

DATASTAX 

Introducing the course

Apache Cassandra:
Core Concepts, Skills, and Tools

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How can we all help us stay focused?

- **Please ...**
 - Silence all mobile devices, now
 - Hold conversations outside the classroom
 - Return promptly from lunch and breaks
 - Enter and leave quietly, if you need to do so

Who are you?

- **Please let us know**
 - Your name
 - Where you work
 - Your goals for using Cassandra
 - Your prior experience

What are our learning objectives?

- **Introducing big data and Cassandra**
 - Understand big data
 - Describe Cassandra
 - Understand common use cases

What are our learning objectives?

- **Installing, configuring, and running Cassandra**
 - Prepare the operating system
 - Select and install a Cassandra version
 - Configure Cassandra for a single node
 - Start and stop a Cassandra instance

What are our learning objectives?

- **Introducing Cassandra tools**
 - Configure nodes and clusters using *Cassandra Cluster Manager (CCM)*
 - Introduce and use *cqlsh* shell commands
 - Introduce and use *nodetool*
 - Populate and test nodes using *cassandra-stress*
 - Identify additional Cassandra tools

What are our learning objectives?

- **Understand Cassandra's internal architecture**
 - Understand how requests are coordinated
 - Understand replication
 - Understand and tune consistency
 - Introduce anti-entropy operations
 - Understand how nodes communicate
 - Understand the system keyspace

What are our learning objectives?

- **Introducing the Cassandra Data Model and Cassandra Query Language (CQL)**
 - Describe the Cassandra data model
 - Introduce *cqlsh* (*CQL Shell*)
 - Describe the DDL subset of CQL
 - Introduce *DevCenter*
 - Describe the DML subset of CQL
 - Understand the basics of data modeling for Apache Cassandra

What are our learning objectives?

- **Working with the Cassandra write path**
 - Understand how data is written to the storage engine
 - Understand the data directories

What are our learning objectives?

- **Working with the Cassandra read path**
 - Understand how data is read from the storage engine
 - Read data from Cassandra

What are our learning objectives?

- **Understand compaction**
 - Understand tombstones and deletion
 - Understand compaction and its necessity
 - Choose and implement compaction strategies

What are our learning objectives?

- **Introducing hardware planning and troubleshooting**
 - Introduce best practices in hardware implementation
 - Introduce troubleshooting resources

Resources

- Planet Cassandra
 - <http://planetcassandra.org/>
- DataStax Software Downloads
 - <http://www.datastax.com/download>
- DataStax Cassandra Documentation
 - <http://www.datastax.com/docs>
- DataStax Cassandra Dev Blog
 - <http://www.datastax.com/dev/blog>
- Cassandra Support Forum
 - <http://stackoverflow.com/questions/tagged/cassandra>
- Apache Cassandra Wiki
 - <http://wiki.apache.org/cassandra/>
- Apache Cassandra Project
 - <http://cassandra.apache.org/>

