# Introduction to SQL Programming Basics (TTSQL002)

**Category:** Software Development & Programming | **Vendor:** Trivera Tech

**Duration:** 24.00 hours (3 days) **19.5 CPD Hours** **Rating:** ⭐ 4.6 (5,878 reviews)

## Course Information

**Delivery Format:** Instructor Led - Online

## Course Overview

Introduction to SQL Programming is a three-day, hands-on course that will provide you with a solid understanding of SQL programming, providing you with the tools, techniques, and insights required to excel in database management and analysis.

## About This Course

SQL, or Structured Query Language, serves as the backbone of modern data management and manipulation. Understanding its principles allows technical professionals to create, maintain, and interrogate databases, giving them the power to make data-driven decisions that can shape the success of their organizations. From e-commerce platforms to complex inventory systems, SQL is the key to managing big data and transforming it into actionable insights.

Geared for experienced technical professionals, Introduction to SQL Programming is a three-day, hands-on course that will provide you with a solid understanding of SQL programming, providing you with the tools, techniques, and insights required to excel in database management and analysis.

Throughout the course, you'll learn how to handle data challenges with creativity and precision, learning how to extract, analyze, and interpret large datasets. This includes developing abilities to craft, interpret, and optimize SQL queries, analyze data, and implement effective database solutions, leading to informed, data-driven decision-making. You'll explore relational design principles, entity relationship diagrams, and the creation of efficient data models to represent complex relationships within data. The course also covers how to construct, interpret, and optimize SQL queries, including the use of functions, joins, subqueries, and advanced analytical techniques.

Through extensive lab work, you'll gain the foundational knowledge and practical skills required to tackle various data challenges with confidence and creativity. You'll exit the course equipped with the SQL knowledge and skills needed to craft, interpret, and optimize SQL queries, analyze data, and implement effective database solutions, leading to informed, data-driven decision-making within your organization.

## Who Should Attend

Basic Computer Literacy: Familiarity with operating systems, file management, and general computer navigation to ensure a smooth transition into learning SQL tools and environments.

-Understanding of Fundamental Data Concepts: A grasp of basic data concepts like tables, records, and fields would aid in understanding relational databases and how SQL operates within them.

-Basic technical background: Although specific prior scripting experience isn't required to attend, we recommend that you have a background in IT or other technical topics or skills

## Prerequisites & Entry Requirements

**General Prerequisites:**

Basic Computer Literacy: Familiarity with operating systems, file management, and general computer navigation to ensure a smooth transition into learning SQL tools and environments.

-Understanding of Fundamental Data Concepts: A grasp of basic data concepts like tables, records, and fields would aid in understanding relational databases and how SQL operates within them.

-Basic technical background: Although specific prior scripting experience isn®®t required to attend, we recommend that you have a background in IT or other technical topics or skills

## Learning Outcomes

**Upon successful completion of this course, participants will be able to:**

Working in a hands-on learning environment, led by our expert instructor, you'll explore:
-Basic RDBMS Principles: Learn the art of relational design, entity relationship diagrams, data domains, and more.
-The SQL Language and Tools: Get acquainted with SQL*Plus, EZConnect, and other vital SQL and PL/SQL commands.
-Using SQL Developer: Configure connections, understand different tabs, and become proficient in Query Builder.
-Essential Query Mechanics: Grasp SQL query basics, functions, ANSI 92 Joins, ANSI 99 Joins, and delve into subqueries.
-Advanced Analytics: Explore regular expressions, analytics, ranking functions, pattern matching, and more. Throughout the course, hands-on labs will enable participants to apply the learned concepts directly, simulating real-world projects. Whether designing intricate data structures or performing nuanced data analyses, these exercises provide a practical understanding of how SQL can be applied on the job.
-Data Analysis Essentials: Discover how to extract, analyze, and interpret data, deriving insights that can guide organizational strategies.
-Database Management: Learn to construct and manage sophisticated database systems, ensuring efficiency and reliability.
-Versatile Tool Utilization: Master tools like SQL Developer and SQL*Plus, harnessing their full capabilities to optimize your database operations.

## Detailed Course Outline

Basic RDBMS Principles

Relational design principles

Accessing data through a structured query language

Entity relationship diagrams

Data Domains

Null values

Indexes

Views

Denormalization

Data Model Review

The SQL Language and Tools

Using SQL*Plus

Why Use SQL*Plus When Other Tools Are Available

Starting SQL*Plus

EZConnect

SQL Commands

PL/SQL Commands

SQL*Plus Commands

The COLUMN Command

The HEADING Clause

The FORMAT Clause

The NOPRINT Clause

The NULL Clause

The CLEAR Clause

Predefined define variables

LOGIN.SQL

Command history

Copy and paste in SQL*Plus

Entering SQL commands

Entering PL/SQL commands

Entering SQL*Plus commands

Default output from SQL*Plus

Entering Queries

What about PL/SQL

Using SQL Developer

Choosing a SQL Developer version

Configuring connections

Creating A Basic Connection

Creating A TNS Connection

Connecting

Configuring preferences

Using SQL Developer

The Columns Tab

The Data Tab

The Constraints Tab

The Grants Tab

The Statistics Tab

Other Tabs

Queries In SQL Developer

Query Builder

Accessing Objects Owned By Other Users

The Actions Pulldown Menu

Differences between SQL Developer and SQL*Plus

Reporting Commands Missing In SQL Developer

General Commands Missing In SQL Developer

Data Dictionary report

User Defined reports

Using scripts in SQL Developer

SQL Query Basics

Understanding the data dictionary

Exporting Key Data Dictionary Information

The Dictionary View

Components of a SELECT Statement

The SELECT Clause

The FROM Clause

The WHERE Clause

The GROUP BY Clause

The HAVING Clause

The ORDER BY Clause

The START WITH And CONNECT BY Clauses

The FOR UPDATE Clause

Set Operators

Column Aliases

Fully Qualifying Tables and Columns

Table Aliases

Using DISTINCT and ALL in SELECT statements

WHERE and ORDER BY

WHERE clause basics

Comparison operators

Literals and Constants in SQL

Simple pattern matching

Logical operations

The DUAL table

Arithmetic operations

Expressions in SQL

Character operators

Pseudo columns

Order by clause basics

Ordering Nulls

Accent and case sensitive sorts

Sampling data

WHERE and ORDER BY in SQL Developer

All, Any, Some

Functions

The basics of functions

Number functions

Character functions

Date functions

Conversion functions

Other functions

Large object functions

Error functions

The RR format mode;

Leveraging your knowledge

ANSI 92 JOINS

Basics of ANSI 92 Joins

Using Query Builder with multiple tables

Table Aliases

Outer joins

Outer Joins In Query Builder

Set operators

Self-referential joins

Non-Equijoins

ANSI 99 Joins

Changes with ANSI99

CROSS Join

NATURAL Join

JOIN USING

JOIN ON

LEFT / RIGHT OUTER JOIN

FULL OUTER JOIN

GROUP BY and HAVING

Introduction to GROUP functions Limiting Rows

Including NULL

Using DISTINCT With Group Functions

GROUP function requirements

The HAVING clause

Other GROUP function rules

Using Query Builder with GROUP clauses

ROLLUP and CUBE

The Grouping function

Grouping Sets

Subqueries

Why use subqueries

WHERE clause subqueries

FROM clause subqueries

HAVING clause subqueries

CORRELATED subqueries

SCALAR subqueries

DML and subqueries

EXISTS subqueries

Hierarchical queries

TOP N AND BOTTOM N queries

Creating subqueries using Query Builder

Regular Expressions

Available Regular Expressions

Regular Expression Operators

Character Classes

Pattern matching options

REGEX_LIKE

REGEXP_SUBSTR

REGEXP_INSTR

REGEXP_REPLACE

REGEXP_COUNT

Analytics

The WITH clause

Reporting aggregate functions

Analytical functions

User-Defined bucket histograms

The MODEL clause

PIVOT and UNPIVOT

Temporal validity

More Analytics

RANKING functions

RANK

DENSE_RANK

CUME_DIST

PERCENT_RANK

ROW_NUMBER

Windowing aggregate functions

RATIO_TO_REPORT

LAG / LEAD

Linear Regression functions

Inverse Percentile functions

Hypothetical ranking functions

Pattern Matching

# Additional Course Details

Nexus Humans Introduction to SQL Programming Basics (TTSQL002) training program is a workshop that presents an invigorating mix of sessions, lessons, and masterclasses meticulously crafted to propel your learning expedition forward.

This immersive bootcamp-style experience boasts interactive lectures, hands-on labs, and collaborative hackathons, all strategically designed to fortify fundamental concepts.

Guided by seasoned coaches, each session offers priceless insights and practical skills crucial for honing your expertise. Whether you're stepping into the realm of professional skills or a seasoned professional, this comprehensive course ensures you're equipped with the knowledge and prowess necessary for success.

While we feel this is the best course for the Introduction to SQL Programming Basics (TTSQL002) course and one of our Top 10 we encourage you to read the course outline to make sure it is the right content for you.

Additionally, private sessions, closed classes or dedicated events are available both live online and at our training centres in Dublin and London, as well as at your offices anywhere in the UK, Ireland or across EMEA.

# Frequently Asked Questions

### Q: What delivery options are available for Introduction to SQL Programming Basics (TTSQL002)?

We offer multiple delivery formats:

- Live Instructor-Led Classroom Online (Virtual/Live Online)
- Traditional Instructor-Led Classroom Training (ILT)
- On-site delivery at your offices anywhere in United Kingdom
- Private dedicated courses customized for your team

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### Q: How many CPD hours does this course provide?

The 3-day Introduction to SQL Programming Basics (TTSQL002) course provides up to 19.5 CPD hours of structured learning. CPD certificates can be provided upon request.

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### Q: What is the duration of the Introduction to SQL Programming Basics (TTSQL002) training?

The training takes place over 3 day(s), with each day lasting approximately 24.00 hours including breaks for lunch and refreshments.

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### Q: Do you provide corporate training for Introduction to SQL Programming Basics (TTSQL002)?

Yes, we provide corporate training, dedicated training, and closed classes for Introduction to SQL Programming Basics (TTSQL002). Training can take place anywhere in United Kingdom including London, Manchester, Birmingham, Edinburgh, or live online allowing teams from across United Kingdom or internationally to attend.

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### Q: What related terms do people search for?

Popular related searches include: SQL

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### Q: Why choose Nexus Human for Introduction to SQL Programming Basics (TTSQL002)?

Nexus Human is recognized as one of the leading training providers. Our trainers have won multiple awards including:

- Small Firms Best Trainer Award
- National Training Partner of the Year (Ireland) - Multiple Years
- Global Top 30 Instructor Awards (2012, 2019, 2021)
- Tech Excellence Award Nominations
- Learning Performance Institute (LPI) External Training Provider Sponsor 2024

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### Q: Are there any discount codes available?

Yes! Use discount code **PENPAL5** when booking your Introduction to SQL Programming Basics (TTSQL002) training. Please note that only one discount code can be used per booking and cannot be combined with other special offers.


## Nexus Human

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