



Course Data Sheet

VT120 – Vertica 9.x Essentials

Course No.: VT120-92	Category/Sub Category: Big Data Platform / Vertica
For software version(s): 9.x Software version used in the labs: 9.2	Course length: 4 days
Delivery formats: Instructor Led (ILT) and Virtual Instructor Led (VILT)	Training is available as a private session onsite.
To order visit: Software Education	
For a preview of this course, see the course trailer .	

Course Description

The Vertica Essentials course explores the capabilities of the Vertica platform solution, and prepares you to manage the operational success of your deployment.

During this course, you will learn:

- The architectural elements of a Vertica cluster
- How to load and manage data in the database
- How to manage database users and resources
- How to back up and restore the database
- Introductory information about Vertica’s built-in analytic functions
- How to work with semi-structured data
- Database security environment concerns

This class combines lectures with hands-on laboratory exercises performed in a live Vertica database cluster.

Audience/Job Roles

This course is intended for database administrators, database architects, data analysts, and application developers.

Course Objectives

Upon successful completion of this course, you should be able to:

- Describe Vertica's database and data storage structures
- Load and remove data from a Vertica database
- Optimize the database to improve query performance
- Create and manage database users and resources
- Back up and restore a Vertica database
- Find additional information and resources for working with Vertica

Prerequisites/Recommended Skills

To be successful in this course, you should have the following prerequisites or knowledge:

- Intermediate knowledge of RDBMS concepts (understanding databases and schemas, database normalization, etc.)
- Basic understanding of SQL (familiarity with basic SQL syntax, ability to troubleshoot syntax errors, etc.)
- Basic experience with the Linux operating system (how to change directories and list the contents, how to view and edit files, etc.)

Learning Paths



Certification

- VT120C-90-ASP – Vertica Accredited Software Professional

Course Topics

Modules	Objectives
Introduction to the Training Environment	<ul style="list-style-type: none"> • Accessing the training environment and reviewing its contents and structure • Reviewing the Student Guide • Starting and stopping a Vertica database
Vertica Overview	<ul style="list-style-type: none"> • Describe the building blocks of the Vertica platform • Describe the EON deployment mode
Introduction to Projections	<ul style="list-style-type: none"> • Read a projection DDL to determine its structure • Identify replicated and segmented projections • Use the database K-safety value to identify dependent nodes
Loading Data	<ul style="list-style-type: none"> • Review the structure of tables and projections • Load data using Vertica's hybrid storage model • Manually run the <i>moveout</i> and <i>mergeout</i> tasks
Query Execution	<ul style="list-style-type: none"> • Generate a query plan • Time a query • Profile a query • Identify the database epochs • Find data loaded at different epochs
Optimizing the Database	<ul style="list-style-type: none"> • Create a comprehensive database design using Management Console • Review the Database Designer output files • Deploy the comprehensive database design
Partitioning Data	<ul style="list-style-type: none"> • Create partitioned tables • Load data into partitions • Move partitioned data into archive tables
Removing Data	<ul style="list-style-type: none"> • Remove data by dropping and truncating tables • Bulk delete data from tables • Purge delete vectors • Remove data by dropping partitions
Database User Management	<ul style="list-style-type: none"> • Create new database users • Create new database user roles • Assign a role to a user • Create a role hierarchy
Table Access Privileges	<ul style="list-style-type: none"> • Assign inheritable privileges to a database schema • Limit access to database columns and rows by role • Restrict non-administrative access to system tables
Resource Management	<ul style="list-style-type: none"> • Review the default resource pools and parameters • Create a new resource pool • Test the user access to the new resource pool
Database Backup and Restore	<ul style="list-style-type: none"> • Create a backup configuration file • Back up the database • Review the database backups • Restore the database

Modules	Objectives
Overview of Analytic Functions	<ul style="list-style-type: none"> • Discuss the structure of an analytic query • Review Vertica-specific functions: <ul style="list-style-type: none"> ○ Conditional events ○ Gap filling and interpolation ○ Pattern matching ○ Geospatial definitions ○ Predictive analytics using machine learning
Securing the Database	<ul style="list-style-type: none"> • User authentication options • Securing your environment from outside threats • User authorization options
Flex Tables and Semi-Structured Data	<ul style="list-style-type: none"> • Define and describe semi-structured data • Create new flex tables and their supporting tables • Load data in different formats into a flex table • Explore data stored in flex tables
Introduction to Vertica SQL on Hadoop	<ul style="list-style-type: none"> • The challenges for accessing information in data lakes • The SQL on Hadoop architecture • Integrating Vertica and Hadoop information
Next Steps	<ul style="list-style-type: none"> • Find additional information on using Vertica • Review additional Software Education training • Introduce Micro Focus Software Vertica Certification • Introduce Vertica Community portals