Course duration

- 3 days

Course Benefits

- Learn to gain a deeper knowledge and understanding of the Greenplum Architecture and SQL and how to write it.

Course Outline

1. Introduction to the Greenplum Architecture
    1. What is Parallel Processing?
    2. The Basics of a Single Computer
    3. Data in Memory is Fast as Lightning
    4. Parallel Processing Of Data
    5. Symmetric Multi-Processing (SMP) Server
    6. Commodity Hardware Servers are Configured for Greenplum
    7. Commodity Hardware Allows For One Segment Per CPU
    8. The Master Host
    9. The Segment's Responsibilities
    10. The Host's Plan is Either All Segments or a Single Segment
    11. A Table has Columns and Rows
    12. Greenplum has Linear Scalability
    13. The Architecture of A Greenplum Data Warehouse
    14. Nexus is Now Available For Greenplum
2. Greenplum Table Structures
    1. The Concepts of Greenplum Tables
    2. Tables are Either Distributed by Hash or Random
    3. A Hash Distributed Table has A Distribution Key
    4. Picking A Distribution Key That Is Not Very Unique
    5. Random Distribution Uses a Round Robin Technique
    6. Tables Will Be Distributed Among All Segments
    7. The Default For Distribution Chooses the First Column
    8. Table are Either a Heap or Append-Only
    9. Tables are Stored in Either Row or Columnar Format
    10. Creating a Column Oriented Table
    11. Comparing Normal Table Vs. Columnar Tables
    12. Columnar can move just One Column Block Into Memory
    13. Segments on Distributions are Aligned to Rebuild a Row
    14. Columnar Tables Store Each Column in Separate Blocks
    15. Visualize the Data - Rows vs. Columns

    16. Table Rows are Either Sorted or Unsorted
    17. Creating a Clustered Index in Order to Physically Sort Rows
    18. Physically Ordered Tables Are Faster on Certain Queries
    19. Another Way to Create a Clustered Table
    20. Creating a B-Tree Index and then Running Analyze
    21. Creating a Bitmap Index
    22. Why Create a Bitmap Index?
    23. Tables Can Be Partitioned
    24. A Table Partitioned By Range (Per Month)
    25. A Visual of a Partitioned Table by Range (Month)
    26. Tables Can Be Partitioned by Day
    27. Visualize a Partitioned Table by Day
    28. Creating a Partitioned Table Using a List
    29. Creating a Multi-Level Partitioned Table
    30. Changing a Table to a Partitioned Table
    31. Not Null Constraints
    32. Unique Constraints
    33. Unique Constraints That Fail
    34. Primary Key Constraints
    35. A Primary Key Automatically Creates a Unique Index
    36. Check Constraints
    37. Creating an Automatic Number Called a Sequence
    38. Multiple INSERT example Using a Sequence

3. Hashing and Data Distribution
    1. Distribution Keys Hashed on Unique Values Spread Evenly
    2. Distribution Keys With Non-Unique Values Spread Unevenly
    3. Best Practices for Choosing a Distribution Key
    4. The Hash Maps
    5. A Review of the Hashing Process
    6. Non-Unique Distribution Keys have Skewed Data
4. The Technical Details
    1. Greenplum Limitations
    2. Every Segment has the Exact Same Tables
    3. Tables are Distributed Across All Segments
    4. The Table Header and the Data Rows are Stored Separately
    5. Segments Store Rows inside a Data Block Called a Page
    6. To Read a Data Block a Node Moves the Block into Memory
    7. A Full Table Scan Means All Nodes Must Read All Rows
    8. Rows are Organized inside a Page
    9. Moving Data Blocks is Like Checking In Luggage
    10. As Row-Based Tables Get Bigger, the Page Splits
    11. Data Pages are Processed One at a Time Per Unit
    12. Creating a Table that is a Heap
    13. Heap Page
    14. Creating a Table that has a Clustered Index
    15. Clustered Index Page
    16. The Row Offset Array is the Guidance System for Every Row

   17. The Building of a B-Tree for a Clustered Index
   18. When Do I Create a Non Clustered Index?
   19. B-Tree for Non Clustered Index on a Clustered Table
   20. Adding a Non Clustered Index To A
   21. B-Tree for Non Clustered Index on a Heap Table
5. Physical Database Design
   1. The Four Stages of Modeling for Greenplum- Check out #4
   2. The Logical Model
   3. First, Second and Third Normal Form
   4. The Employee_Table and Department_Table can be Joined
   5. The Employee_Table and Department_Table Join SQL
   6. The Extended Logical Model Template
   7. User Access is of Great Importance
   8. User Access in Layman's Terms
   9. User Access for Joins in Layman's Terms
   10. The Nexus Shows Users the Table's Distribution Key
   11. Data Demographics Tell Us if the Column is Worthy
   12. Data Demographics
   13. Typical Rows Per Value Query For Greenplum Systems
   14. SQL to Get the Average Rows Per Value for a Column (Mean)
   15. Data Demographics - Change Rating
   16. Factors When Choosing Greenplum Indexes
   17. Distribution Key Data Demographics Candidate Guidelines
   18. Distribution key Access Considerations
   19. Choose the Distribution Key and Secondary Indexes
   20. Our Index Picks
6. Denormalization
   1. Denormalization
   2. Derived Data
   3. Repeating Groups
   4. Pre-Joining Tables
   5. Storing Summary Data with a Trigger
   6. Summary Tables or Data Marts the Old Way
   7. Horizontal Partitioning
   8. Vertical Partitioning the Old Way
   9. Columnar Tables Are the New Vertical Partitioning
7. Nexus for Greenplum
   1. Nexus is Available on the Cloud
   2. Nexus Queries Every Major System
   3. Setup of Nexus is as Easy as Pie
   4. Setup of Nexus is a Easy as 1, 2, 3
   5. Nexus Data Visualization
   6. Nexus Data Visualization Shows What Tables Can Be Joined
   7. Nexus is Doing a Five-Table Join
   8. Nexus Generates the SQL Automatically
   9. Nexus Delivers the Report
   10. Cross-System Joins From Teradata, Oracle and SQL Server

11. The Tabs of the Super Join Builder
12. The 9 Tabs of the Super Join Builder - Objects Tab 1
13. Selecting Columns in the Objects Tab
14. The 9 Tabs of the Super Join Builder
15. Using the WHERE Tab For Additional WHERE or AND
16. Analytics Tab
17. Nexus Data Movement
18. Moving a Single Table To a Different System
19. The Single Table Data Movement Screen
20. Moving an Entire Database To a Different System
21. The Database Mover Screen
22. The Database Mover Options Tab
23. Converting DDL Table Structures
24. Compare and Synchronize
25. Compare Two Different Databases From Different Systems
26. Comparisons Down to the Column Level
27. The Results Tab
28. View Differences
29. Synchronizing Differences In the Results Tab
30. Synchronizing Differences In the Results Tab
31. Hound Dog Compression

8. The Basics of SQL
    1. Introduction
    2. SELECT * (All Columns) in a Table
    3. Fully Qualifying a Database, Schema and Table
    4. SELECT Specific Columns in a Table
    5. Commas in the Front or Back?
    6. Place your Commas in front for better Debugging Capabilities
    7. Sort the Data with the ORDER BY Keyword
    8. ORDER BY Defaults to Ascending
    9. Use the Name or the Number in your ORDER BY Statement
    10. Two Examples of ORDER BY using Different Techniques
    11. Changing the ORDER BY to Descending Order
    12. NULL Values sort First in Ascending Mode (Default)
    13. NULL Values sort Last in Descending Mode (DESC)
    14. Major Sort vs. Minor Sorts
    15. Multiple Sort Keys using Names vs. Numbers
    16. Sorts are Alphabetical, NOT Logical
    17. Using A CASE Statement to Sort Logically
    18. How to ALIAS a Column Name
    19. A Missing Comma can by Mistake become an Alias
    20. Comments using Double Dashes are Single Line Comments
    21. Comments for Multi-Lines
    22. Comments for Multi-Lines As Double Dashes Per Line
    23. A Great Technique for Comments to Look for SQL Errors
9. The WHERE Clause
    1. The WHERE Clause limits Returning Rows

2. Double Quoted Aliases are for Reserved Words and Spaces
3. Character Data needs Single Quotes in the WHERE Clause
4. Character Data needs Single Quotes, but Numbers Don’t
5. Comparisons against a Null Value
6. NULL means UNKNOWN DATA so Equal (=) won’t Work
7. Use IS NULL or IS NOT NULL when dealing with NULLs
8. NULL is UNKNOWN DATA so NOT Equal won’t Work
9. Use IS NULL or IS NOT NULL when dealing with NULLs
10. Using Greater Than or Equal To (>=)
11. AND in the WHERE Clause
12. Troubleshooting AND
13. OR in the WHERE Clause
14. Troubleshooting Or
15. Troubleshooting Character Data
16. Using Different Columns in an AND Statement
17. What is the Order of Precedence?
18. Using Parentheses to change the Order of Precedence
19. Using an IN List in place of OR
20. The IN List is an Excellent Technique
21. IN List vs. OR brings the same Results
22. The IN List Can Use Character Data
23. Using a NOT IN List
24. Null Values in a NOT IN List Bring Back No Rows
25. A Technique for Handling Nulls with a NOT IN List
26. BETWEEN is Inclusive
27. NOT BETWEEN is Also Inclusive
28. LIKE uses Wildcards Percent ‘%’ and Underscore ‘_’
29. LIKE command Underscore is Wildcard for one Character
30. ilike
31. LIKE Command Works Differently on Char Vs Varchar
32. Troubleshooting LIKE Command on Character Data
33. Introducing the TRIM Command
34. Introducing the RTRIM Command
35. Numbers are Right Justified and Character Data is Left
36. Answer - What Data is Left Justified and What is Right?
37. An example of Data with Left and Right Justification
38. A Visual of CHARACTER Data vs. VARCHAR Data
39. Use the TRIM command to remove spaces on CHAR Data
40. Escape Character in the LIKE Command changes Wildcards
41. Escape Characters Turn off Wildcards in the LIKE Command
42. Introducing the RTRIM Command
43. An example of Data with Left and Right Justification
44. A Visual of CHARACTER Data vs. VARCHAR Data
45. RTRIM command Removes Trailing spaces on CHAR Data
46. Using Like with an AND Clause to Find Multiple Letters
47. Using Like with an OR Clause to Find Either Letters

10. Distinct vs. Group By

    1. The Distinct Command
    2. Distinct vs. GROUP BY
11. Aggregation
    1. The 3 Rules of Aggregation
    2. There are Five Aggregates
    3. Troubleshooting Aggregates
    4. GROUP BY when Aggregates and Normal Columns Mix
    5. GROUP BY delivers one row per Group
    6. GROUP BY Dept_No or GROUP BY 1 the same thing
    7. Limiting Rows and Improving Performance with WHERE
    8. WHERE Clause in Aggregation limits unneeded Calculations
    9. Keyword HAVING tests Aggregates after they are Totaled
    10. Aggregates Return Null on Empty Tables
    11. Keyword HAVING is like an Extra WHERE Clause for Totals
    12. Keyword HAVING tests Aggregates after they are Totaled
    13. Getting the Average Values Per Column
    14. Average Values Per Column For all Columns in a Table
    15. Three types of Advanced Grouping
    16. Group By Grouping Sets
    17. Group By Rollup
    18. GROUP BY
12. Join Functions
    1. Redistribution
    2. Big Table Small Table Join Strategy
    3. Duplication of the Smaller Table across All-Distributions
    4. If the Join Condition is the Distribution Key no Movement
    5. Matching Rows That Are On The Same Node Naturally
    6. Strategy 1 of 4 - The Merge Join
    7. Strategy 2 of 4 - The Hash Join
    8. Strategy 3 of 4 - The Nested Join
    9. Strategy 4 of 4 - The Product Join
    10. A Two-Table Join Using Traditional Syntax
    11. A two-table join using Non-ANSI Syntax with Table Alias
    12. You Can Fully Qualify All Columns
    13. A two-table join using ANSI Syntax
    14. Both Queries have the same Results and Performance
    15. LEFT OUTER JOIN
    16. LEFT OUTER JOIN Results
    17. RIGHT OUTER JOIN
    18. RIGHT OUTER JOIN Example and Results
    19. FULL OUTER JOIN
    20. FULL OUTER JOIN Results
    21. Which Tables are the Left and which Tables are Right?
    22. INNER JOIN with Additional AND Clause
    23. ANSI INNER JOIN with Additional AND Clause
    24. ANSI INNER JOIN with Additional WHERE Clause
    25. OUTER JOIN with Additional WHERE Clause

26. OUTER JOIN with Additional AND Clause
27. OUTER JOIN with Additional AND Clause Results
28. Evaluation Order for Outer Queries
29. The DREADED Product Join
30. The DREADED Product Join Results
31. The Horrifying Cartesian Product Join
32. The ANSI Cartesian Join will ERROR
33. Answer - Do these Joins Return the Same Answer Set?
34. The CROSS JOIN
35. The CROSS JOIN Answer Set
36. The SelfJoin
37. The SelfJoin with ANSI Syntax
38. The Nexus Query Chameleon Writes the SQL for Users

13. Date Function
    1. Current_Date
    2. Current_Date, Current_Time, and Current_Timestamp
    3. Current_Time vs. LocalTime With Precision
    4. Local_Time and Local_Timestamp With Precision
    5. Now() and Timeofday() Functions
    6. Adding A Week to a Date
    7. Add or Subtract Days from a date
    8. Formatting Dates and Dollar Amounts
    9. The EXTRACT Command
    10. EXTRACT from DATES and TIME
    11. EXTRACT Command on the Century
    12. EXTRACT Command for the Decade, DOW and DOY
    13. EXTRACT Microseconds, Milliseconds and Millennium
    14. EXTRACT of the Month on Aggregate Queries
    15. Date_part Command
    16. Date_Trunc Command With Time
    17. Date_Trunc Command With Dates
    18. The AGE Command
    19. AGE Challenge
    20. AGE Challenge Results
    21. Epoch
    22. Using Intervals
    23. More Interval Examples
    24. Interval Arithmetic Results
    25. A Complex Time Interval example using CAST
    26. The OVERLAPS Command
    27. An OVERLAPS example that Returns No Rows
    28. The OVERLAPS Command using TIME
    29. Using Both CAST and CONVERT in Literal Values
    30. A Better Technique for YEAR, MONTH, and DAY Functions
14. Conversions and Formatting
    1. Postgres Conversion Functions
    2. Postgres Conversion Function Templates

    3. Postgres Conversion Function Templates Continued
    4. To_Char command Examples
    5. Formatting A Date with To_Char
    6. Formatting A Date With To_Char Continued
    7. To_Number
    8. To_Number Examples
    9. To_Date
    10. To_Timestamp
15. Sub-query Functions
    1. An IN List is much like a Subquery
    2. An IN List Never has Duplicates - Just like a Subquery
    3. An IN List Ignores Duplicates
    4. The Subquery
    5. The Three Steps of How a Basic Subquery Works
    6. These are Equivalent Queries
    7. The Final Answer Set from the Subquery
    8. Should you use a Subquery of a Join?
    9. The Basics of a Correlated Subquery
    10. The Top Query always runs first in a Correlated Subquery
    11. Correlated Subquery Example vs. a Join with a Derived Table
    12. How to handle a NOT IN with PotentialNULL Values
    13. IN is equivalent to =ANY
    14. Using a Correlated Exists
    15. How a Correlated Exists matches up
    16. The Correlated NOT Exists
    17. The Correlated NOT Exists Answer Set
16. OLAP Functions
    1. CSUM
    2. The ANSI CSUM - Getting a Sequential Number
    3. Troubleshooting The ANSI OLAP on a GROUP BY
    4. Reset with a PARTITION BY Statement
    5. PARTITION BY only Resets a Single OLAP not ALL of them
    6. Moving SUM
    7. ANSI Moving Window is Current Row and Preceding n Rows
    8. How ANSI Moving SUM Handles the Sort
    9. Moving SUM every 3-rows Vs a Continuous Average
    10. Partition By Resets an ANSI OLAP
    11. Both the Greenplum Moving Average andANSI Version
    12. Moving Average
    13. The Moving Window is Current Row and Preceding
    14. How Moving Average Handles the Sort
    15. Moving Average every 3-rows Vs a Continuous Average
    16. Partition By Resets an ANSI OLAP
    17. Moving Difference using ANSI Syntax with Partition By
    18. RANK Defaults to Ascending Order
    19. Getting RANK to Sort in DESC Order
    20. RANK() OVER and PARTITION BY

    21. RANK and DENSE RANK
    22. PERCENT_RANK() OVER
    23. COUNT OVER for a Sequential Number
    24. Troubleshooting COUNT OVER
    25. The MAX OVER Command
    26. MAX OVERwith PARTITION BY Reset
    27. Troubleshooting MAX OVER
    28. The MIN OVER Command
    29. Troubleshooting MIN OVER
    30. Finding a Value of a Column in the Next Row with MIN
    31. The Row_Number Command
    32. Using a Derived Table and Row_Number
    33. Ordered Analytics OVER
    34. CURRENT ROW AND UNBOUNDED FOLLOWING
    35. Different Windowing Options
    36. The CSUM For Each Product_Id and the Next Start Date
    37. How Ntile Works
    38. Ntile
    39. Ntile Continued
    40. Ntile Percentile
    41. Another Ntile example
    42. Using Tertiles (Partitions of Four)
    43. NTILE
    44. NTILE Using a Value of 10
    45. NTILE With a Partition
    46. Using FIRST_VALUE
    47. FIRST_VALUE
    48. FIRST_VALUE After Sorting by the Highest Value
    49. FIRST_VALUE with Partitioning
    50. Using LAST_VALUE
    51. LAST_VALUE
    52. Using LEAD
    53. Using LEAD With and Offset of 2
    54. LEAD
    55. LEAD With Partitioning
    56. Using LAG
    57. Using LAG With an Offset of 2
    58. LAG
    59. LAG with Partitioning
    60. CUME_DIST
    61. CUME_DIST With a Partition
    62. SUM(SUM(n))
17. Temporary Tables
    1. There are Two Types of Temporary Tables
    2. CREATING A Derived Table
    3. Naming the Derived Table
    4. Aliasing the Column Names in The Derived Table

    5. Multiple Ways to Alias the Columns in a Derived Table
    6. CREATING A Derived Table using the WITH Command
    7. The Same Derived Query shown Three Different Ways
    8. Most Derived Tables Are Used To Join To Other Tables
    9. The Three Components of a Derived Table
    10. Visualize This Derived Table
    11. A Derived Table and CAST Statements
    12. A Derived example Using The WITH Syntax
    13. Clever Tricks on Aliasing Columns in a Derived Table
    14. An example of Two Derived Tables in a Single Query
    15. MULTIPLE Derived Tables using the WITH Command
    16. Three Steps to Creating a Temporary Table
    17. Three Versions of Creating a Temporary Table
    18. ON COMMIT PRESERVE ROWS is the Greenplum Default
    19. ON COMMIT DELETE ROWS
    20. How to Use the ON COMMIT DELETE ROWS Option
    21. ON COMMIT DROP
    22. How to Use the ON COMMIT DROP Option
    23. Create Table AS
    24. Create Table LIKE
    25. Creating a Clustered Index on a Temporary Table
18. Substrings and Positioning Functions
    1. The CHARACTERS Command Counts Characters
    2. The CHARACTERS Command and Char(20) Data
    3. CHARACTER_LENGTH and OCTET_LENGTH
    4. The TRIM Command trims both Leading and Trailing Spaces
    5. Trim Combined with the CHARACTERS Command
    6. How to TRIM only the Trailing Spaces
    7. A Visual of the TRIM Command Using Concatenation
    8. Trim and Trailing is Case Sensitive
    9. How to TRIM Trailing Letters
    10. The SUBSTRING Command
    11. SUBSTRING and SUBSTR are equal, but use different syntax
    12. How SUBSTRING Works with NO ENDING POSITION
    13. Using SUBSTRING to move Backwards
    14. How SUBSTRING Works with a Starting Position of -1
    15. How SUBSTRING Works with an Ending Position of 0
    16. An example using SUBSTRING, TRIM andCHAR Together
    17. The POSITION Command finds a Letters Position
    18. Concatenation
    19. Concatenation and SUBSTRING
    20. Four Concatenations Together
    21. Troubleshooting Concatenation
19. Interrogating the Data
    1. The NULLIF Command
    2. The COALESCE Command - Fill In the Answers
    3. The COALESCE Answer Set

    4. COALESCE is Equivalent to This CASE Statement
    5. The COALESCE Command
    6. The COALESCE Answer Set
    7. The Basics of CAST (Convert and Store)
    8. Some Great CAST (Convert and Store) Examples
    9. Some Great CAST (Convert and Store) Examples
    10. A Rounding Example
    11. Some Great CAST (Convert And STore) example
    12. Using an ELSE in the Case Statement
    13. Using an ELSE as a Safety Net
    14. Rules For a Valued Case Statement
    15. Rules for a Searched Case Statement
    16. Valued Case Vs. A Searched Case
    17. The CASE Challenge
    18. The CASE Challenge Answer
    19. Combining Searched Case and Valued Case
    20. A Trick for getting a Horizontal Case
    21. Nested Case
20. Set Operators Functions
    1. Rules of Set Operators
    2. Rules of Set Operators
    3. INTERSECT Explained Logically
    4. INTERSECT Explained Logically
    5. UNION Explained Logically
    6. UNION Explained Logically
    7. UNION ALL Explained Logically
    8. UNION ALL Explained Logically
    9. EXCEPT Explained Logically
    10. EXCEPT Explained Logically
    11. An Equal Amount of Columns in both SELECT List
    12. Columns in the SELECT list should be from the same Domain
    13. The Top Query handles all Aliases
    14. The Bottom Query does the ORDER BY (a Number)
    15. Great Trick: Place your Set Operator in a Derived Table
    16. UNION Vs UNION ALL
    17. Using UNION ALL and Literals
    18. A Great example of how EXCEPT works
    19. USING Multiple SET Operators in a Single Request
    20. Changing the Order of Precedence with Parentheses
    21. Using UNION ALL for speed in Merging Data Sets
21. View Functions
    1. The Fundamentals of Views
    2. Creating a Simple View to Restrict Sensitive Columns
    3. Creating a Simple View to Restrict Rows
    4. Basic Rules for Views
    5. Exception to the ORDER BY Rule inside a View
    6. Views sometimes CREATED for Formatting

    7. Creating a View to Join Tables Together
    8. Another Way to Alias Columns in a View CREATE
    9. The Standard Way Most Aliasing is Done
    10. What Happens When Both Aliasing Options Are Present
    11. Resolving Aliasing Problems in a View CREATE
    12. Answer to Resolving Aliasing Problems in a View CREATE
    13. Aggregates on View Aggregates
    14. Altering A Table
    15. Altering A Table After a View has been Created
    16. A View that Errors After An ALTER

22. Table Create and Data Types
    1. Greenplum Has Only Two Distribution Policies
    2. Creating a Table With A Single Column Distribution Key
    3. The Default Table Storage is a Heap
    4. Creating a Table With a Multi-Column Distribution Key
    5. Creating a Table With Random Distribution
    6. Creating a Table With No Distribution Key
    7. Guidelines for Partitioning a Table
    8. Creating a Partitioned Table Using a Range
    9. A Visual of One Year of Data with Range Partitioning
    10. Creating a Partitioned Table Using a Range Per Day
    11. A Visual of One Year of Data with Range Per Day
    12. Creating a Partitioned Table Using a List
    13. Creating a Multi-Level Partitioned Table
    14. Changing a Table to a Partitioned Table
    15. Not Null Constraints
    16. Unique Constraints
    17. Primary Key Constraints
    18. Check Constraints
    19. Append Only Tables
    20. Storage is Either Row, Column, or a Combination of Both
    21. Column-Orientated Tables
    22. CREATE INDEX Syntax
    23. CREATE INDEX Syntax
    24. Create Table LIKE
    25. Greenplum Data Types
23. Data Manipulation Language (DML)
    1. INSERT Syntax # 1
    2. INSERT example with Syntax 1
    3. INSERT Syntax # 2
    4. INSERT example with Syntax 2
    5. INSERT example with Syntax 3
    6. INSERT/SELECT Command
    7. INSERT/SELECT example using All Columns (*)
    8. INSERT/SELECT example with Less Columns
    9. Two UPDATE Examples
    10. Subquery UPDATE Command Syntax example of Subquery UPDATE Command

    11. Join UPDATE Command Syntax example of an UPDATE Join Command
    12. Fast UPDATE
    13. The DELETE Command Basic Syntax
    14. DELETE and TRUNCATE Examples
    15. To DELETE or to TRUNCATE
    16. Subquery and Join DELETE Command Syntax
    17. Example of Subquery DELETE Command
24. ANALYZE and VACUUM
    1. ANALYZE
    2. ANALYZE Options
    3. What Columns Should You Analyze?
    4. Why Analyze?
    5. VACUUM
    6. VACUUM Options
25. Greenplum Explain
    1. How to See an EXPLAIN Plan
    2. The Eight Rules to Reading an EXPLAIN Plan
    3. Interpreting Keywords in an EXPLAIN Plan
    4. Interpreting an EXPLAIN Plan
    5. A Single Segment Retrieve – The Fastest Query
    6. EXPLAIN With an ORDER BY Statement
    7. EXPLAIN ANALYZE
    8. EXPLAIN With a Range Query on a Table Partitioned By Day
    9. EXPLAIN That Uses a B-Tree Index Scan
    10. EXPLAIN That Uses a Bitmap Scan
    11. EXPLAIN With a Simple Subquery
    12. EXPLAIN With a Columnar Query
    13. EXPLAIN With a Clustered Index
    14. The Most Important Concept for Joins is the Distribution Key
    15. EXPLAIN With Join that has to Move Data
    16. EXPLAIN With Join that has to Move Data
    17. Changing the Join Query Changes the EXPLAIN Plan
    18. Analyzing the Tables Structures For a 3-Table Join
    19. An EXPLAIN For a 3-Table Join
    20. Explain of a Derived Table vs. a Correlated Subquery
    21. Explain of The Correlated Subquery
    22. Explain of The Derived Table
26. Statistical Aggregate Functions
    1. The Stats Table
    2. The STDDEV_POP Function
    3. A STDDEV_POP Example
    4. The STDDEV_SAMP Function
    5. A STDDEV_SAMP Example
    6. The VAR_POP Function
    7. A VAR_POP Example
    8. The VAR_SAMP Function
    9. A VAR_SAMP Example

10. The VARIANCE Function
11. A VARIANCE Example
12. The CORR Function
13. A CORR Example
14. A REGR_SYY Example
15. Using GROUP BY

Class Materials

Each student will receive a comprehensive set of materials, including course notes and all the class examples.

Phoca PDF