



Big Data for Telecommunications

Harnessing analytics to maximize your business & service offerings

Overview

The Telco industry has gone through a transition from providing voice services to a fully converged service platform, with increasing demands for data capacity and speed. This is particularly true for mobile networks where mobile broadband has become the major business driver. In comparison to other organisations, mobile operators have vast amounts of data being generated by users which is a valuable resource for driving the business. Data sources include network information, user clickstreams, location, radio parameters, etc, both in structured and unstructured formats. This "big data" can only become useful if it is mined and analysed dynamically & efficiently. This workshop will provide an insight into Big Data in the context of the Telecommunications industry and how the outputs of analysis can be used to give competitive advantage. You will go through relevant case studies and be exposed to a "live" big data platform to experience how the system works.

You will learn

- Understand the architecture of a UNIX/Linux file system
- Install and verify a Linux system
- Use command line to manage and monitor services
- Create and manage user accounts
- Combine command line tools into simple scripts
- Work with graphical desktop environments
- Manage Linux security

Who can benefit

Personnel wishing to further their knowledge of Open Source and Linux systems and how they are used in IT & telecoms environments.

Pre requisite knowledge

Participants should have a basic understanding of communications networks

Course Outline

Introduction to Big Data

- What is "big data"?
- How is it different from existing databases & data analysis?
- Enablers for big data & analytics
- Why are Telcos looking at "big data"?
- What are the typical Telco sources of data to be analysed?

Traditional Databases

- Traditional relational databases and SQL
- Business Intelligence
- Data Warehousing
- Leveraging on internal and external data sources
- SQL and databases
- Data manipulation, querying and analysis

Big Data Concepts

- Taking a "top down" vs "bottom up" approach to analysis
- Paradigm shifts from traditional models
- Using a multidimensional view
- What is analytics?
- From reporting to predicting
- Issues with data usage

Big Data Platforms

- NoSQL databases
- Structured vs unstructured data
- Performance vs constraints
- Application examples
- Using MongoDB
- Overview of Hadoop
- Hadoop architecture & operations
- Redundancy and data replication
- Hadoop flavours: Cloudera & Hortonworks

Programming for Big Data

- Data ingestion from traditional sources
- Collecting streams & real-time traffic
- The MapReduce model
- Apache pig
- Programming with traditional languages (Java and Python)
- SQL interpreters and query engines (Hive, Impala)
- Using APIs
- Data analytics with Cloudera
- Creating dashboards

DURATION 3 days

MAXIMUM CLASS SIZE 14