

IBExpert KG

# TRAINING & COACHING



IBExpert KG

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## WELCOME!

Welcome to the *IBExpert Training & Coaching* catalog. We hope you enjoy browsing thru our range of services all aimed at supporting your day-to-day work with Firebird and InterBase® databases. You can find more detailed information regarding individual products and services in our data sheets or on our website: [www.ibexpert.com](http://www.ibexpert.com), where you can also order the services listed in this brochure. Should you have any further queries please don't hesitate to contact us at [info@ibexpert.com](mailto:info@ibexpert.com).

## ABOUT US

IBExpert KG is based in Hude, in the north of Germany. Its founder, owner and CEO, Holger Klemt, boasts over 20 years of experience in commercial software development, and has specialized in database technology since 1991. The company prides itself on being a true competence center when it comes to Firebird and InterBase® databases.

## FIREBIRD



Firebird is the open source project created when Borland open sourced InterBase® in 2000. It still has many similarities with its commercial partner InterBase®. However development over the past years has lead to a wealth of new features and significant performance improvements, which makes it viable competition to any commercial database on the market today. Available for a multitude of platforms including Windows®, Linux® and a variety of UNIX® platforms, the Firebird server is an extremely powerful open source database system, which in spite of its very simple installation and administration, offers all essential functions otherwise found only in commercial database systems. The current Firebird version can be downloaded free from <http://firebirdsql.org> subject to Open Source conditions.

## INTERBASE®

InterBase® is a commercial relational database management system (RDBMS) currently developed and marketed by Embarcadero Technologies. InterBase® is distinguished from other DBMSs by its small footprint, close to zero administration requirements, and multi-generational architecture. InterBase® runs on Linux®, Microsoft Windows®, Mac OS X® and Solaris™ operating systems.



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# COURSES

IBExpert KG is the ideal partner for training and workshops in your company. Years of experience allow you access to tried and tested strategies and techniques for software development. The training sessions take place over a period of 1-5 days, depending upon the participants' previous knowledge and the depth and range of the topics covered.

We constantly revise our program and new topics are published regularly on our website, [www.ibexpert.com](http://www.ibexpert.com).



## STANDARD COURSES AT YOUR PREMISES

The most popular courses include:

**FIREBIRD BASICS FOR DEVELOPERS**

**FIREBIRD BASICS FOR DB ADMINS**

**OPTIMIZING DB PERFORMANCE**

**DB ANALYSIS & REPORTING**

**DATABASE PORTING**

**FIREBIRD & PHP**

Summarized contents of these courses can be found on pages 4-8.

Of course, you are not just limited to our standard courses. Let us know your requirements and we will prepare a tailor-made offer for a course/workshop. Course contents can be as detailed as you wish.

## SPECIAL TOPIC WORKSHOPS AT YOUR PREMISES

We offer a number of workshops covering special subjects including:

**DB CONVERSION & ADMIN**

**DATABASE REVIEW**

**REPLICATION & CLUSTERING**

**OPEN SOURCE LICENSING**

**REPLICATION ONLINE WORKSHOP**

**.NET WORKSHOPS**

Details of the contents of these special subject workshops can be found on pages 9-15.

So, whether you require a single-day workshop on a one-to-one basis, dealing with specific problems that you have encountered with your own database application, or whether you wish to offer a group of employees a first impression of Firebird, we can offer a training course or workshop to meet your requirements.



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# STANDARD COURSES



IBExpert KG standard courses are designed to offer developers and administrators not just a general introduction to Firebird and its potential, but also specific topics such as analysis, performance and porting.

The following pages detail just a few of the more popular topics.

If you have any subjects or issues that need addressing and which you feel could be solved in a course or workshop, please do not hesitate to contact us at info@ibexpert.com

## FIREBIRD BASICS FOR DEVELOPERS

### DEVELOPING A FIREBIRD DATABASE

#### TARGET GROUP

This course is aimed at all those just starting out with Firebird development, or those currently considering the use of Firebird in a future project and would first like to get to know the database in more detail.

#### CONTENT

The first day shows you how to develop a data model and create your first database including datatypes, constraints and keys.

You will learn how to create a new database, which database objects are available and which should be used when, depending on their properties. We will then proceed to create tables, learning the significance of primary keys, foreign keys, foreign key options, indices and the effects of missing primary and foreign keys. Following a look at datatypes in more depth we will go on to generate test data to help depict and understand the importance of dependencies. At this stage you will learn to visualize the data model, look at visual modeling and compare different data models. Finally on the first day, you will learn how to understand and use views.

The second day concentrates on programming the Firebird server using stored procedures and triggers.

You will be introduced to the construction of stored procedures, a critical part of Firebird database programming; beginning by writing simple procedures, learning about input and output parameters, and variables. We will then go on to look at FOR SELECT and SUSPEND, loops and conditions, the EXECUTE statement, recursions and modularity. Debugging options, both with and without IBExpert, will be presented and you will also learn how to optimize procedures and compare them. Finally we will go on to create more complex SELECTs, look at trigger construction and trigger function, NEW and OLD variables, universal triggers, as well as the automatic creation of triggers through procedures, blocks and IBEBlocks.

At the end of each day there will be ample time allowed for questions and answers.

#### DURATION

The course lasts for 2 days.

#### LOCATION

The workshop can be booked worldwide and is performed in English or German.

#### REGISTRATION

Please contact us at info@ibexpert.com or fax the form on page 19 for an individual offer.



**IBExpert KG**

# FIREBIRD BASICS FOR DB ADMINS

## FIREBIRD DATABASE ADMINISTRATION

### TARGET GROUP

This course is aimed at all those just starting out with Firebird administration, or those currently considering the use of Firebird in a future project and would first like to get to know the database in more detail.

### CONTENT

Learn all basic administrative tasks necessary to successfully administrate your Firebird server.

Although the Firebird DBA really does have quite an easy job because, when a Firebird application is programmed well, there is little or no database maintenance necessary! However there are some aspects of the Firebird database that all DB Admins should be aware of.

Day one will introduce you to installation of the Firebird server, the various server versions and their differences. You will then take a closer look at the installation: files and paths and firebird.conf parameters, learn the importance of garbage collection and how it works. You will gain a background understanding of multi-generational architecture, and go on to analyze database statistics.

Your database is full of a wealth of information. Sometimes it is helpful to log certain aspects of the information manipulation (selects, inserts, updates, deletes) by setting up protocols to gain an insight into what is really happening in your database. We will also look at automating the backup and restore.

You will then go on to set up and test an ODBC driver and look at the various data import and export methods to transfer data and/or metadata. You will be shown the command-line tools delivered as part of the Firebird package, including NBACK and NBACKUP, GBAK, GFIX, GSEC, GSTAT and ISQL, Firebird's interactive SQL tool.

We will review the various maintenance operations such as administrating users, and learn to recognize and prevent database errors. And then go on to look at the options of database repair using the tools provided, and the binary construction of a database file.

The second day continues in more detail looking at database repair methods, maintenance, configuration, memory, hardware and operating systems.

We will look at typical database errors and their causes and at alternative database repair methods. We will review the typical causes of server errors and learn how to recognize and avoid them. You will then proceed to interpret and evaluate log files, temporary files and memory configuration.

Finally we will consider optimal hard drive setup, including setting up hardware and operating systems. Hardware performance comparison will be demonstrated using Firebird benchmark tests. We will also take a look at database parameters for optimal performance and learn to analyze and understand index statistics. The second day will close with the setting up of automatic maintenance operations, and secure and compressed access using Zebedee.

At the end of each day there will be ample time allowed for questions and answers.

### DURATION

The course lasts for 2 days.

### LOCATION

The workshop can be booked worldwide and is performed in English or German.

### REGISTRATION

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**IBExpert KG**

# OPTIMIZING DATABASE PERFORMANCE

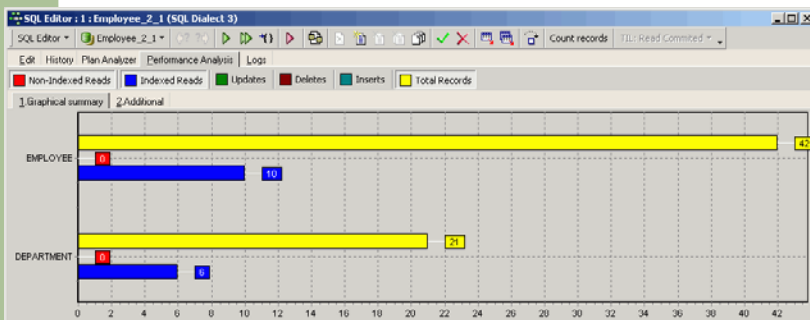
## GET THE MOST OUT OF YOUR DATABASE

### TARGET GROUP

This course is aimed at developers and DBAdmins who already have some Firebird experience, and now need to fine-tune their database's performance or detect and solve causes of existing database performance problems. This course is also suitable as a follow-on from the *Firebird basics for developers* (page 4) or the *Firebird basics for DBAdmins* (page 5) courses.

### CONTENT

Many developers notice over a period of time that their database applications seem to be slowing down at a rate incommensurate with the increase in data. Or perhaps the application that runs smoothly and efficiently in the office is sluggish and lethargic when installed at the customer's. There can be many reasons for this which are rarely just down to the hardware. In this one day course we will look at the various factors influencing the performance of Firebird and review methods to optimize your database performance.



Firstly we will take a look at the Firebird index plan; what it is showing us, how Firebird puts the plan together, and how we can improve it. This will include learning about the internals of the Firebird SQL Optimizer. We will then go on to compare SQL commands and their influence on performance, temporary files, analyzing the database reads, writes and fetches, IBEExpert's *Performance Analysis*.

The data model can also affect performance; we will show you what should be taken into consideration when developing the data model. This includes learning to understand and analyze the database using the IBEExpert *Database Statistics*.

And you will learn how the memory configuration can influence performance: which Firebird parameters are responsible and why, and how they should be adjusted to attain optimal performance.

Alternative optimization methods from the programming side also include the use of updatable views and procedures instead of complex joins, as well as understanding and optimizing the effects of subselects. We will then go on to look at the effects on performance caused by the differences of IN, EXISTS, <>, CONTAINING and other operators. How do your transactions work? What work do they actually perform to get the results you need? This includes recognizing and avoiding the negative effects of multi-generational architecture.

We will look at external optimization strategies for monitoring your database, discovering anomalies and problems the minute they begin and not waiting until the database has ground to a halt. You will be shown how to set up the IBEExpertSQLMonitor for any application, which will aid monitoring, and interpreting the results.

And, of course, we will also take a look at the effects hardware and operating systems have on Firebird performance, looking at optimal hard disk use, optimizing the hardware configuration and OS configuration, and using benchmarks tests to test various configurations.

At the end of the day there will be ample time allowed for questions and answers.

### DURATION

This is a one-day course, usually combined to follow either the *Firebird basics for developers* (page 4) or the *Firebird basics for DB Admins* (page 5) courses, although it can of course be booked as a stand-alone.

### LOCATION

The workshop can be booked worldwide and is performed in English or German.

### REGISTRATION

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# DATABASE ANALYSIS & REPORTING

## USING IBEXPERT TO ANALYZE YOUR FIREBIRD DATA

### TARGET GROUP

This course is aimed at DB Admins and developers who need to compile more complex data analyses and create reports based on the Firebird database data.

### CONTENT

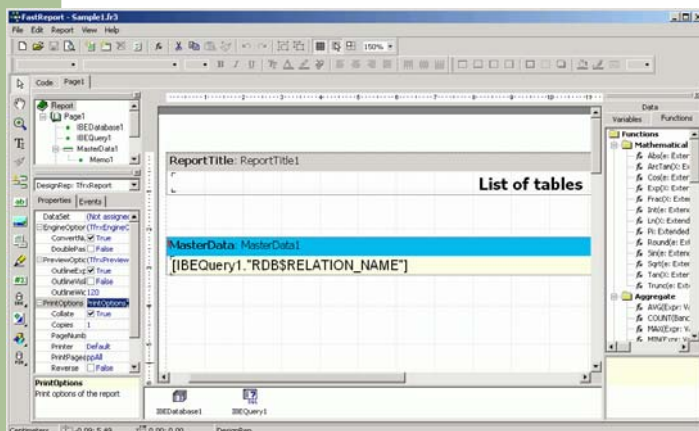
Using the IBExpert tools, *Data Analysis* and *Report Manager*, we begin with a demonstration of simple data analyses and the creation of simple reports using sample data from IBExpert's demo database.

*Data Analysis* is an ideal OLAP and data warehouse component for quick and easy data analysis. This sophisticated module can be used to build cubes, manage dimensions and measures, the technology being based on the building of multi-dimensional data sets - so-called OLAP cubes. It includes a powerful filtering system, enabling not only dimensions but also measures to be filtered.

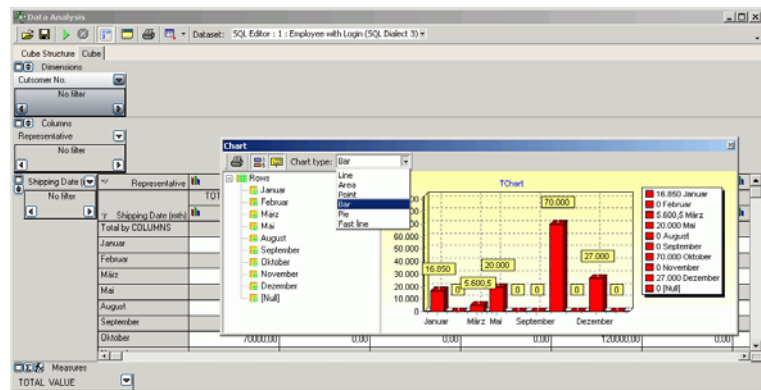
Using the IBExpert *Report Manager* you will be shown how to create your own data sources and to use these to create your own report, adding a database and selecting query components. We will then look at band types and rectangular objects, viewing the data connections in the *Object Inspector*.

Report elements are explained such as barcode, images and rich text, interactive parameter queries and even cross-classified tables and other more complex reports. This section is consolidated by analysis and discussion of demo reports. We will then progress onto system variables and how to create master-detail-subdetail report, dynamic reports with scripts and sub-reports.

You will also learn how to export reports, integrate them with Delphi® and other programming languages. Finally you will be shown how to integrate the reports as an EXE or DLL and use IBExpert's IBEBLOCK commands for executing reports created with the IBExpert Report Manager in command-line mode, for example with batch files. The monthly sales report, invoices or other reports can be designed in the Report Manager and executed with simple SQL statements. The result can be saved in the database as a PDF file or other formats and sent by e-mail.



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### DURATION

This is a one-day course which can be booked as a stand-alone or combined to follow either the *Firebird basics for developers* (page 4) or the *Firebird basics for DB Admins* (page 5) courses.

### LOCATION

The workshop can be booked worldwide and is performed in English or German.

### REGISTRATION



**IBExpert KG**

# DATABASE PORTING

## IMPORTING DATABASE STRUCTURES & DATA, USEFUL TOOLS, ODBC

### TARGET GROUP

This course is aimed at developers and administrators who need to port databases from ODBC, InterBase®, Paradox®, dBASE® and MS Access® to Firebird.

### CONTENT

After analyzing the existing database and inventorying the existing database components, we will take a look at the Firebird datatypes and how they differ to those of other databases, as well as the special consideration of autoincrements and transactions. The ground rules are laid for any prior or subsequent alterations which may be necessary, in order to ensure that the functionality does not suffer through the conversion.

The various import and export tools available are reviewed and, after setting up an ODBC connection, the options and advantages of data transfer both using tools and using scripts will be considered. Strategies for data optimization are compared, before moving onto the automation of data import. Following the data import we will look at processing this data using stored procedures, as well as fine-tuning the database rules. Further critical aspects will be discussed, such as subsequently altering the database owner and the correct use and alteration of character sets. At the end of the day there will be ample time allowed for questions and answers.

### DURATION

This is a one-day course, which can be booked as a stand-alone or in combination with other courses. A basic knowledge of Firebird is a prerequisite.

### LOCATION

The workshop can be booked worldwide and is performed in English or German.

### REGISTRATION

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# FIREBIRD & PHP

## GET THE MOST OUT OF YOUR FIREBIRD DATABASE AND PHP APPS

The course instructor for this subject, Jiri Cincura, is actively involved in the Firebird project as team leader for the Firebird ADO.NET Data Provider project, and is well-known throughout the Firebird community.

### TARGET GROUP

PHP developers who are new to Firebird.

### CONTENT

This one-day course begins by looking at PSQL (Procedural SQL language) and the best practices for optimal implementation. You will then learn how to connect to a Firebird database from PHP and start to use Firebird in your PHP (configuration, compilation). We will look at the best PHP practices, including tricks and workarounds and analyze the results from the database; objects, associative arrays, custom objects, and so on. Finally transaction management will be reviewed. At the end of the day there will be ample time for questions and answers.

### DURATION

This is a one-day course, which can be booked as a stand-alone or combined with any of the Firebird workshops. Knowledge of PHP is a prerequisite; a basic knowledge of Firebird is of advantage.

### LOCATION

The workshop can be booked worldwide and is performed in English or German.

### REGISTRATION

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# WORKSHOPS



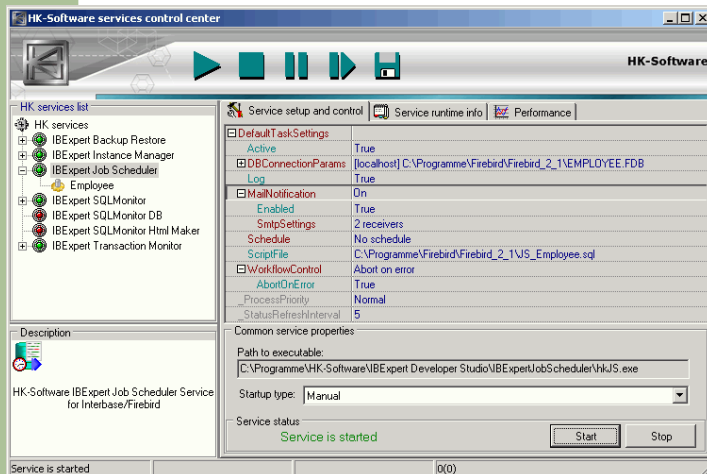
IBExpert KG workshops are designed to advise and offer solutions for specific problems. The following pages detail just four of the more popular topics.

If you have any subjects or issues that need addressing and which you feel could be solved in a workshop, please do not hesitate to contact us at [info@ibexpert.com](mailto:info@ibexpert.com).

In addition to the workshop fees, each participant should have a licensed version of IBExpert Developer Studio. You can purchase a full single registered IBExpert license for EUR 199.00 (+ VAT) at [www.ibexpert.com/shop](http://www.ibexpert.com/shop).

## ADMINISTRATOR WORKSHOP

### DATABASE CONVERSION AND ADMINISTRATION



number of regularly recurring tasks: we will create scripts for the automatic replication of database structures at your clients and automatic script execution for data import and export. Learn to automate the generation of your reports and distribute them as PDF files.

Create interfaces to other database platforms using ODBC. Learn to replicate table data from different databases by script. Automate and monitor your backup and restore processes and look at alternative backup/restore procedures. We will also look at setting up logs and monitoring and analyzing database statistics, as well as creating and automating OLAP analyses. Learn about source of database corruption and methods of database repair. Finally we will integrate the scripting engine as a DLL and EXE, so that you can basically automate all regularly recurring processes.

This workshop offers you a complete overview of the most principal elements of the IBEBlock scripting language, including the full scope of functions and debugging. Furthermore all IBExpert Services Control Center elements are also included as part of this workshop. All scripts created during this workshop can be used at no further cost on all IBExpert-licensed computers.

#### DURATION

The workshop lasts 2-3 days, depending on the complexity of the existing data structures and programs. A basic knowledge of Firebird is a prerequisite.

#### LOCATION

The workshop can be booked worldwide and is performed in English or German.

#### REGISTRATION

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#### TARGET GROUP

Developers and administrators who run their applications with the Firebird server.

#### CONTENTS

Modern software may be dynamic, but if you've ever had to perform critical database alterations in batch mode at your clients, then you will know how much work is involved!

With the aid of IBExpert's script language, IBEBlock, you will learn all the key technologies necessary to install and run your software successfully and maintenance-free at your clients.

During this two to three day workshop you will learn how to install and monitor multiple Firebird instances. We will then go on to automate a

# FIREBIRD DATABASE REVIEW

## IMPROVE PERFORMANCE

### TARGET GROUP

This workshop is aimed at software houses and programmers wishing to optimize their existing Firebird database and the corresponding Delphi®/Microsoft® .NET or Java® application.

### CONTENTS



We begin with an analysis and review of the most important database objects. We then go on to analyze the required steps for updating to Firebird 2.1 if necessary, as this has several important performance advantages. With the use of some specific parameters most Firebird 1.5 databases can be used immediately with Firebird 2.1 without changing the application. If conversions are required, we will implement an automated conversion process also usable unattended on your customers' database servers.

This stage is followed by the analysis of missing primary and foreign keys. Using IBExpert, different potential problems in the database structure are pinpointed and, if necessary, resolved. If applicable, the information gleaned from this analysis is also used to improve the data model and, at the same time, you are informed of the reason for such important changes, so that these can be recognized independently in the future. Then we move on to the Firebird server. Initially the server installation is checked. The differences between the Classic Server and the Superserver are explained. The core parameters in the firebird.conf file are analyzed and optimized appropriate to the application's main focus.

Theoretical knowledge is required for the next step, as multi-generational architecture demands a certain amount of background knowledge, in order to extract coherent statements from the database statistics. Knowledge of the binary construction of a database file is of key importance for the maintenance of the database. Further points include memory configuration, hard drive installation as well as the optimal installation of hardware and the operating system. The optimization is then examined with reproducible benchmark tests. Obsolete hardware, too little memory or inappropriate parameters are often the cause for unnecessary performance loss. All database parameters are adjusted for optimal performance and the index statistics are examined to detect classical problems in the application software.

Then we go on to analyze the application. The protocolled SQL commands are isolated from the log and tested in the IBExpert *Performance Analysis* in order to optimize the slowest commands step by step. The transaction handling also needs to be consequently under control, so that negative effects of the multigenerational architecture can be recognized and prevented.

### DURATION

The workshop lasts 1-2 days, depending on the complexity of the existing data structures and programs. This is not a training course in the classic sense, but rather an analysis of the database structures and server settings as well as the programs which work on this database. From experience we know that the various practical tips offered during such workshops often provide performance improvement in the participants' own applications.

Following the workshop the client can, if wished, take advantage of our support hotline or remote maintenance, to quickly solve any new questions which may arise.

### LOCATION

The workshop can be booked worldwide and is performed in English or German. Please note that for non-EU nations we can only offer the 3-day workshop.

### CONCLUSION

Over the years we have carried out our Performance workshop at over 500 clients. These have led to operations in customer applications being accelerated by several hundred per cent. The record was the runtime of a report, which was reduced from 18 hours to under a minute!

### REGISTRATION

Please contact us at [info@ibexpert.com](mailto:info@ibexpert.com) or fax the form on page 19 for an individual offer. Alternatively register directly at our online shop.



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# FIREBIRD REPLICATION & CLUSTERING

## AUTOMATE YOUR DATA EXCHANGE

### TARGET GROUP

This workshop is aimed at software houses and programmers, who need to operate their existing Firebird databases at multiple locations using replication techniques, or require increased system stability and scalability for a large number of users.

### CONTENTS

The workshop begins with an analysis of the existing database. The datatypes used are inventoried and the ground rules are laid for any subsequent alterations which may be necessary.

New procedures and tables are then created, based on existing structures. The procedures activate or deactivate an internal database transaction log which protocols all DML commands in an internal table. The transaction log is created securely within the database and therefore contains only successfully completed transactions.

The cluster partners are configured using additional system tables and scripts. As long as all servers are running, all transactions are distributed via Event Alerters to all servers. The cluster server is based on a push replication to ensure a real-time distribution of all values. Should a database server need to be shut down for maintenance purposes, all other servers receive the local alterations, which need to be subsequently entered in the transaction log on the closed-down server. As soon as this server is up and running again the operations from all other servers are appended.

To incorporate a server into the cluster, a backup is made of one of the databases involved, and this backup is then restored on the new cluster node. Finally a script is run, which registers this new cluster node with all other cluster nodes.

The offline replication, i.e. the connection, for example, of a laptop to one or more central or decentralized servers, is realized by a pull replication. In this case, only the target system can decide when the data is exchanged with the partner system, as there is no dedicated connection. Here the scripts are configured differently; the basic technology is however based on the same functionality.

To transfer of large data quantities, the transaction logs are packed before transfer, optionally encrypted and transferred securely as blobs. This ensures a quick and secure comparison of the data, even if, for example, the field worker's laptop hasn't been online for a number of weeks due to holiday.

During this workshop we construct the necessary scripts together with yourself, or we adapt our sample scripts to meet your requirements. Following the workshop these scripts can be used by the client without any license fees at any location. The scripts can be used with all InterBase® versions 6.x or higher, as well as with all Firebird versions.

### DURATION

The workshop lasts typically 3-5 days, depending on the complexity of the existing data structures and programs. This is not a training course in the classic sense, but rather a collective formulation of the necessary procedures, triggers and scripts based on existing IBExpert technology. Following the workshop the client can, if wished, take advantage of our support hotline or remote maintenance, to quickly solve any new questions which may arise.

### LOCATION

The workshop can be booked worldwide and is performed in English or German. For non-EU nations we can only offer the 4- and 5-day workshops.

### CONCLUSION

Over the years we have carried out the Replication workshop at over 20 clients. Following the workshops we have integrated up to 100 laptops into an enterprise network with the aid of replication. The data was exchanged via DSL, ISDN, GPRS or UMTS.

### REGISTRATION

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**IBExpert KG**

# OPEN SOURCE LICENSING

## OPEN SOURCE LICENSE REQUIREMENTS IN THE FIREBIRD WORLD

### TARGET GROUP

Project managers, CEOs, managing directors, company owners.

### SUBJECT

Open source software has, over the years, modernized and even revolutionized many areas. There is hardly a commercial product today that is completely without open source components: the database server, a certain DLL or even complete source code modules are soon integrated into a developing application.

If license conditions are not met or simply ignored, this can, often surprisingly, lead to a costly warnings from the software owner, which leads to unnecessary expense.

Due to recent customer feedback regarding written warnings being circulated in the Firebird world, IBExpert KG has decided to dedicate a workshop to the subject of open source licenses.



### CONTENTS

- License requirements Firebird IPL/IDPL.
- License requirements GPL/LGPL/other.
- Summary of the most popular open source projects in the Firebird environment and their licenses.
- When do which licenses apply?
- Incorporating and using modules and DLLs with different licenses.
- Examples and court decisions.
- Basic principles when a written warning is received: how to react.

*Important:* this workshop should not be construed as legal advice, but as a collation of the most important information regarding open source licensing rights as well as a discussion podium for companies who have been affected by this.

### DURATION

This is a one-day course, which can be booked as a stand-alone or combined with any of the Firebird workshops.

### LOCATION

The workshop can be booked worldwide and is performed in English or German.

### REGISTRATION

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# .NET WORKSHOPS

IBExpert KG workshops are designed to advise and offer solutions for specific problems. The workshop instructor for these .NET series of workshops, Jiri Cincura, is actively involved in the Firebird project as team leader for the Firebird ADO.NET Data Provider project, and is well-known throughout the Firebird community as the .NET specialist for Firebird.

## FIREBIRD & .NET ENTITY FRAMEWORK

### USE THE FULL POWER OF .NET & ENTITY FRAMEWORK WITH FIREBIRD

#### TARGET GROUP

Developers wishing to understand the ADO.NET Entity Framework and use it with their database.

#### CONTENT

This workshop begins with an introduction to the .NET entity framework. After taking a look at the new C# 3.0 features, you will cover the LINQ basics and be introduced to Entity Framework (EF). Further topics covered on the first day include exploring the Entity Data Model (EDM), querying basics and customizing entities.

The following days go into more detail: more querying, shaping data, EntitySQL and so on. You will learn to use stored procedures, and we will investigate EDM details and ObjectServices.

Further topics include: relationships and associations, concurrency, exceptions, transactions, performance and finally ADO.NET Data Services (Astoria).

At the end of each day's session there will be ample time allowed for questions and answers.

#### DURATION

The workshop lasts 3-5 days, depending on the complexity of the existing data structures and programs, or can be booked as a 3-day tutorial. A basic knowledge of Firebird and/or .NET is of advantage but not a prerequisite.

#### LOCATION

The workshop can be booked worldwide and is performed in English or German.

#### REGISTRATION

Please contact us at [info@ibexpert.com](mailto:info@ibexpert.com) or fax the form on page 19 for an individual offer.



## NOT SURE WHICH COURSE IS THE RIGHT ONE FOR YOU?

Refer to our *Recommended Courses* summary on page 16, or mail us at [info@ibexpert.com](mailto:info@ibexpert.com), detailing your previous experience as well as the current and future tasks you are expecting to carry out with Firebird, and we will prepare a tailor-made offer.



**IBExpert KG**

# PROGRAMMING .NET & FIREBIRD

## DEVELOPING & FINE-TUNING YOUR FIREBIRD/.NET APPLICATIONS

### TARGET GROUP

This workshop is aimed at Firebird developers and programmers, who wish to create or improve a .NET-based Firebird application.

### CONTENT

The Programming .NET & Firebird workshop gives Firebird developers the opportunity to quickly create a new .NET application or adapt an existing one to .NET. Topics include: PSQL details and the best practices, connecting from .NET, .NET driver details, using ADO.NET and the best practices, pure ADO.NET, DataSets, Entity Framework and transaction management. At the end of the day there will be ample time for questions and answers.

### DURATION

This is a one-day course which can be booked as a stand-alone or combined to follow the *.NET & Firebird Entity Framework* workshop.

### LOCATION

The workshop can be booked worldwide and is performed in English or German.

### REGISTRATION

Please contact us at [info@ibexpert.com](mailto:info@ibexpert.com) or fax the form on page 19 for an individual offer.

# .NET & THE POWER THREADING LIBRARY

## LEARN HOW TO BUILD BETTER MULTI-THREADED APPS

### TARGET GROUP

This workshop is aimed at experienced developers wishing to improve their skills and applications while creating high-performing threaded applications.

### CONTENT

This workshop focuses on the Power Threading Library for creating highly scalable multi-threaded applications, which utilize all the hardware's power without wasting it. It reviews the creation and management of threads, including system resources load and common problems. The ThreadPool will be considered as an alternative with its advantages and disadvantages. After reviewing the Async programming model, with its callbacks inconvenience, its relation to the thread pool and why this is better than creating your own threads, the Power Threading Library is introduced, the idea behind it and how it works. You will look at what is needed to set it up and its basic usage: using it the right way under the right conditions, and how to achieve big results by small changes in code. Further topics include: groups, cancellation, timeouts, subroutines, getting the best from PTL, using PTL in Silverlight and Compact Framework, ReaderWriterGate, CountdownTimer, SlimResourceLock and, time allowing, CmdArgParser. The second day, if booked, provides a deeper understanding of MT applications and async programming. At the end of each day there will be ample time for questions and answers.

### DURATION

This is a one- to two-day course which can be booked as a stand-alone or combined to follow the *.NET & Firebird Entity Framework* workshop. A basic knowledge of .NET is a prerequisite.

### LOCATION

The workshop can be booked worldwide and is performed in English or German.

### REGISTRATION

Please contact us at [info@ibexpert.com](mailto:info@ibexpert.com) or fax the form on page 19 for an individual offer.



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## NEW FEATURES IN C# 4.0 & .NET 4.0

### EXPAND YOUR SKILLS WITH THE NEW FEATURES IN C# 4.0 & .NET 4.0

#### TARGET GROUP

This workshop is aimed at developers wishing to build on their knowledge with the new C# 4.0 and .NET 4.0 features.

#### CONTENT

This one-day course takes a look at those features new to C# 4.0 and .NET 4.0 including: dynamic keyword, better COM interoperation, covariance and contravariance and Code Contracts.

At the end of the day there will be ample time for questions and answers.

#### DURATION

This is a one-day course, which can be booked as a stand-alone or combined with any of the Firebird workshops and/or .NET workshops, in particular *New fine-grained parallelism in .NET 4.0*.

A basic knowledge of C# and .NET is of advantage.

#### LOCATION

The workshop can be booked worldwide and is performed in English or German.

#### REGISTRATION

Please contact us at [info@ibexpert.com](mailto:info@ibexpert.com) or fax the form on page 19 for an individual offer.

## NEW FINE-GRAINED PARALLELISM IN .NET 4.0

### BUILD APPLICATIONS THAT UTILIZE THE FULL COMPUTING POWER

#### TARGET GROUP

This workshop is aimed at Developers wishing to create or improve a .NET-based Firebird application.

#### CONTENT

This one-day course takes a look at the new fine-grained parallelism in .NET 4.0 including: problems with threads, locking and scaling, lock-free, introducing Task class, Work Stealing Queue, using the new coordination data structures and the benefits of fine-grained parallelism.

The second day, if booked, provides a deeper understanding of MT applications and async programming.

At the end of each day there will be ample time for questions and answers.

#### DURATION

This is a one- to two-day course, depending on the depth of detail required, which can be booked as a stand-alone or combined with any of the Firebird workshops and/or .NET workshops, in particular *New features in C# 4.0 & .NET 4.0*.

At least a basic knowledge of .NET is a prerequisite.

#### LOCATION

The workshop can be booked worldwide and is performed in English or German.

#### REGISTRATION

Please contact us at [info@ibexpert.com](mailto:info@ibexpert.com) or fax the form on page 19 for an individual offer.



**IBExpert KG**

# WHICH COURSE IS THE RIGHT ONE?

Perhaps you are unsure which course is the right one for you. Below is a summary of the participants we think are suitable for which courses/workshops. If you are still unsure which course or workshop is the right one for you, mail us at [info@ibexpert.com](mailto:info@ibexpert.com), detailing your previous experience as well as the current and future tasks you are expecting to carry out with Firebird.

## RECOMMENDED COURSES

	Developers	DB Admins	System vendors	Consultants	Users
<b>FIREBIRD BASICS FOR DEVELOPERS</b>	✓		✓	✓	
<b>FIREBIRD BASICS FOR DB ADMINS</b>		✓	✓	✓	
<b>OPTIMIZING FIREBIRD PERFORMANCE</b>	✓	✓	✓	✓	
<b>DATABASE ANALYSIS &amp; REPORTING</b>	✓	✓	✓	✓	✓
<b>DATABASE PORTING</b>		✓	✓	✓	
<b>FIREBIRD &amp; PHP</b>	✓				
<b>ADMINISTRATOR WORKSHOP</b>		✓	✓	✓	
<b>FIREBIRD DATABASE REVIEW WORKSHOP</b>	✓	✓	✓	✓	
<b>FIREBIRD REPLICATION &amp; CLUSTERING</b>	✓		✓	✓	
<b>OPEN SOURCE LICENSING</b>	✓	✓	✓	✓	
<b>FIREBIRD &amp; .NET ENTITY FRAMEWORK</b>	✓				
<b>PROGRAMMING .NET &amp; FIREBIRD</b>	✓				
<b>USING THE POWER THREADING LIBRARY FOR BETTER MULTI-THREADED APPLICATIONS</b>	✓				
<b>NEW FEATURES IN C# 4.0 &amp; .NET 4.0</b>	✓				
<b>NEW FINE-GRAINED PARALLELISM IN .NET 4.0</b>	✓				



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# JUST IN TIME ECoaching

In a hurry? No time to spare? Need help urgently? Your project's come to a standstill and you can't wait? Or maybe you just need a couple of hours tutorial concerning a specific topic.

## REMOTE FIREBIRD EXPRESS TUTORIALS (RFET)



Based on Skype® and our remote support software, we connect to a development machine or database server in your network, which must have an internet connection. We then discuss the issues you wish to solve on the phone, demonstrating with practical examples which you can follow on your monitor while we talk. We can even immediately make any necessary alterations to your database and configuration to improve your system.

Languages spoken: English or German.

This is a secure solution, as our database specialist can only connect to your server when you are running the remote support software. You can view all transactions made by the remote instructor on-screen, and can discuss all analyses over Skype® or on the phone.

When you order this product you will receive three different date proposals for when we would like to start the online session. Depending on your country of residence, we will aim to start the session at the most comfortable time for yourselves, which can be between 06:00 and 24:00 UTC time.

Languages used for all communication are English and German.

### ECoaching Remote Firebird Express Tutorial 60

Remote Firebird Express Tutorial up to 60 minutes online eCoaching

EUR 150.00

### ECoaching Remote Firebird Express Tutorial 120

Remote Firebird Express Tutorial up to 120 minutes online eCoaching

EUR 280.00

### ECoaching Remote Firebird Express Tutorial 180

Remote Firebird Express Tutorial up to 180 minutes online eCoaching

EUR 400.00

*Prices subject to alteration. All prices quoted are net sales tax/VAT where applicable.*



In addition to the coaching fees, each participant should have a licensed version of IBExpert Developer Studio on the computer where the tutorial is to take place. You can purchase a full single registered IBExpert license for EUR 199.00 at [www.ibexpert.com/shop](http://www.ibexpert.com/shop). All scripts created during this workshop can be used at no further cost on all IBExpert-licensed computers. You can deploy all functionalities at your clients without any limitations by purchasing the IBExpert VAR license.

Should you require answers to specific problems, then perhaps one of our support solutions would be more suitable? Please refer to our *Products & Services* catalog for details.



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# IBEXPERT KG SERVICES

In addition to our training and workshop range, we also offer a selection of support, mentoring and outsourcing services:

## IBEXPERT ON-SITE PERFORMANCE WORKSHOP

An experienced IBExpert KG employee s your system in your production environment, demonstrating and performing improvements. A code review will also provide tips for your development team for their future development. This workshop can take one to two days. Pricing with individual traveling costs can be requested from info@ibexpert.com.



## IBEXPERT TELEPHONE SUPPORT HOTLINE

Do you have any questions regarding Delphi®, InterBase® or Firebird? We offer a billing by the minute support hotline with which you book a fixed contingent at a reasonable price.

When you call our hotline number (not an expensive or unattainable 0190 number!) you are directly transferred to one of our privileged telephones. You are able to quickly and easily take advantage of our Delphi®, InterBase® and Firebird know-how. We aim to make our hotline available on working days from 09:00 to 17:00 (CET) – and often later. Should the hotline be busy or no expert be available to give your problem prompt attention, your call will not be charged. The IBExpert KG Support Hotline is also available to countries outside Germany.

## IBEXPERT REMOTE DBA

A database server installation is always an extremely complex project, even though the InterBase® or Firebird Server requires a very low level of administration.

Our experience with hundreds of installations has shown that a lot of servers have no real concept for critical situations. A daily backup is never tested, there is no plan how a new server should be set up should the original server crash, the server performance is lower than it was before, etc.

Do not wait for the worst-case scenario to happen. The IBExpert Remote DBA product is designed for all InterBase® and Firebird users, but especially for those companies who have no large budget for their own Database Administrator. Depending on your wishes and your requirements you can order this with an annual, quarterly or monthly check.



## IBEXPERT REMOTE SUPPORT

Based on Skype® and our remote support software, we connect to a development machine or database server in your network, which must have an internet connection. Using the phone connection, we discuss the possible problems and review your system using our remote desktop support system. You receive valuable hints as to what you should alter, or immediately make some changes in your database and configuration that might improve your system. Individual SQL statements can be analyzed and optimized as needed or replaced by a functional identical stored procedure.

This is a secure solution, as our database specialist can only connect to your server when you are running the remote support software. You can view all transactions made by the remote supporter on-screen, and can discuss all analyses over Skype® or on the phone.

All services are available worldwide! Languages spoken: English and German.

For further information regarding any of these services, please refer to our website, our Products & Services catalog, or mail info@ibexpert.com.



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All prices are quoted net sales tax/VAT.

# IBEXPERT KG INFORMATION REQUEST

Contact information:

First name:

Last name:

Company name:

Street:

City / ZIP:

Country:

Telephone no:

Fax no:

E-mail address:

Signature:

Please prepare and send us a written offer for the following course specification(s):

Course or workshop title	No. of participants	Preferred dates

Please list here subjects and topics to be covered along with any special wishes:





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