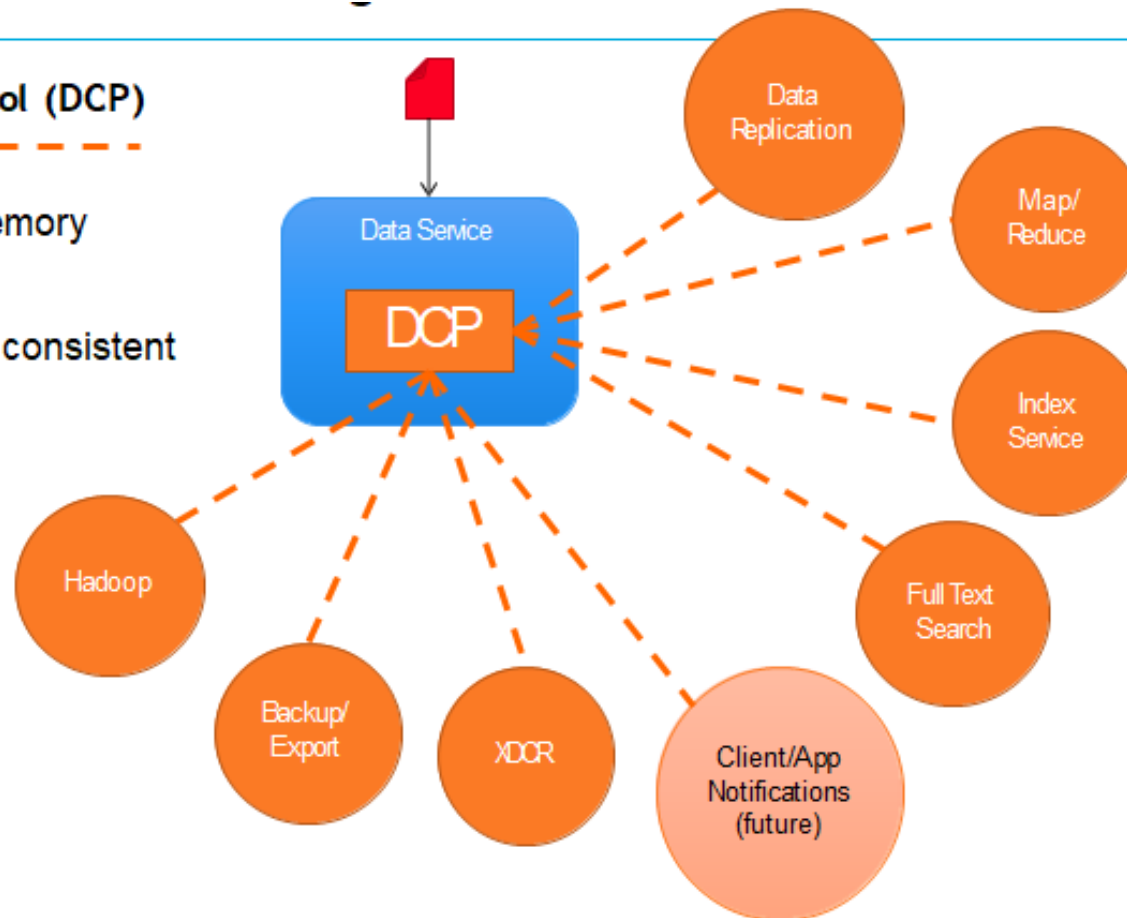
# Choice of Services : Multi-Dimensional Scaling



# Exceptional Data Streaming

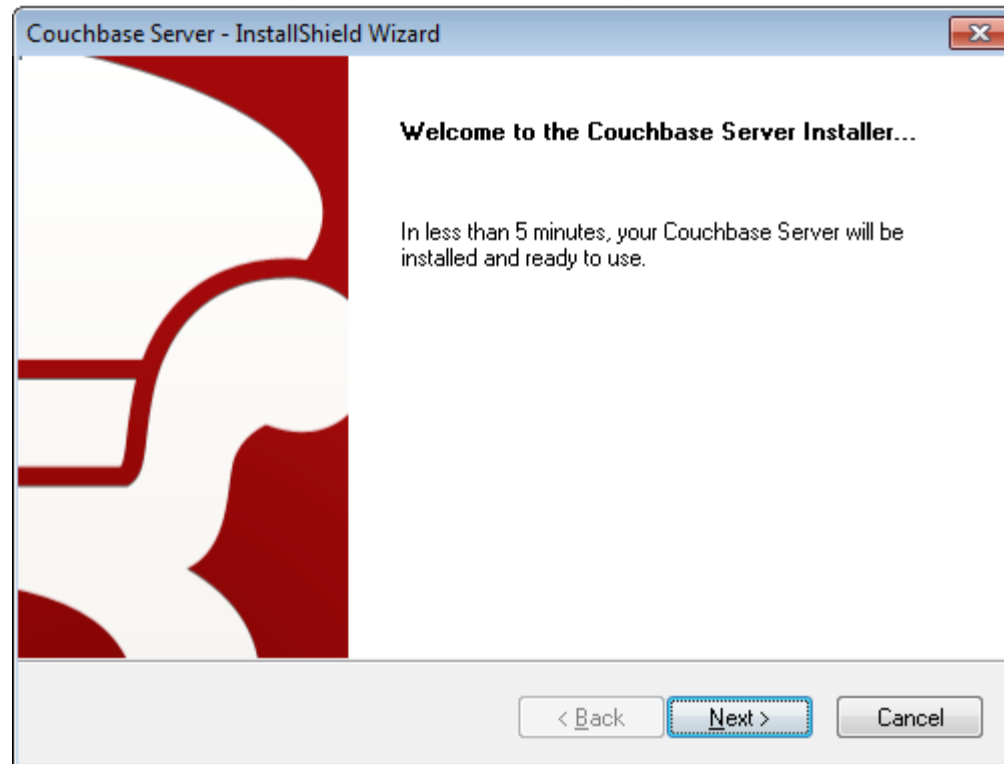
- Database Change Protocol (DCP)

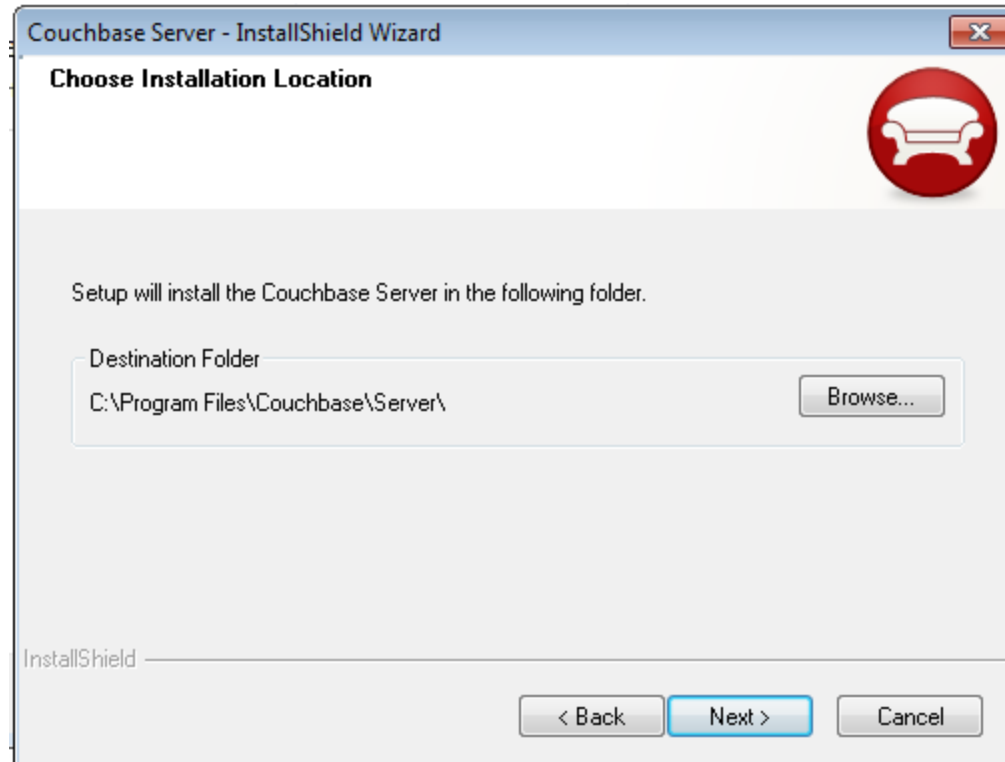
- High Performance /In-Memory
- De-Duplication
- Ordered, predictable and consistent
- Restartable

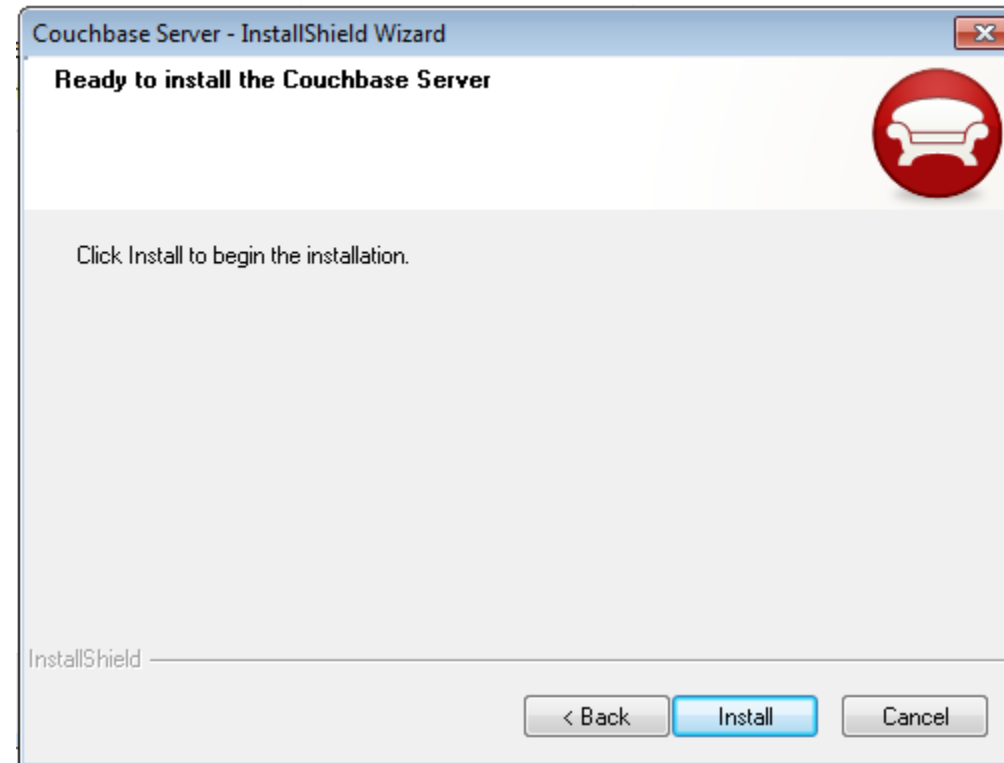


# Installation

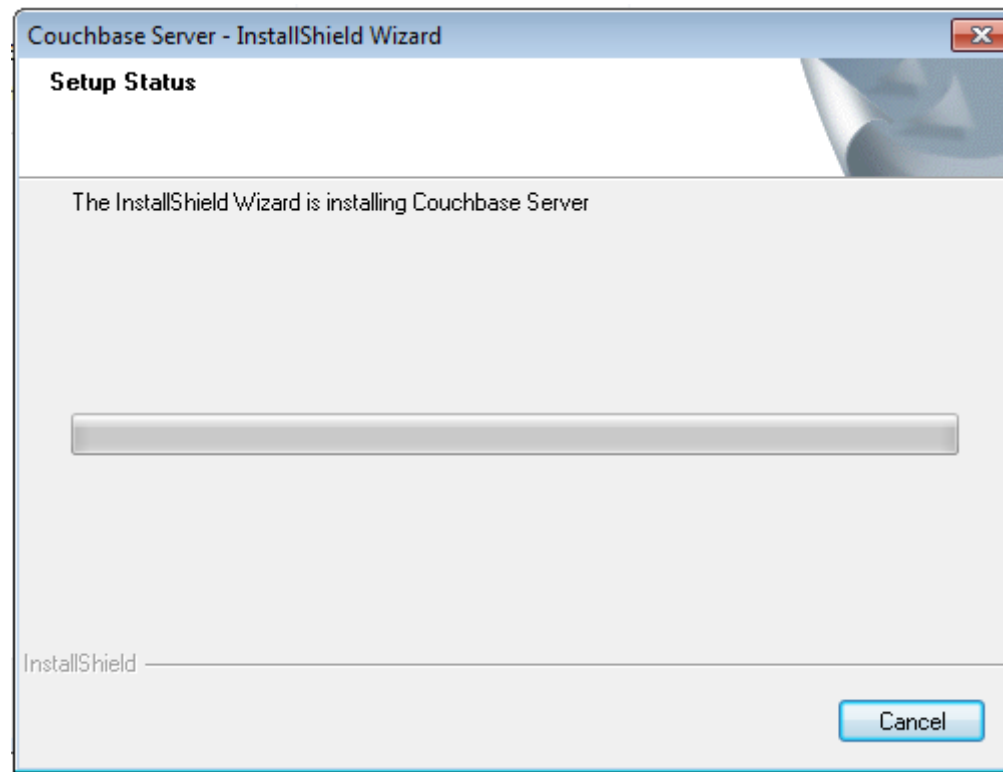
# Couchbase: Microsoft Windows Installation

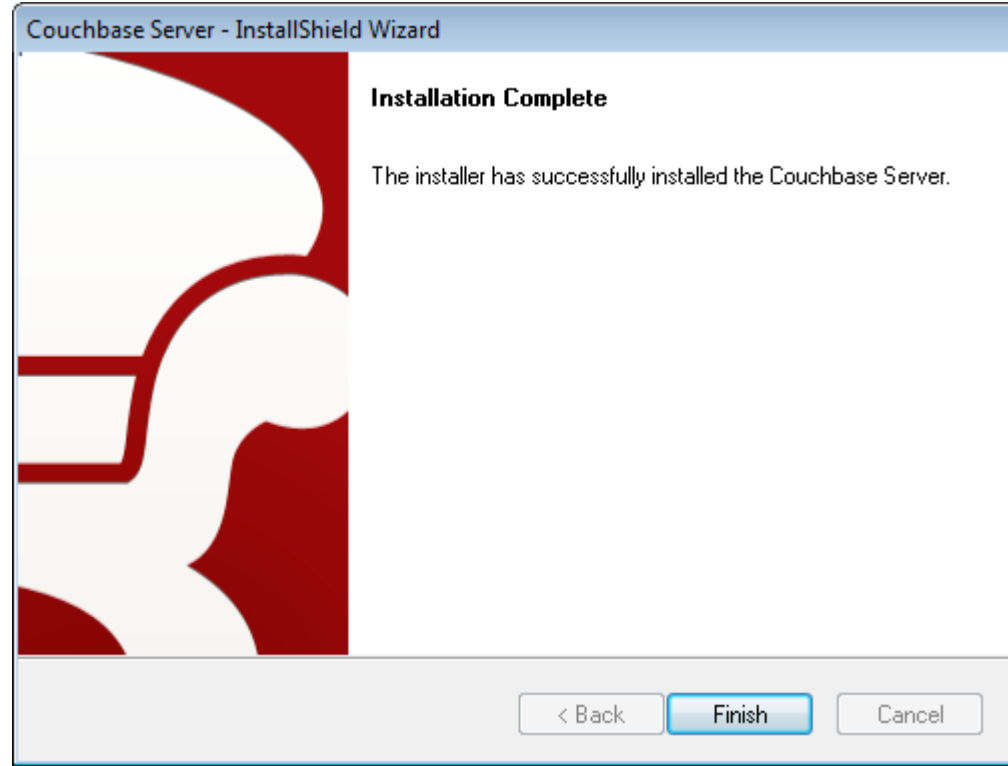














**CouchBase**

# LAB - RED HAT AND CENTOS INSTALLATION