AMBIENT-IT

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PowerBuilder Enterprise Training

2 days (14 hours)

Presentation

Master PowerBuilder Enterprise in its most complete dimension with this structured, practical and high value-added training course. Designed for developers, project managers and technical managers, it will enable you to maintain, modernize and upgrade your PowerBuilder applications efficiently in a demanding professional context.

You'll start with an in-depth introduction to the IDE, object management and PowerScript programming, while respecting good structuring and modularity practices.

You'll learn how to take full advantage of the DataWindow, the technological heart of PowerBuilder, to display, manipulate and validate complex data, combining SQL queries, expressions, dynamic filters and graphical presentations.

The course then moves on to N-Tier architectures, the use of REST and SOAP APIs, the manipulation of JSON and XML, and integration with .NET or external systems to design open, high-performance, interoperable applications.

Like all our training courses, this one is based on the latest stable version of PowerBuilder.

Objectives

- Understand the complete architecture of PowerBuilder Enterprise, its development environment and its fundamental objects
- Know how to design, develop and maintain a modular, robust PowerBuilder application enterprise-standard application
- Master the DataWindow in all its functional and visual dimensions to display, filter, validate and manipulate data efficiently.
- Be able to open a PowerBuilder application to third-party systems and modern architectures

- Apply best practices in packaging, security, logging, versioning and testing, to guarantee controlled deployment.

Target audience

- Back-end developers
- .NET developers

Prerequisites

- Basic knowledge of SQL

PowerBuilder Enterprise training program

Overview of PowerBuilder Enterprise

- Major versions and differences between PowerBuilder Classic / Enterprise
- PowerScript language
- Visual and non-visual objects
- DataWindow: PowerBuilder's key tool
- Client/server applications
- Internal management applications
- Portability of legacy projects

The PowerBuilder IDE development environment

- Creating workspaces and projects
- Exploring PBL files
- Organizing objects in the IDE
- Object Browser for exploring classes and functions
- Using the debugger and breakpoints
- Profiler for performance
- IDE options and user configuration
- Customizing toolbars and shortcuts

Fundamental objects

- Window types: main, response, popup
- Standard events
- Navigating between windows
- CommandButton, DataWindow, EditMask, etc.
- Event management
- Layout and ergonomics
- Menu creation and management

- Context menus
- Dynamic toolbars

PowerScript PowerBuilder language

- Data types
- Variables, constants, arrays
- Conditional structures and loops
- User functions
- System event handling
- Calling external methods
- Encapsulation, inheritance
- Managing user objects
- Advanced concepts: polymorphism and overloading

DataWindow, the heart of PowerBuilder

- DataWindow Painter
- Data sources
- Links and joins
- Retrieve, Update, Reset, Filter
- Error handling and system messages
- Data validation
- Templates and styles
- Calculations, expressions and formulas
- Advanced graphics and reports

Database access

- Using connection profiles
- ODBC, JDBC, native drivers
- Handling connection errors
- Integrated queries in DataWindows
- Dynamic queries via PowerScript
- Transactions and error handling

Development in N-Tier architecture

- Logical separation of UI / Business / Data
- Code structuring
- Using DataStores
- Advantages for N-Tier development
- SOAP/REST Web Services
- Calls to external APIs
- JSON and XML parsing

Application deployment and maintenance

- Build types
- Runtime configuration
- Generating executables and PBD/PBL files
- Installer creation
- Network vs. local deployment
- Post-installation configuration
- Version tracking
- Patch management
- Logging and error reporting

Testing and validation

- Unit testing via PowerScript
- Scenario automation
- Using the debugger
- Test data sets
- Performance and load testing
- Code quality control

Security and optimization

- Managing user roles and rights
- Encryption of sensitive data
- Source code protection and obfuscation
- Loading DataWindows
- Memory management
- SQL query optimization
- Structuring code for maintenance
- Internal documentation
- Migration strategy to new versions

Companies concerned

This training course is aimed at both individuals and companies, large or small, wishing to train their teams in a new advanced IT technology, or to acquire specific business knowledge or modern methods.

Positioning on entry to training

Positioning at the start of training complies with Qualiopi quality criteria. As soon as registration is finalized, the learner receives a self-assessment questionnaire which enables us to assess his or her estimated level of proficiency in different types of technology, as well as his or her expectations and personal objectives for the forthcoming course, within the limits imposed by the selected format. This questionnaire also enables us to anticipate any connection or security difficulties within the company (intra-company or virtual classroom) which could be problematic for the follow-up and smooth running of the training session.

Teaching methods

Practical training: 60% hands-on, 40% theory. Training material distributed in digital format to all participants.

Organization

The course alternates theoretical input from the trainer, supported by examples, with brainstorming sessions and group work.

Validation

At the end of the session, a multiple-choice questionnaire is used to check that skills have been correctly acquired.

Certification

A certificate will be awarded to each trainee who completes the training course.