

Exasol

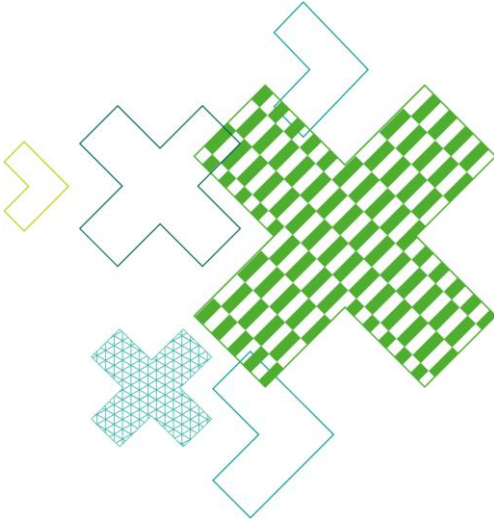
2018

Exasol Training Courses



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Preface

At Exasol, we are pleased to offer an extensive education program to our partners and customers that includes a set of training courses. Our goal is simple: to ensure the successful deployment and implementation of Exasol fast, in-memory analytic database.

Through a range of hands-on courses, Exasol users can get the knowledge and training they need in order to get the most out of their Exasol database implementation. Each course focuses on a range of topics that is relevant to a specific part of the Exasol database and is geared to certain roles, whether you are a database developer or administrator.

Upon successful completion of a course, students can attend in a certification exam to earn an Exasol training certificate.

If you have any questions regarding our education program, please get in touch.

Sincerely,

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Training courses

Training course	Target group	Duration
Developer	Database and ETL process developers	2 days
Scripting Expert	Developers of database procedure scripts (Lua)	1 day
EXAPowerlytics Expert	Developers who want to run database analytics on poly-structured data	1 day
Performance Expert	Database administrators and developers who want to achieve optimal system performance	1 day
Administrator	System, network and database administrators performing standard administrative tasks using the EXAoperation interface	2 days
Cluster Installation	OEM resellers who want to roll out Exasol clusters as part of their software stack	1 day

NOTE:

Exasol reserves the right amend training course content and course duration information at any time.

Certification programs

Certification requires attending a series of training courses. In general, it is possible to attend Exasol training courses in any sequence. For some courses, the successful participation in another course is required.

Training courses are generally run in Exasol's headquarters in Nuremberg, Germany or in Berlin offices of Exasol, Germany, or in London. To see a list of current training dates and to register to attend, please go to:

<https://www.exasol.com/portal/display/TRAINING/Learn+to+leverage+the+excellence+of+EXASOL>

Furthermore, Exasol offers product update training courses for all major and minor releases of the database. Once you are successfully accredited, attendance at subsequent update trainings is offered.

Details on training courses

Developer

Target group:

Database and ETL developers

Contents:

The training course starts with a comprehensive introduction to Exasol's in-memory analytic database. After a short section on the application use cases of Exasol, the course then covers important concepts and the database's system architecture. This includes the following topics:

- Exasol in-depth: basic algorithmic principles of Exasol, especially massively parallel data processing, in-memory technology and compression
- Integration into system architectures, maintenance
- Introduction to the EXAplus client

The second part of the training course focuses on tasks involved when developing for Exasol databases. This includes:

- Exasol SQL
 - Scheme concept
 - Data types
 - Identifier handling in Exasol SQL
 - Interesting SQL statements
- Database design: Dos and Don'ts
- User and rights management
- Important system tables and commands
- System monitoring through statistical system tables
- Transaction management
- Scripting basics ("Procedure scripts" in Exasol)
- Introduction to the topic "ETL"
- Transferring data via EXAloader

The content of the course will be adapted to the requirements of the participants. The following topics can be covered optionally:

- Analytical functions
- Grouping sets
- MERGE statement
- Priorities
- Hierarchical queries (CONNECT BY)
- Geospatial data
- Time zones and timestamps

Prerequisites:

Practical SQL experience, ideally in the scope of Business Intelligence

Duration:

2 days including hands-on exercises

Scripting Expert

Target group:

Developers of database scripts

Contents:

Database scripts are used for procedural work within the database. There are various use cases for scripts. An example is the automation of ETL processes.

The training starts with an introduction of Lua-concepts that are useful for the development of database scripts. Afterwards, the training course deals with the development, debugging and execution of database scripts. Proven examples from various fields of application are discussed within the training.

- Lua basics
- Lua important libraries
- Object orientation in Lua
- Scripting in Exasol
 - DB interface
 - DB interaction (query execution and result processing)
 - Debugging
- Use cases
 - Query wrapper
 - Iterators

Prerequisites:

Exasol Certified Developer or intensive practical experience with Exasol, particular development of DB scripts

Duration:

1 day including hands-on exercises

Performance Expert

Target group:

Database administrators and developers who want to get optimal performance from their Exasol database

Contents:

After a short repetition of Exasol concepts and features relevant for analyzing system- or query performance, this training course focuses on performance-relevant topics:

- Detection of bottlenecks using statistical system tables
- Data distribution
- Query execution in Exasol
 - Query execution phases
 - Pipelining
 - Execution plans
- Profiling of queries
- Indexes in Exasol
 - Use case “Indexscan”
- Best practices
- Database design: Dos and Don’ts regarding performance
- Query analysis and optimization (using well known issues)

Prerequisites:

EXASOL Certified Developer

Alternative: thorough practical experience with the topics included in the developer training course, particular usage of statistical system tables (schema EXA_STATISTICS)

Duration:

1 day including hands-on exercises

EXAPowerlytics Expert

Target group:

Developers who want to use Exasol UDFs to run analytics on polystructured data, preprocess and import arbitrary data or introduce self-defined functionalities into the database

Contents:

EXAPowerlytics enables the user to develop user-defined functions (UDF).

After an introduction to the interface of Exasol UDFs and details for the supported languages, the training course covers proven examples from real-life scenarios, including:

- Implementation of an algorithm (Benfords Law)
- MapReduce algorithms
- Connection to external sources
- Implementation of a geospatial index
- Usage of UDFs for data loading
- Digit recognition
 - Usage of R library “randomForest” used for classification and regression

The training then focuses on the development of UDF scripts. This includes topics such as debugging and usage of SDKs.

Prerequisites:

Exasol Certified Developer or intensive practical experience with Exasol

Duration:

1 day including hands-on exercises

Administrator

Target group:

System, network and database administrators who perform standard administrative tasks using the EXAoperation interface

Contents:

The training course starts with a comprehensive introduction to the cluster architecture of Exasol, including EXASuite software stack and the network topology.

The course then focuses on performing standard administrative tasks such as (1st day):

- Startup/shutdown of services and nodes
- The boot process
- Creating nodes, logservices, volumes and database instances
- Performing, restoring and scheduling backups
- Introduction to cluster monitoring (Exasol logservices)

The second day focuses on more advanced concepts and tasks such as:

- Cluster Enlargement (add node), Reorganize and shrinking of volumes
- Failover
- Software updates: Minor, Major, Security Patching (including the introduction to the customer portal)
- Adding additional network interfaces
- Introduction to XML-RPC
- Exasol Nagios Docker container
- Exasol BucketFS

Prerequisites:

Experience in the administration of client and server computers, general database knowledge, general networking knowledge

Duration:

2 days including hands-on exercises

Cluster Installation Training

Target group:

System, network and database administrators who install and configure Exasol clusters

Contents:

The training course starts with a comprehensive introduction to the cluster architecture such as network topology and disk layouts.

The course then covers how to execute the installation of an Exasol cluster on a preconfigured system

Prerequisites:

Administrator training course

Duration:

1 day