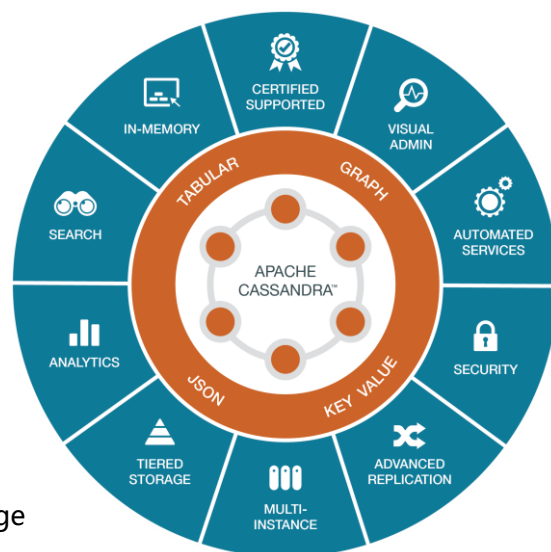


# DS210: Operations & Performance Tuning

## Instructor-Led Training

### Overview

DS210 teaches you how to configure and maintain your DataStax Enterprise Apache Cassandra™ cluster. You'll learn how to estimate the size of the cluster, how to configure and modify the cluster configuration, how to monitor and tune the cluster as well as the supporting operating system, JVM and hardware.



<b>Duration</b>	2 days
<b>Audience</b>	Software professionals who need to manage and tune the performance of a DataStax cluster.
<b>Prerequisites</b>	Completion of the DataStax Enterprise Foundations of Apache Cassandra™ online course.

### Course details

- Course Introduction
- Introduction to KillrVideo
- Configuring clusters
  - YAML file configuration
  - Exercise: Setting up your environment
- Backup, restore and moving data
  - Exercise: Stand-up a second datacenter
  - CQL COPY
  - sstabledump
  - sstableloader
  - Spark
  - Snapshots

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- Cluster performance estimation and verification
  - Cluster sizing
  - CassandraStress
  - Exercise: Configure and run CassandraStress
- Cluster performance monitoring
  - Linux tools for performance analysis
  - nodetool for performance analysis
  - System & Output logs
  - Exercise: Monitor, measure and diagnose cluster performance
- Adding and removing nodes
  - Bootstrapping
  - Remove node
  - Replace downed node
  - Exercise: Add nodes to the cluster and measure performance
- Care and feeding of a Cassandra Cluster
  - Leveled compaction
  - Size-tiered compaction
  - Time-windowed compaction
  - Repair
  - SSTable split
  - Multi-datacenter
- Exercise: Backup/restore
- JVM Tuning options
  - JVM Settings
  - Garbage collection
  - Heap dump
  - Profiling
  - Exercise: Tune the cluster and measure performance
- Tuning the kernel
  - Time sync
  - Kernel configuration
- Hardware considerations
  - Hardware selection
  - Cloud
  - Storage
  - Hadoop style nodes
- OpsCenter
  - Monitoring with OpsCenter

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## Benefits

Classroom training is delivered by DataStax experts, who will share first-hand experiences and practical use cases. High level of interactivity with the trainer coupled with hands-on labs deliver an active learning experience.

A private on-site training setting provides the option to tailor the delivery based on your needs and preferences. We will work with your team to determine areas requiring emphasis during delivery. Additionally, on-site training fosters teamwork and team learning that continue through the project.

For more information, please contact your account executive or send an email to [training@datastax.com](mailto:training@datastax.com).

## Terms

Please refer to the DataStax Services Terms for specific details regarding terms of Training delivery.

- This is a pre-paid Service offering.
- The Service expires 365 days after receipt of a valid customer order.
- The maximum class size is 20 attendees.
- This training is delivered onsite.
- A virtual classroom option is available., but we do not recommend mixing in-person and remote attendees. The remote attendees have limited learning experience in this environment.

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