

At the end of the course, the participant will be capable of developing a Rich Internet Application with the Instant Developer development environment using a database engine for storing/loading information. The application will be made of forms for data entry, forms for data analysis, and simple data summary printing.

Prerequisites

Knowledge of Windows OS, knowledge of basic OOP programming principles and of any object-oriented programming language, basic knowledge of relational databases and SQL language. Independent completion of the Tutorial and Step by Step Guide, accessible via the welcome page of the Instant Developer IDE.

Course program

Lesson 1: Development environment and database construction

- Presentation of the Instant Developer development environment
 - Project tree
 - Properties forms
 - Visual Code Editor window
 - Screens for graphical definition of objects
 - Definition of the relational programming concept on which the Instant Developer development environment is based
- Definition of the basic objects for Instant Developer programming
 - Project
 - Database
 - Application
 - Forms
 - Panels
 - Application menu
- Instant Developer project
 - Creating a new Instant Developer project
 - Properties of a project
- Database object
 - Definition and selection of the database
 - Software requirements for use of the selected database (installing the database engine and/or ODBC/OLEDB/JDBC/ADO.NET driver depending on the technology in question)
 - Methods for creating the structure of a database in the Instant Developer project.
 - Importing a structure from an existing database
 - Creating a structure in the Instant Developer environment
 - Importing an existing database structure
 - Creating the database object in the Instant Developer project
 - Verifying the database connection
 - Importing a structure

- Creating a database structure in the Instant Developer environment
 - Creating the database object in the Instant Developer project
 - Creating tables
 - Creating fields: defining field properties and data types
 - Difference between the NAME property and the CODE property of DATABASE/FIELD objects
 - Creating Value lists and/or Domains for managing the data stored in fields
 - Creating relationships
 - How to create and/or update the database on the database server
 - Importance of the ZZ_OBJECT table
- Creating a web application
 - Web application properties
 - Web application theme

Lesson 2: Document Orientation, Forms, Panels

- Document Orientation: Object Oriented Programming in Instant Developer
 - Definition of Document Orientation
 - Definition of Class, Property, Method, Event
 - Extensibility of classes
 - Definition of the IDDocument class
- Document Orientation: constructing classes
 - Creating documents from DB tables
 - Adding properties to the document
 - Master query of a document
- Creating forms and panels
 - Creating a form
 - Properties of a form
 - Creating a panel
 - Properties of a panel
 - Layout of a panel:
 - List layout
 - Detail layout
 - Changing the graphical layout of a panel
 - Panel fields
 - Field header
 - Resizing
 - Combo box controls
 - Date / Time controls
 - Numeric panel fields
- Panels: master query, lookup queries, and value source queries
 - Panel master query
 - Changing the master query
 - Changing sort order of data
 - Lookup query concept and related panel fields
 - Value source query concept and related panel fields

- Application menu
 - Creating the application menu
 - Dividing the menu into submenus
- Application execution
 - How to execute an application created with IN.DE on your development computer

Lesson 3: Popup forms, IMDB tables, static fields, and visual styles

- Popup and modal forms
 - Panel status: QBE
 - Creating a data search form
 - Modal forms
- Forms: static fields
 - Creating static fields
 - Creating buttons
- Visual styles
 - Setting the input mask
- Visual Code Editor: linking procedures
 - Linking procedures to static fields
- Document Orientation: manipulating classes
 - Instantiating a document
 - Initializing a document
 - Document states
 - Inserted, Loaded, Updated, Deleted
 - Differences between Modified and IsModified
 - Managing document initialization
 - The OnInit event
 - Controlling the loading of a document
 - BeforeLoad and AfterLoad events

Lesson 4: Transactions, validation, and saving documents

- Panels: manipulating documents
 - Creating an instance of the panel document
 - Manipulating the panel document
 - Checking the status of the panel document
 - Loading documents from the DB via code
 - Document.loadFromDB
- Document Orientation: document transaction
 - Document transaction concept
 - Document transaction events
 - OnBeginTransaction, OnEndTransaction
 - Use of the wasModified method

- Document Orientation: document validation
 - Data validation concept
 - Internal validate
 - Validation reason
 - Setting property validation errors
 - Document.setPropertyError
 - Setting property validation warnings
 - Document.setPropertyWarning
 - Setting document errors
 - AddDocumentError
- Document Orientation: saving data
 - Document save events
 - BeforeSave, AfterSave
 - Steps in the BeforeSave event
 - Deleting a document
- Event-driven programming
 - Handling the application OnLogin event
- Visual styles
 - Creating custom visual styles
 - Applying visual styles to DB fields
 - Applying visual styles to panel fields
- Document Orientation: manipulating classes
 - OnSQLQuery event
- IMDB tables: working with in-memory tables
 - Creating IMDB tables
 - Types of IMDB tables
 - Manipulating data in IMDB tables

Lesson 5: SQL constructs and documents collection

- Visual Code Editor: SQL constructs
 - Programming constructs for accessing data
 - Select into variables
 - For .. each... select
 - Insert into
 - Update ... Set
 - Delete from
- Document Orientation: documents collection
 - Definition of a documents collection
 - Definition of the IDCollection class
- Document Orientation: documents collection
 - Assigning a child collection to a document
 - Properties of a collection
 - Transient parameter
 - Master query of a collection

- Document Orientation: manipulating collections
 - Instantiating a collection
 - Collection states
 - Loaded
 - Differences between Modified and IsModified
 - Collection loading DO events
 - BeforeLoadCollection event
 - OnMayHaveChildren event
- DO panels: manipulating collections
 - Creating an instance of the panel collection
 - Manipulating the panel collection
 - Iterating over data collections
 - Hidden and Deleted properties
 - Loading collections from the DB via code
 - Document.LoadCollectionFromDB
 - Document.LoadCollectionFromExample
 - Document.LoadCollectionFromXml
 - Assigning a collection to a panel
 - Add a new document to a collection

Lesson 6: Master-detail panels, reports and installation

- Master-detail panels
 - Creating a master-detail panel
 - Attaching documents to a master panel
 - Attaching a collection to a detail panel
- Reports: first steps
 - Creating a book for printing information
 - Creating a simple print report
 - OnPrint event
 - Analyzing and modifying the master query of a report
 - Changing the graphical layout of the report
 - How to print master-detail data
- Notes on installing applications
 - Using IDManager
 - Complete publication and updating

For more information, please contact the Training Team – training@instantdeveloper.com.