



ENTERPRISEDB® GLOBAL TRAINING CATALOGUE

2019



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1 INTRODUCTION

EnterpriseDB® (EDB) is the leading worldwide provider of Postgres software and services that enable enterprises to reduce their reliance on costly traditional solutions and slash their database spend by up to 80% or more. With powerful performance and security enhancements for PostgreSQL, sophisticated management tools for global deployments and database compatibility with and the ability to migrate from Oracle, EDB software supports mission-critical enterprise applications. More than 3,400 enterprises, governments and other organizations worldwide use EnterpriseDB software, support, training and professional services to integrate Postgres into their existing data infrastructures.

PostgreSQL is a powerful, open source object-relational database system with a strong reputation for reliability, data integrity, and stability. It is rapidly becoming the preferred open source relational database for enterprises, governments, ISVs and OEMs. Many companies are switching from well-known brand-name closed-source database solutions to Postgres.

The EDB Global Education Service Team has developed a series of courses that are designed to meet the needs of Postgres database administrators and application developers of all levels at all stages of deployment. Our world class courses address key questions pertaining to how to use Postgres, how to install it, configure for optimal performance, secure a Postgres database, implement high availability, perform backup and recovery, migrate from a closed source database to Postgres, design applications that leverage EDB Postgres' advanced capabilities, and use the powerful features provided by the EDB Postgres platform. **We provide free training to all Postgres users and have available for purchase, advanced classes on specialized topics.**

EDB Global Training Services delivers training in flexible modes that suit many needs: onsite at the customer premise, online live virtual training with a live instructor, on-demand as pre-recorded eLearning, and through open enrollment training sessions scheduled throughout the year.

All of our training classes include:

- Modularized lessons with instruction lecture
- Presentation copy
- Hands-on lab exercises

The instructor-led Live Virtual and Classroom training formats also include:

- Guidance by a live Postgres expert
- Interactive Discussions
- Question and answer sessions

All classes can be customized to meet specific customer requirements.

For any questions, please contact your EDB account manager or EDB Sales at <mailto:sales@enterprisedb.com>, or use the [online inquiry form](#).

2 TRAINER PROFILE

EnterpriseDB trainers have vast experience in database administration and development. All trainers have backgrounds in:

- Database design
- Performance tuning
- PL/SQL development
- Testing of mission critical database systems

Our trainers are skilled in various operating systems, hardware environments, and programming languages including PL/SQL, Visual Basic script, C, and Java. The trainers are proficient with the core competencies required to successfully teach how to use and manage the EnterpriseDB products.

The typical trainer profile includes

- 5+ years of diversified experience in database development and testing
- Hands on experience with Postgres and at least one other relational database product such as Oracle, MS SQL Server, or DB2
- EDB Certified Postgres skills
- Active participant in the PostgreSQL community
- Bachelors or Masters Degree in Engineering
- Excellent presentation and communications skills

2.1 MEET OUR TRAINERS

EDB is proud to have great Postgres trainers as part of our Education Services program. Our trainers are Postgres practitioners or PostgreSQL community members and leaders. All of them have many years of hands-on Postgres experience. While not every class is taught by one of the trainers listed below, this is a representative sample of the talent that we bring to bear. Once the agreement is signed and the training date is set, we will select the best possible training instructor to meet your needs. At times, a consulting engineer may be delivering training in addition to professional services, when beneficial.



Bruce Momjian is a co-founder of the PostgreSQL Global Development Group, and has worked on PostgreSQL since 1996 as a committer and community leader. Bruce is employed by EnterpriseDB as a Senior Database Architect, and delivers training at many Postgres events and locations around the world.



Rupinder Singh is a leading Technical Trainer for PostgreSQL and EDB Postgres technologies. He has also been a Lead Systems Engineer at EnterpriseDB, and has over 10 years of Postgres experience. He is one of our most frequent trainers who has delivered hundreds of Postgres training classes to thousands of DBAs and developers, and also has background in Oracle database technologies.



With more than 9 years of hands-on experience in databases, **Nidhi Bhammar** is an experienced Technical Trainer at EnterpriseDB. She started her career as an Oracle Trainer, then worked as a consultant Oracle Database Administrator for customers in India and the United States. Nidhi is an Oracle certified DBA as well as a Certified Postgres Professional Trainer, specializing in database design, administration, maintenance, security, backup and recovery.



Alok Mishra is an EDB Certified Postgres Professional, Oracle Certified Professional, Oracle Certified Expert (Oracle RAC), Symantec Certified Storage Specialist, IBM Certified Operator. He has 11 years of technical hands-on experience, currently as a Sr. System Engineer at EDB, with expertise in EDB Postgres technologies, and a background as a lead Oracle Consultant, Oracle Database Administrator and PostgreSQL DBA. He is also experienced in providing L2/L3 level 24/7 support to enterprise customers on Oracle and Postgres databases.



Devrim Gündüz is a Principal Systems Admin/Consultant at EnterpriseDB. He is a senior PostgreSQL and EDB Postgres Advanced Server DBA and trainer, having over 15 years of hands-on experience. His extensive experience includes hands-on work experience as a senior Red Hat / CentOS / Fedora Administrator, including very-high level package manager experience.



Raghavendra Rao is an experienced Technical Lead at EnterpriseDB with more than 10 years of hands-on experience in databases and large-scale IT solutions. He is an Oracle and PostgreSQL Certified Database Administrator. Raghavendra is one of EnterpriseDB's leading trainers working for customers in India, Europe and the United States and delivering onsite classes where he shares his many years of Postgres knowledge and hands-on experience.

3 WHAT CUSTOMERS SAY

As a company, one of our key areas of focus is customer satisfaction. We are continuously surveying our customers to improve our training and make sure that we consistently meet and exceed customer expectations. Here is a sampling of some recent customer feedback.

“Very good training. The plan is very relevant to every concept a DBA should know and the duration of each module is well balanced.”

Sebastien Louchart, Senior Data Integration Expert, Pentalog Institute – On Demand Course

“Thom was the best lecturer I have ever had the pleasure of being taught by.”

Michael Over, Argility - Open Enrollment Classroom training

“Overall it’s a very effective training. I appreciate the trainer’s effort & the course design. Thank You.”

Rajeev Srivastava, Software Engineering Division, C-DAC Mumbai - Private Classroom Training

“I really enjoyed the course. Being based in South Africa the online format worked great. I learned a lot. Kudos to Rupinder Singh and the EnterpriseDB team”

Chris Lubbe, Consultant DBA, Lexpro Systems – Live Virtual Training

“The training was really good. We look forward to use Advanced Server in our environment.”

“The Trainer Ms. Nidhi was really good and made us understand everything very nicely and with patience. She was very knowledgeable. Thanks EDB.”

Piyush Patil, Assistant Vice President at Axis Bank – On Site Training

4 ENTERPRISEDB TRAINING CURRICULUM

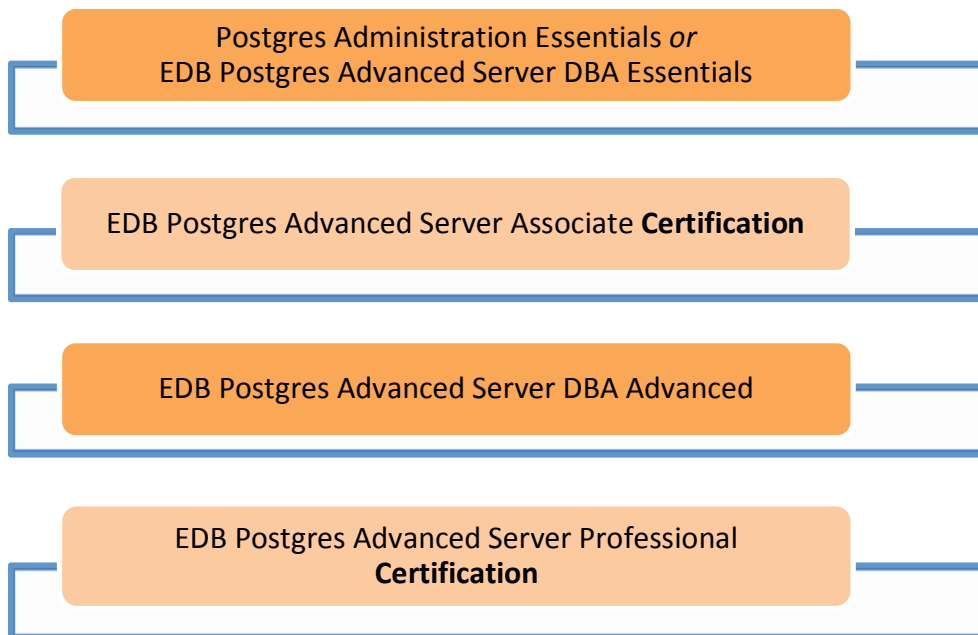
EnterpriseDB offers a variety of Postgres training courses around the globe covering all aspects of Postgres. Our training covers PostgreSQL (the Postgres Community Edition), EDB Postgres Advanced Server (EDB's enterprise-ready distribution of Postgres), EDB Postgres Enterprise Manager (the leading tool to monitor, manage and tune large Postgres production deployments), and more.

A thorough certification program supports the PostgreSQL and EDB Postgres Advanced Server DBA Curriculum.

EDB's courses are designed for:

- Database Administrators/Developers already using Postgres in their current deployments
- Professionals and Architects who are in the process of evaluating Postgres for use in upcoming projects
- Professionals/Students to develop their skills in Postgres

4.1 DBA CURRICULUM – EDB POSTGRES ADVANCED SERVER



Implementing Disaster Recovery and High Availability Solutions in Postgres

Performance Tuning and Optimization for Postgres DBAs and Developers

Using Postgres Enterprise Manager

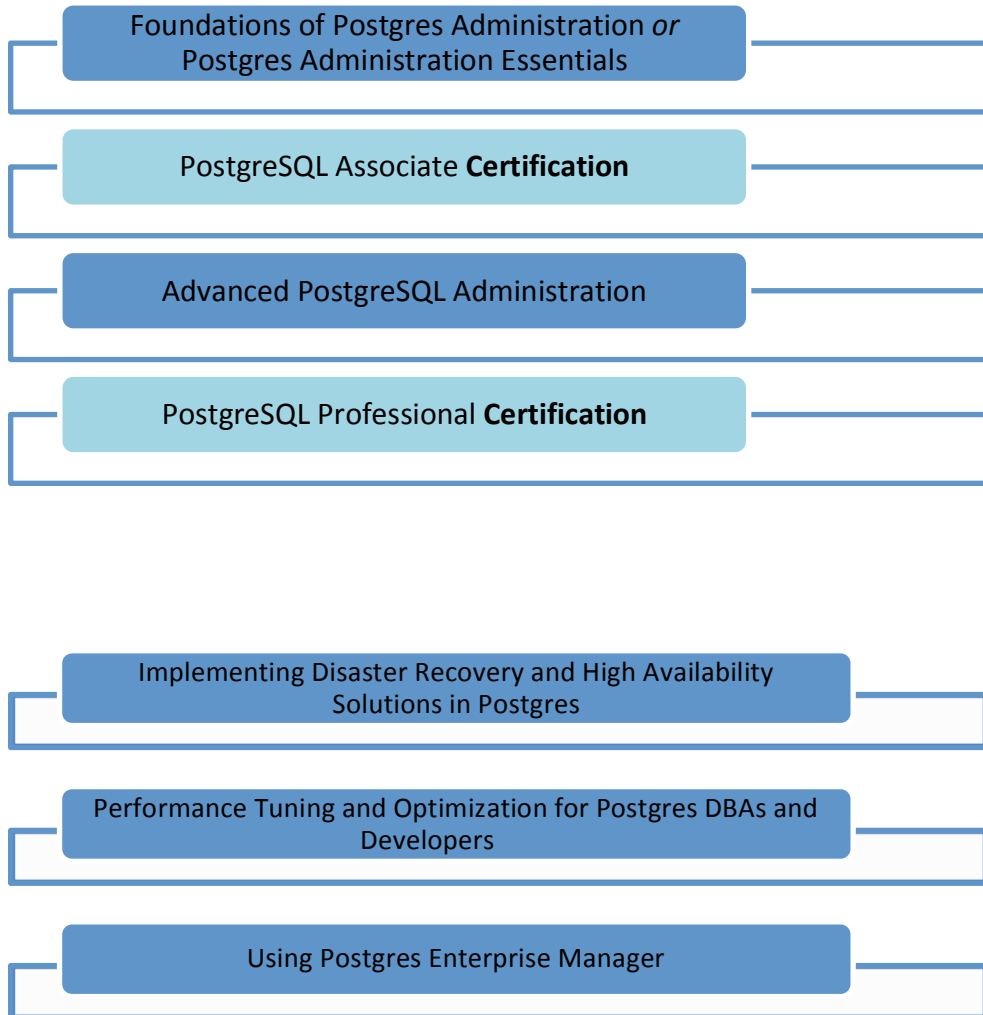
4.2 DEVELOPER CURRICULUM – ALL PLATFORMS

Postgres Developer Fundamentals

Postgres Developer Advanced

Performance Tuning and Optimization for Postgres DBAs and Developers

4.3 DBA CURRICULUM - PostgreSQL



5 TRAINING FORMATS

EDB Global Training Services delivers training through 5 formats, which flexibly meet various training needs. The format options are:

Self-paced:

1. eLearning courses accessed on-demand

Instructor-led:

2. Live virtual training – open enrollment
3. Private live virtual training
4. On-site training at your facility
5. Open enrollment classroom trainings

5.1 ON-DEMAND/SELF-PACED COURSES (ELEARNING):

EnterpriseDB offers on-demand/self-paced courses, which can be taken anytime and from anywhere to accommodate learning that fits in to your busy schedule. These courses include the same content that is covered in our traditional classroom courses as well as our live virtual classes, but in a recorded format where students can start, pause, stop or resume taking the course at any time. These on-demand courses are developed using the latest and most powerful e-learning authoring tools available.

5.1.1 *BENEFITS:*

The training content is available in a convenient online environment and providing you with many business benefits:

- Save money on travel and hotel costs
- Eliminate time zone constraints
- Train during or after work hours when it's convenient for you
- Learn at your own pace

5.1.2 *TECHNICAL REQUIREMENTS:*

To take the course, all students must have:

- Computer, laptop, or tablet capable of running a web browser with Adobe Flash Player version 10.1 or greater.
- High-speed Internet connection.

5.1.3 HOW DOES ON-DEMAND TRAINING WORK?

With on-demand training, you will enjoy flexibility and convenience. Here's how our program works:

- You will receive confirmation of your purchase and instructions to access the training information from trainingcoordinator@enterprisedb.com.
- You will have access to the on-demand training material for six calendar weeks (42 days) from the date of your purchase.
- During this time, you can go through the on-demand training material an unlimited number of times.
- You can pause/resume the training course video at any time.

5.1.4 INCLUDED IN OUR ON-DEMAND COURSES:

- A flash video of the course recording
- A soft copy of the course material are yours to keep and review anytime
- Training completion e-Certificate

Check out the on-demand courses available on the EnterpriseDB web site at:
<http://inter.viewcentral.com/reg/enterprisedb/PostgresOnDemandTraining>

Request a specific on-demand Course by writing to trainingcoordinator@enterprisedb.com.

5.2 LIVE VIRTUAL TRAINING (LVT) – OPEN ENROLLMENT

EnterpriseDB's Live Virtual Training is real-time training delivered interactively by our instructors in an online environment. These live virtual classes are as effective as our traditional on-site classroom training and offer additional benefits. Live Virtual Training can be open to attendees from any company, or closed to only allow a specific company's employees to attend with the *Private* Live Virtual Training Option (P-LVT), described in section 5.3 below).

Check out our latest [Live Virtual Training Schedule](#) on the web.

5.2.1 BENEFITS

- Save money on travel and hotel costs
- Train from anywhere at your convenience – from home or office
- Train along with coworkers across the globe
- Get the same course content and lab exercises, customized for online delivery
- Get trained by the same Postgres experts as our classroom training
- Classes available in many different time zones

All of our courses are offered in the Live Virtual Training format.

5.2.2 TECHNICAL REQUIREMENTS

During Live Virtual Training, EDB uses the following web conferencing tools:

Online Collaboration	Phone/Audio
WebEx or Adobe Connect	Voice-Over-IP (VoIP)
Enables online interaction between the trainer and students	Established audio communication between the trainer and students

Therefore, following are the additional requirements for attending a LVT class:

1. A high-speed Internet connection (LAN, DSL, cable) to ensure good audio quality
2. Connection to the specified web conferencing tool, such as, WebEx or Adobe Connect
3. A functional audio card with the necessary software, drivers, and speakers installed
4. JavaScript and cookies enabled on machines

5.2.2.1 Requirements specific to participants joining from different locations

Individual participants joining from different locations should each have the following:

1. USB or analog headset with an integrated microphone connected to their machine
2. Access to a phone line, as a backup for audio communication

5.2.2.2 Requirements specific to participants joining from the same location

If there are two or more participants joining from the same location, they should have at minimum, one common laptop with the following:

1. A high-speed Internet connection (LAN, DSL, cable)
2. Connection to the specified web conferencing tool, such as WebEx or Adobe Connect
3. Capabilities to project the laptop display on a large projector screen
4. Connection to speakers allowing the class to hear the trainer clearly
5. Connection to USB microphone allowing all participants to ask questions during the training
6. An audio conferencing phone along with an expansion microphone, as a backup for audio communication

5.3 PRIVATE LIVE VIRTUAL TRAINING (P-LVT):

EnterpriseDB now offers a Private option for our Live Virtual Training format, which is real-time training delivered interactively by our instructors in an online environment, but only open to

employees at a particular company. These live virtual classes are as effective as our traditional on-site classroom training and offer additional benefits.

5.3.1 P-LVT BENEFITS

In addition to offering the same cost and convenience benefits of traditional Live Virtual Training, Private-LVT offers additional benefits:

- Train distributed teams coworkers across the globe at the same time
- Train from anywhere at your convenience – from home or your office locations
- Save money on travel and hotel costs for your team
- Get the same course content & lab exercises, customized for online delivery
- Get trained by the same Postgres experts as our classroom training
- Classes available in many different time zones

All of our courses are offered as Live Virtual Training.

5.3.2 P-LVT TECHNICAL REQUIREMENTS

The technical requirements for Private Live Virtual Training are exactly the same as those for Standard Live Virtual Training as mentioned under section 5.2.2 TECHNICAL REQUIREMENTS.

5.3.3 P-LVT SCHEDULING

Scheduling of Private LVT requires 3 weeks advance notice at minimum, in order to assign a resource accordingly and prepare for the course.

Please note that standard cancellation policies apply to Private LVTs.

5.4 ON-SITE TRAINING:

EnterpriseDB offers onsite classroom training for its entire curriculum. Onsite training provides a comprehensive learning mode in which trainees learn from Postgres experts face to face with hands-on practice and demonstrations.

If you want team training with your co-workers or a private training for yourself at your office, this is the best format for you. If your organization has a requirement to get 6 to 12 employees trained for a particular course, EnterpriseDB highly recommends private classroom training for your team.

5.4.1 BENEFITS:

- Bundled cost savings on class fees
- Elimination of travel for the whole team, as an EnterpriseDB trainer travels to your location

- The flexibility to choose any course for classroom training delivery as well as customize it based on your requirements
- Question and Answer sessions with the trainer at the end of every topic – discussions can be specific to your organization

5.4.2 FACILITY AND EQUIPMENT REQUIREMENTS:

- During the course of the training, each trainee should have access to a desktop or laptop where they can install Postgres and work on labs.
- The participant's laptop/PC should preferably be configured with the environment set up described in **section 5.6**, in advance of the training start.
- Participants should have **Superuser or User with sudo access** on their laptop/PC to be able to install the required software, labs, and plug-ins.
- The class size can be a maximum of 12 students (larger audiences require a second trainer).
- Training materials include: electronic copy of the course outline, course materials, lab exercise answer key and other supporting material.
- At the completion of the training, all attendees will receive e-copies of Course Completion Certificates.

To book your Private Classroom Training, contact us at sales@enterprisedb.com.

5.5 OPEN ENROLLMENT CLASSROOM TRAINING:

EDB offers public classroom trainings at various Postgres conferences and other locations across the globe. EDB has partnered with many world-class training organizations to offer a wide range of Postgres classes worldwide.

5.5.1 BENEFITS:

- Individual team members can attend a class in person without the potential distractions of training at a workplace location
- Trainees have the opportunity to meet people from different industries
- Our global network of Certified Training Partners provide cost-effective access to face-to-face training

Check out the current list of [Certified Training Partners \(CTPs\)](#).

Check out the latest [Open Enrollment Training Schedule](#).

5.6 SOFTWARE AND ENVIRONMENT SET UP – ALL MODES

For a smooth training experience, we require that each participant have a laptop/PC or access to a server/virtual server with the following set up:

Requirement	Specifications	Notes
Computer	1 laptop/PC per student	1 student/computer for labs/exercises. A virtual machine can also be used.
User Type	Superuser or User with sudo access	Ability to install software, plug-ins as required
Operating System	RHEL or CentOS 7 with GNOME desktop	Standard configuration to eliminate discrepancies
Minimum Memory Requirements	1 CPU/vCPU with 1GB RAM and 10GB Free Disk Space	Needed to perform labs/exercises
Internet Access	Wireless Internet/LAN/DSL	Ability to download Postgres binaries, sample database scripts

5.6.1 NOTES:

1. To avoid unnecessary delays, it is highly recommended that you ensure that all the required devices (speakers, microphone, projectors etc.) are functioning properly in advance.

2. To ensure smooth functioning of the class, it is recommended to install all the necessary software (drivers for devices and connection to the specified web conferencing tool)
3. For an instructor-led training sessions, we encourage you to download and install the latest binaries for PostgreSQL/EDB Postgres Advanced Server (depending upon the course) prior to the start of training. Each participant attending a Classroom or Live Virtual Training session will receive instructions and links for installing the latest version of the relevant database along with related tools from trainingcoordinator@enterprisedb.com.

6 ENTERPRISEDB CERTIFICATIONS

EDB provides a series of certifications for both PostgreSQL and EDB Postgres Advanced Server to help organizations manage the skill sets of their in-house Postgres resources and to ascertain the knowledge of new hires or consulting resources. This certification program is built upon many years of hands-on experience with Postgres. The details of the certification program are making sure that all relevant skill sets are tested.

Holding a Certification from EnterpriseDB affirms a database professional's position as a knowledgeable and skilled asset with experience in Postgres and EDB Postgres Advanced Server database technologies. Individuals certified under this program fill a growing and critical need for Postgres knowledge in enterprise, government, OEM, and ISV environments.

The quickest path to certification and the surest way to prepare for the exams is to complete training from EnterpriseDB.

6.1 DIGITAL CERTIFICATION BADGES

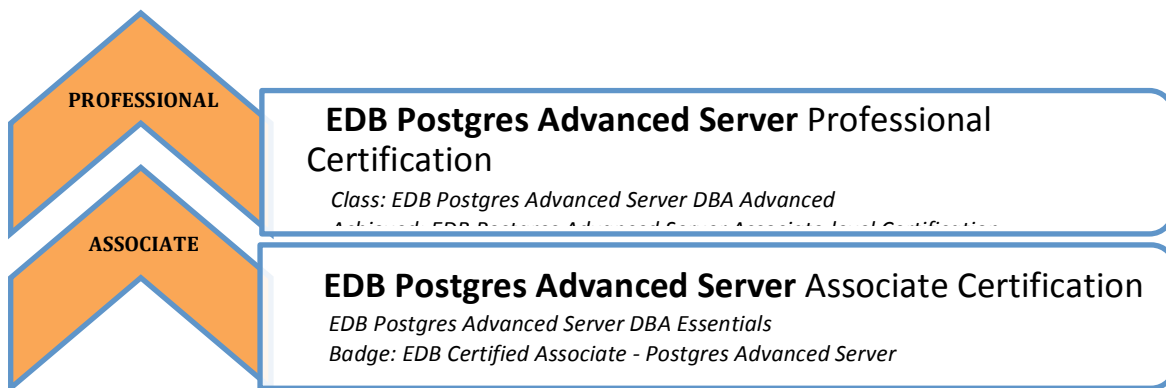


Digital certification badges are a way to receive visible recognition for your professional achievement with Postgres. Badges are issued by EDB, in partnership with Acclaim, when you successfully complete your Postgres certification exam. They provide an easy way to share and validate abilities via social media sites such as LinkedIn, Facebook and Twitter, as well as email and online portfolios.

Use your [EDB Postgres certification badge](#) to tell the world you are Postgres-ready.

6.2 DBA CERTIFICATION PATHS *WITH PRE-REQUISITES*

6.2.1 *EDB POSTGRES ADVANCED SERVER*



6.2.2 *POSTGRES SQL*



6.3 CERTIFICATION TRACKS

Certification Tracks		
	EDB Postgres Advanced Server	PostgreSQL
Associate		
Pre-requisites	Postgres Administration Essentials	none
Total Questions	50	50
Passing Score	70%	70%
Price	\$250	\$200
Retake	\$250	\$200
Related Course	Postgres Administration Essentials	Foundations of PostgreSQL Administration
Badge	<i>EDB Certified Associate - Postgres Advanced Server</i>	<i>EDB Certified Associate - PostgreSQL</i>
	EDB Postgres Advanced Server	PostgreSQL
Professional		
Pre-requisites	1. Passing the EDB Postgres Associates Exam 2. EDB Postgres Advanced Server DBA - Advanced	Passing the PostgreSQL Associates Exam
Total Questions	50	50
Passing Score	80%	80%
Price	\$250	\$200
Retake	\$250	\$200
Related Course	EDB Postgres Advanced Server DBA - Advanced	Advanced PostgreSQL Administration
Badge	<i>EDB Certified Professional - Postgres Advanced Server</i>	<i>EDB Certified Professional - PostgreSQL</i>

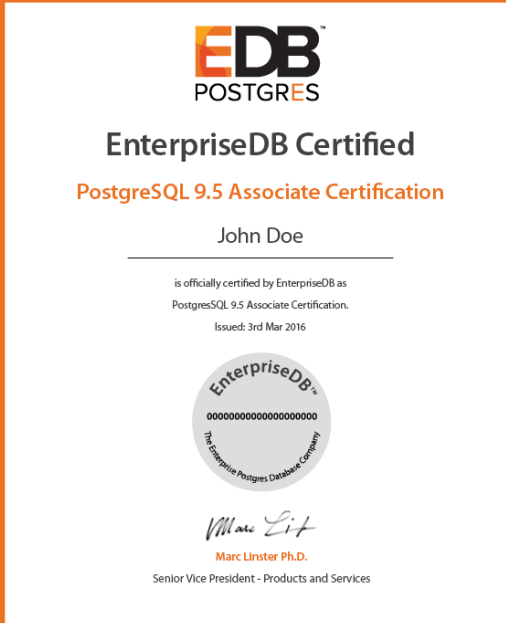
6.4 HOW TO TAKE A CERTIFICATION EXAM:

- Our Certifications are offered online as well as through our partners at their training centers.
- The duration of each exam is 60 minutes with 50 multiple-choice questions.

- Access credentials to the certification exam are valid for 6 weeks from the date of purchase. After 6 weeks, the credentials are automatically de-activated.
- Results are e-mailed, with an overall % correct and a Cleared/Not Cleared notification.
- Information on the % of questions answered correctly in each subject area is available upon request, but in order to protect the integrity of the test we do not share specific questions with corrected answers.

Some important points before you start off with the test:

- Chrome, Firefox, or Internet Explorer can be used as your browser for taking the test.
- Please ensure you have strong Internet connectivity before starting the test, as loss of connectivity will cause interruption and may require a reset.




EDB
POSTGRES

EnterpriseDB Certified
PostgreSQL 9.5 Associate Certification

John Doe

is officially certified by EnterpriseDB as
PostgreSQL 9.5 Associate Certification.
Issued: 3rd Mar 2016



Marc Linster
Marc Linster Ph.D.
Senior Vice President - Products and Services

www.enterprisedb.com | 8K557AF5G4/EDB30110

EDB has developed a series of Postgres certifications to help organizations manage the skill sets of their in-house Postgres resources and to ascertain the Postgres knowledge of new hires or consulting resources.

The EDB Postgres Certification Program is built on many years of hands-on experience with Postgres. The details of the certification program are making sure that all relevant skill sets are tested.

6.5 EDB POSTGRES ADVANCED SERVER ASSOCIATE CERTIFICATION

The EDB Postgres Advanced Server Associate Certification assesses database professionals' skills in maintaining and managing EDB Postgres Advanced Server and applications in a production

25

environment. This certification assesses database professionals' ability to work in demanding, large-scale production environments, and certifies their proficiency.

Affirms knowledge and capabilities in leveraging open source based database technology for enterprise environments. Validates skill with system architecture and Postgres internal structures, operations and maintenance of large-scale database systems, creating and managing databases and clusters, tablespace management, SQL commands, enterprise administration tools, user management, security configuration, backup and recovery strategies and proactive maintenance.

Competencies:

The EDB Postgres Advanced Server Associate level Certification requires competence in the following:

- EDB Postgres Advanced Server System Architecture and Installation
- Database Objects and Hierarchy
- Creating and Administering Database Clusters
- EDB Postgres Enterprise Manager Client
- Configuration Settings and Parameters
- Creating and Managing Databases and Database Clusters
- User Tools for Administration – Command Line and Graphical
- SQL Primer
- Tablespaces – Creating and Managing
- Users, Groups, and Assigning Privileges
- Security Settings
- Data Loading
- Oracle Compatibility
- Oracle to EDB Postgres Advanced Server Migration
- Routine and Proactive Maintenance Tasks
- Backup, Recovery, and Point In Time Recovery
- Moving Data
- Data Dictionary

Pre-requisites:

Candidates to the EDB Postgres Advanced Server Associate Certification exam are required to complete the EnterpriseDB training course **Postgres Administration Essentials** (on-demand) or **EDB Postgres Advanced Server DBA Essentials** (instructor-led) course. This class presents the minimum knowledge of concepts and skills required to achieve this certification.

Badge: [EDB Certified Associate - Postgres Advanced Server](#)

6.6 EDB POSTGRES ADVANCED SERVER PROFESSIONAL CERTIFICATION

The EDB Postgres Advanced Server Professional Certification is the next level of Postgres Advanced Server certification above the Associate level, and requires completion of the **EDB Postgres Advanced Server DBA Advanced** course.

This Professional level of certification affirms more in-depth knowledge, capabilities and experience in leveraging open source based database technology in enterprise environments. It certifies a database professional's skills with more advanced DBA responsibilities for maintaining and managing EDB Postgres Advanced Server and applications successfully in a production environment. Assesses competence with: performance tuning and optimization, partitioning, streaming replication, connection pooling, monitoring, security, and more.

Competencies:

The EDB Postgres Advanced Server Professional Certification requires competence in the following:

- EDB Postgres Advanced Server Advanced Features and Tools
- SQL Tuning
- Performance Tuning
- Performance Benchmarking
- DRITA
- Using Extension Modules
- Table Partitioning
- Connection Pooling
- Materialized Views
- WAL Archiving
- Streaming Replication
- Monitoring

- Database Security

Pre-requisites:

The EDB Postgres Advanced Server Professional Certification requires both:

- Completion of the course **EDB Postgres Advanced Server DBA Advanced**
- Successfully passing the **EDB Postgres Advanced Server Associate Certification Exam**

Badge: [EDB Certified Professional - Postgres Advanced Server](#)

6.7 POSTGRESQL ASSOCIATE CERTIFICATION

The PostgreSQL Associate Certification assesses database professionals' skills in maintaining and managing a PostgreSQL server and Postgres-based applications in a production environment.

Affirms knowledge in administration of PostgreSQL open source databases. Validates skills including: basic knowledge of PostgreSQL, creating and managing databases, fundamental SQL, operations and maintenance of PostgreSQL database systems, using basic tools, backup/restore, and routine maintenance.

The PostgreSQL Associate Certification requires competence in the following:

- | | |
|--------------------------------------|---------------------------------|
| ○ PostgreSQL System Architecture | ○ Security |
| ○ Installation | ○ SQL Queries and Data Handling |
| ○ Configuration | ○ Backup and Recovery |
| ○ Creating and Managing Databases | ○ Point-in Time Recovery |
| ○ User Interfaces: PSQL and pgAdmin4 | ○ Routine Maintenance Tasks |
| ○ Database Clusters | ○ Data Dictionary |
| | ○ Moving Data |

Pre-requisites:

Candidates to the PostgreSQL Associate Certification exam are strongly encouraged to complete the associated EnterpriseDB training course **Foundations of PostgreSQL Administration**. Equivalent hands-on experience may fulfill this pre-requisite, but formal class training is

strongly recommended as it presents the knowledge of concepts and skills required to achieve this certification.

Badge: [EDB Certified Associate - PostgreSQL](#)

6.8 POSTGRESQL PROFESSIONAL CERTIFICATION

The PostgreSQL Professional Certification is the definitive standard for PostgreSQL professionals. This level of certification affirms more advanced knowledge and experience in PostgreSQL database administration, and requires competence in the following: performance tuning, streaming replication, connection pooling, partitioning, and more.

The PostgreSQL Professional Certification requires competence in the following:

<ul style="list-style-type: none"> ○ Installation of PostgreSQL Sources ○ SQL Tuning ○ Performance Tuning ○ Performance Benchmarking ○ WAL Archiving ○ Streaming Replication 	<ul style="list-style-type: none"> ○ Connection Pooling ○ Table Partitioning ○ Extensions ○ Foreign Data Wrappers ○ Monitoring ○ Database Security
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Pre-requisites:

As mandatory pre-requisites, candidates to the PostgreSQL Professional Certification exam must:

- Complete the **Advanced PostgreSQL Administration** training course offered by EnterpriseDB. This course presents the minimum knowledge of concepts and skills required to achieve this certification.
- Pass the **PostgreSQL Associate Certification** Exam.

Badge: [EDB Certified Professional - PostgreSQL](#)

7 ENTERPRISE ENABLEMENT PROGRAMS

EDB has several training enablement programs to help customers quickly achieve a high degree of Postgres competency. These programs complement an EDB Postgres subscription and help ensure success in adopting Postgres technology.

	Kick-Start	Training eSubscription	Training Credits
F E A T U R E S	<ul style="list-style-type: none"> Combine on-demand training with flexible remote consulting Developer option with targeted training, remote consulting, and developer license & support 	<ul style="list-style-type: none"> Unlimited access to full on-demand course library for 1 year Role-based courses and materials Access to courses, individual topics, when you need it Training for all phases of deployment 	<ul style="list-style-type: none"> Pre-buy discounted credits, valid for 1 year Flexible access to training courses and modes Streamlined procurement process Simplified administration
B E N E F I T S	Start with the right foundation in Postgres getting the help you need in early stages	Fast-track Postgres initiatives. Supports achievement of Postgres learning outcomes throughout an organization, helping you to maximize the value gained from your Postgres investment	Streamline the process of spending and consuming your training budget. Get the right training at the right time by allocating credits towards different course offerings or class opportunities over the year.

7.1 POSTGRES KICK-START

EDB's Postgres Kick-Start helps organizations and small teams get started with using Postgres. Kick-Start combines On-Demand training with consulting sessions that can be used for Q&A, architecture review, problem solving, or mentoring.

Postgres Kick-Start includes:

- 2 seats for any available on-demand course, such as:
 - EDB Postgres DBA Advanced
 - Foundations of PostgreSQL Administration
 - Advanced PostgreSQL Administration

- 2 days architecture advisory sessions (remote) by an experienced senior Postgres Consultant **or** mentoring and Question & Answer Sessions (remote) by one of our lead consultants or trainers.

Time to consume: 8 weeks

The **Kick-Start** program focuses on companies that are exploring Postgres; the **Custom Enterprise Training Programs** in section 7.4 are tailored for supporting large-scale mission critical deployments.

EDB also has developed a comprehensive collection of Deployment Services that combine Training, Professional Services, Remote DBA Services, and Developer Subscriptions to help customers in all phases of their Postgres Deployments. See the **EDB Global Services Catalog** for additional details.

7.2 EDB POSTGRES TRAINING eSUBSCRIPTION

A training eSubscription is a cost-effective purchase option for an individual or a team to achieve training goals. Assigned per individual, eSubscriptions provide flexibility to accommodate individual learning timelines and skill development needs.

The EDB Postgres Training eSubscription offers all EDB Postgres on-demand eLearning courses in a single package. This program allows you to take any of these courses at your own pace, saving you time, energy, and budget.

BENEFITS

- 24 x 7 access to the full library of EDB's on-demand Postgres training courses for in-depth product knowledge and skill enhancement, at a low price

- Supports multiple learner needs on a team with courses and content topics ranging from beginner to advanced database administration, developer training, and what's new feature overviews for the knowledge seeker
- Unlimited learning - users take any course or module within a course as many times as they need to in the period with no restrictions on # of times accessed
- 12-month renewable subscription service

INCLUDES

- Beginner, intermediate, and advanced level training for Postgres database administration and development
- Online Portal – training accessed via an on-line web portal
- Contains over 100 e-learning modules and 175+ hands-on lab exercises
- Covers a broad range of PostgreSQL and EDB Postgres technologies
- Blend of formal and informal learning knowledge assets that enable skill development
 - Professionally developed courses
 - Highly relevant webinars, workshops, class recordings

HOW TO USE

- eSubscription training courses are accessed via an on-line web portal using a unique access key provided by EDB
- Access any available course at any time, and start, top, restart, or revisit an individual module as often as needed
- Individual and team bundles are available, for 1 user or groups of 5, 10, 20, or more. An enterprise-level of users at an organization can also be authorized
- Subscription keys are valid for 1 year from the purchase and can be renewed
- Except for the enterprise tier, students must be named individuals, and logins cannot be shared. For the enterprise tier, a domain id (e.g. @enterprisedb.com) for the business unit must be provided, and access will be monitored to find the most popular courses to ensure your team is achieving the maximum benefit.

Subscription Term: 12 months

7.3 EDB POSTGRES TRAINING CREDITS

BENEFITS

EDB Postgres Training Credits (PTC) provide maximum flexibility in selecting and consuming training for multiple students. Using training credits is a cost-effective way to pre-purchase training and apply to training in any modality – such as on site or on-line.

INCLUDES

EDB Postgres Training Credits purchased up front which gives you the ability to flexibly allocate your training budget and utilize the credits for various classes based on individual student needs. For example, you can apply the credits to an open enrollment classroom training for 2 DBA and utilize the balance of credits for on-demand self paced eLearning for the rest of the team.

- Access to any on-demand, live on-line, and even on-site training class of our choice. See **Table 1** and **Table 2** below for credit values for course type. Page 32 of this catalog summarizes all available classes that are currently offered, but check the [training calendar](#) and [electronic course listing](#) on the web site for up to the minute course offerings.

HOW TO USE

- Upon purchase, credits are deposited into your company's balance and made available for general consumption by your students or the training purchasing agent associated with your account.
- A key is provided to your purchasing agent, and students can use that key to 'purchase' training, applying the key during the shopping cart check out process on the web site. Once the course registration is complete and the key is applied, students are registered for their training class, and confirmation e-mails with class details are sent.
- For on-site or private live-virtual training, contact your account representative to schedule dates for the class, and have your credits applied.
- If you do not have enough credits remaining in your balance to purchase a particular class, additional credits can be purchased.
- Unused credits expire 1 year after purchase and cannot be carried forward.

TRAINING CREDIT VALUES

Training credits are purchased in a minimum initial block of 500 and are priced per credit. Credits are valid for up to 1 year from the date of purchase and can 'spent' on training of any type. The below table lists how many credits are needed to 'buy' a class of a certain type, with some typical examples provided in Table 2.

Table 1 - Training Credit Values by Type

Training Format	Per day	3-day course	5-day course
Live Virtual Training (LVT)	3 credits per participant	9 credits per participant	15 credits per participant
Private Live Virtual Training (PLVT)	30 credits (for max 12 participants)	90 credits (for max 12 participants)	150 credits (for max 12 participants)
On-Site Training	35 credits (for max 12 participants)	105 credits (for max 12 participants)	175 credits (for max 12 participants)
On-Demand	4 credits per student	12 credits per student	20 credits per student
Public Classroom	4 credits per student	12 credits per student	20 credits per student
Certification	2 credits per attempt per participant	N/A	N/A

Table 2 – Sample Training Credit ‘Costs’

Training Class	Mode	# Days	# Credits
Comprehensive PostgreSQL Administration	Live Virtual Training	5	15 credits per student
Foundations of PostgreSQL Administration	On Demand	3	12 credits per student
EDB Postgres Administration Essentials	On-Site	5	175 credits (for max 12 participants)
Foundations of PostgreSQL Administration	On-Site	3	105 credits (for max 12 participants)
Advanced PostgreSQL Administration	Public Classroom	3	12 credits per student
PostgreSQL Associate Certification	n/a	2	2 credits per attempt per participant
EDB Postgres Associate	n/a	2	2 credits per attempt per

Time to consume: 1 year from date of purchase. PTCs do expire 1 year from date of purchase, if not used.

7.4 CUSTOM ENTERPRISE TRAINING PROGRAMS – CURRICULUM PLANNING SERVICE

To support the needs of larger organizations that want to deploy Postgres across the enterprise and into mission critical applications, EDB provides customized enterprise training programs. These organizations need to make sure that they are Postgres-ready at every level, starting with the Infrastructure DBA to the Architect, all the way to the application developer.

This program helps:

- Understand the organizational training requirements by developing individualized training curricula for every team member
- Implement skills improvement and Postgres readiness programs by managing the deployment of training to the organization
- Understand Postgres readiness through reports on who took training, who has been certified at what level, and who has achieved the goals set forth in their individual training programs
- Plan and budget for organizational training needs by using proven best practices that identify the necessary training investments
- Manage training and certification across the organization

With this program, enterprises adopting EDB Postgres can:

- Develop individualized training curricula for every team member
- Integrate critical Postgres training classes into their learning and development plans
- Enhance in-house learning paths for technical resources including DBAs, Developers, and more general knowledge seekers

We work jointly with our customers to develop individualized Postgres Training goals and a specialized curriculum based on high-level organizational training needs. Training Credits can then be used towards fulfilling this training plan through onsite, on-demand or online training classes, and they can be applied towards Postgres certifications.

- This program requires a specific investment and is subject to volume purchase requirements. For low volumes, more limited services will be provided.
- Training Credits are valid globally and can be redeemed over a 12 month period.

- Time to consume: 12 months

Please contact your account manager for details on which Custom Enterprise Training Programs is right for you, or contact us at sales@enterprisedb.com.

8 ENTERPRISEDB CERTIFIED TRAINING PARTNERS (CTP)

EDB maintains a global network of Certified Training Partners who deliver open enrollment or on-site training. All our training partners have EDB certified trainers who meet stringent certification requirements and are qualified to deliver EDB-provided Postgres training classes.

Check out the current list of [Certified Training Partners](#).

Check out the current [Training Schedule](#) on the web.



9 COURSES AND CERTIFICATION SUMMARY

9.1 FREE TRAINING SUMMARY

EDB offers a number of on-demand training courses available for free, and also frequently runs free live on-line training workshops on select topics throughout the year. The table below contains a snapshot of free training offerings we provide on Postgres administration, DBaaS, and enterprise tools. Check the [calendar](#) on the web site frequently for workshop updates, or search for Free courses on the [training class search](#) page.

9.1.1 FREE POSTGRES TRAINING eSUBSCRIPTION – NEW!

You can become a Postgres expert with free training from EDB, and you can share your accomplishments with a digital badge!

	Course Name – Click to Register	Main Topics	Available Language	Available Modes	Duration*
NEW! Free Postgres Training eSubscription					
This is the place to start to build on foundational skills. Prepares students for Associate certification exam and badge					
1	Postgres Administration Essentials	EDB Postgres Advanced Server Associate Certification ¹	English	On-Demand eSubscription only	19 modules 16 hrs.
2	Building a Modern Postgres Architecture	N/A	English	On-Demand eSubscription only	6 modules 10 hrs.
QUICK STARTS – DBaaS and Server Installation					
1	EDB Postgres Advanced Server Quick Start	Installation and Getting Started	English	On-Demand	1.5 hrs.
2	EDB Postgres Ark QuickStart for AWS	Getting Started – Provisioning and Using	English	On-Demand	2.0 hrs.
3	EDB Postgres Ark QuickStart for OpenStack	Getting Started – Provisioning and Using	English	On-Demand	2.0 hrs.

WORKSHOPS – Live Online

Check the [Calendar](#) for availability

4+	<ul style="list-style-type: none"> ● Postgres Failover Manager ● Postgres Enterprise Manager ● Backup and Recovery ● Migrating to EDB Postgres ● Replication with Postgres 	<ul style="list-style-type: none"> ● High Availability ● Monitoring, Mgmt ● Disaster Recovery ● Migration ● Replication 	English	On-Line Free Training Workshop	3-4 hrs. each
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**Durations for On-Demand modes are approximate and do not completely allocate time to perform lab exercises.*

9.2 TRAINING SUMMARY

	Course Name	Associated Certification	Available Modes	Class Duration*
1	EDB Postgres Advanced Server DBA Advanced	EDB Postgres Advanced Server Professional Certification	On-Demand On-Line Classroom	14 hrs. 3 days 3 days
2	Implementing Disaster Recovery and High Availability Solutions in Postgres	N/A	On-Line Classroom On-Demand	1 days 1 days 5 hours
3	Performance Tuning and Optimization for Postgres DBAs and Developers	N/A	On-Line Classroom On-Demand	1 days 1 days 5 hours
4	Postgres for Oracle DBAs	N/A	On-Line Classroom	2 days 2 days
5	EDB Postgres Advanced Server DBA Essentials	EDB Postgres Advanced Server Associate Certification	On-Line Classroom	5 days 5 days
6	EDB Postgres Tools Basics	N/A	On-Line Classroom	2 days 2 days
7	Using EDB Postgres Enterprise Manager	N/A	On-Line Classroom	2 days 2 days

8	Postgres Developer Fundamentals	N/A	On-Line Classroom	3 days 3 days
9	Postgres Developer Advanced	N/A	On-Line Classroom	2 days 2 days
10	Using EDB Ark	N/A	On-Line Classroom	1 day
11	Cloud Management and Administration with EDB Ark	N/A	On-Line Classroom	1 day
12	Foundations of PostgreSQL Administration	PostgreSQL Associate Certification	On-Demand On-Line Classroom	17 hrs. 3 days 3 days
12	Advanced PostgreSQL Administration	PostgreSQL Professional Certification	On-Demand On-Line Classroom	14 hrs. 3 days 3 days
14	Comprehensive PostgreSQL Administration	PostgreSQL Associate Certification	On-Line Classroom	5 days 5 days

**Durations for On-Demand modes are approximate and do not completely allocate time to perform lab exercises. LVT and Classroom modes do factor in time for lab work.*

9.3 CERTIFICATION SUMMARY

	Exam Name	Pre-requisites	Available Language	Length / Duration	Passing Score
1	EDB Postgres Advanced Server – Associate <i>Passing qualifies for badge: EDB Certified Associate – Postgres Advanced Server</i>	Training Course: Postgres Administration Essentials <OR> EDB Postgres Advanced Server DBA Essentials	English	1 hour / 50 questions	70%
2	EDB Postgres Advanced Server - Professional <i>Passing qualifies for badge: EDB Certified Professional – Postgres Advanced Server</i>	Training Course: EDB Postgres Advanced Server DBA Advanced Certification: EDB Postgres Advanced Server Associate Certification	English	1 hour / 50 questions	80%
3	PostgreSQL – Associate <i>Passing qualifies for badge: EDB Certified Associate – PostgreSQL</i>	Training Course (recommended): Foundations of PostgreSQL Administration	English	1 hour / 50 questions	70%

4	PostgreSQL – Professional <i>Passing qualifies for badge: EDB Certified Professional – PostgreSQL</i>	Training Course: Advanced PostgreSQL Administration Certification: PostgreSQL Associate	English	1 hour / 50 questions	80%
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10 COURSE DESCRIPTIONS

All updated course descriptions can be found on the web site in the [electronic catalog](#).

10.1 POSTGRES ADMINISTRATION ESSENTIALS (FREE – PART OF [FREE POSTGRES TRAINING E-SUBSCRIPTION](#))

About the Course: This course gives students a unique opportunity to get trained and certified on the essentials for Postgres administration. Upon course completion, you will have the essential skills required to successfully install, configure, manage and maintain Postgres Advanced Server and will be prepared to manage large, highly available databases and their technical requirements with confidence.

Course Outline:

- Introduction to EDB Postgres Advanced Server
- Key Components for Enterprise Database Systems
- System Architecture and Processes
- Installation
- Working with Database Clusters
- Configuration and Auditing
- Creating and Managing Databases
- User Tools: Command Line Interface
- GUI Tools
- Security
- SQL Primer
- Backup and Recovery
- Point in Time Recovery
- Performing Routine Maintenance Tasks
- Data Dictionary
- Moving and Loading Data
- EDB*Plus, EDB*Loader
- Tablespace – Creating and Using
- Oracle Compatibility
- Migrating Oracle Objects to EDB Postgres Advanced Server
- Assessing Migrations

- Migration Toolkit
- Preparing for Deployment
- Ongoing Management and Optimization

Target Audience: This course is designed for DBAs, Architects, System Administrators and IT Professionals who are responsible for administration and maintenance of Postgres.

Recommended Pre-requisites: A working knowledge of relational databases and a basic knowledge of Linux.

Certification: Prepares students for success with the EDB Postgres Advanced Server Associate-Level Exam.

10.2 BUILDING A MODERN POSTGRES ARCHITECTURE (FREE – PART OF [FREE POSTGRES TRAINING E-SUBSCRIPTION](#))

About the course: This class covers on the tools and techniques for high availability, disaster recovery, and replication. Learn how to use enterprise-class tools to build highly resilient environments for mission-critical workloads.

Course Outline:

- **Monitoring, Managing, and Tuning Postgres**
 - Using EDB Postgres Enterprise Manager (PEM) – Architecture, Installation, Configuration, Server, Agent
 - Detecting Performance and Alerts with Dashboards and Alerting
 - Additional Management: Capacity Planning, Auditing, Log Management, SQL Profiler
- **Backup and Recovery**
 - Using the EDB Postgres Backup and Recovery Tool – Architecture, Installation
 - Performing Backup and Restore
 - Performing Point in Time Recovery
- **Implementing a Replication System with EDB Postgres Replication Server**
 - Features and Components for Setting up a Replication System
 - Single Master Replication
 - Multi-Master Replication
 - Publication and Subscription Architectures
 - Trigger and Logical Based Replication Methods
 - Using EDB Replication Server to Build a Replication System – Installation and Console
 - Replicating with Oracle and SQL Server

- **High Availability in Postgres**
 - Using EDB Postgres Failover Manager (EFM) – Architecture, Installation, Configuration
 - Monitoring and Managing Clusters
 - Performing Switchovers
 - Configuring Automatic and Manual Failovers
- **Performing Database Object Migration from Different Data Sources**
 - Installation and Configuration of the Migration Toolkit
 - Supported Objects
 - Migration Process
 - Online and Offline Migration
- **Protecting Your Data from SQL Injection Attacks**
 - Types of Attacks
 - Configuring SQL/Protect
 - Viewing Suspicious Activities
 - Managing Configuration
- **EDB*Plus Command Line Interface**
- **EDB*Loader - Using the Tool to Bulk Load Data**
- **How to Obfuscate Source Code in EDB Postgres with EDB*Wrap**

Target Audience: Postgres DBAs, Architects, Data Analysts and other users who must meet enterprise requirements for effective database management of mission-critical applications, and are responsible for data resiliency.

Pre-requisites: Basic knowledge of EDB Postgres Advanced Server or PostgreSQL

Recommended Pre-requisites: Completing **Postgres Administration Essentials**

10.3 EDB POSTGRES ADVANCED SERVER DBA - ADVANCED

About the course: This training course takes the database administrator beyond the basics covered in the Essentials class. You will learn how to best fulfill the more advanced DBA responsibilities including implementing database security, tuning and benchmarking, monitoring, setting up high availability and replication, and more. The concepts and architecture that support these more in-depth topics, along with the options available to carry them out, are covered in detail. This includes how to make the best use of tools available to more efficiently perform these tasks.

EDB Postgres Advanced Server DBA Administration gives you a unique opportunity to get trained and certified on advanced database administration for EDB Postgres Advanced Server. Increase your knowledge and enhance your skill proficiency using the latest and most powerful version of EDB Postgres Advanced Server.

Course Outline:

- EDB Postgres Advanced Server Features and Tools Overview
- Preparing a Sample Database
- SQL Tuning – Common Issues, the Tuning Process and How-to Steps
 - Identifying Slow Queries, Reviewing the Query Execution Plan
 - Using the Optimizer
 - Restructuring SQL Statements
 - Index Usage
- Performance Tuning – Techniques, OS and Server Parameter Tuning,
- Monitoring Performance with EDB Postgres Enterprise Manager
- DRITA – Configuring and Using
- Performance Benchmarking – How, Why, Tools, Testing
- Job Scheduling
- Extensions – Installing and Using Available Extension Modules
- Table Partitioning - Benefits, Methods/Types, Syntax
- Connection Pooling – pgpool-II, pgbouncer, Configuration and Use
- Materialized Views – Creating and Using
- Cloning a Database
- WAL Archiving – Process and Configuration
- Streaming Replication – Architecture, Types and Use
- Monitoring – Collecting Statistics, Monitoring Processes, Using EDB Postgres Enterprise Manager
- Database Security

Target Audience: This class is designed for DBAs, Architects, and Database Professionals who are responsible for ongoing and advanced administration and maintenance of EDB Postgres Advanced Server, including implementing strategic database solutions for the enterprise.

The class is supplemented with hands-on exercises that reinforce the material covered, and includes the ability to get certified, validating your skills and helping you to be more effective.

Pre-requisites: A working knowledge of relational databases and a basic knowledge of Linux and SQL.

10.4 IMPLEMENTING DISASTER RECOVERY AND HIGH AVAILABILITY SOLUTIONS IN POSTGRES

About the course: Business continuity is one of the top priorities in IT. With this training you can learn how to implement and manage highly available and resilient databases with EDB Postgres. With practical insight on how backup and recovery works in EDB Postgres, you can easily develop a reliable disaster recovery plan. You will also learn how to build a complete high availability solution based on best practices, using streaming replication and EDB Postgres Failover Manager.

Course Outline:

- Introduction and Lab Setup
- Database Recovery and Availability
- Backup, Recovery and Point-in Time Recovery
 - SQL Dump and Restore
 - Offline Backup and Restore
 - Continuous Archiving
 - Backup using Low Level API
 - pg_basebackup for Online Backups
 - Point-in Time Recovery
 - Introduction to the EDB Postgres Backup and Recovery Tool for Managing Backups
- Implementing High Availability
 - Data Replication
 - Synchronous or Asynchronous Replication
 - Log Shipping Standby Architecture and Setup
 - Hot Streaming Replication Architecture and Setup
 - Using the EDB Failover Manager Tool
 - Monitor and Manage an EFM Cluster
 - Controlled Switchovers
 - Automatic and Manual Failover

Target Audience: DBAs and Database Architects experienced with Postgres or other database technologies such as Oracle

Recommended Pre-requisites: Hands-on experience managing relational database management systems.

Lab Exercises: 9

Demos: 10

10.5 PERFORMANCE TUNING AND OPTIMIZATION FOR POSTGRES DBAS AND DEVELOPERS

About the course: This class will teach practical, safe, and highly efficient ways to optimize the performance of a Postgres Server. This class will teach practical, safe, and highly efficient ways to optimize the performance of a Postgres Server. Topics include finding issues affecting the performance of the database and the applications that use it, tuning major database performance parameters, performance monitoring, and tuning tools, and how to use them to monitor and tune your Postgres database instances. Also learn how to trace SQL queries that are slowing down the database response time. This class also covers database maintenance and proactive monitoring.

Course Outline:

- Introduction and Lab Setup
- SQL Tuning
 - Statement Processing
 - Common Query Performance Issues
 - Steps for SQL Tuning
 - Slow Running Queries
 - Execution Plans
 - Optimizer Statistics and Query Plans
 - Parallel Queries
 - Optimizer Hints
 - Indexes
- Performance Tuning
 - Tuning Technique
 - Information Collection
 - Operating System Considerations
 - Tablespaces
 - Server Parameter Tuning and Important Parameters
 - Parallel Query Scans
 - Loading a Table into Memory
 - Performance Analysis and Monitoring with Postgres Enterprise Manager
- Database Maintenance
 - Maintenance Tools
 - Dealing with Data Fragmentation and Bloat

- Routine Vacuuming
- Autovacuuming
- Preventing Transaction ID Wraparound Failures
- Routine Reindexing
- Using the CLUSTER Command

Target Audience: Database Administrators, Architects, Developers, Analysts, and Support Engineers

Pre-requisites: Working knowledge of PostgreSQL or EDB Postgres Advanced Server

Lab Exercises: 7

Demos: 7

10.6 POSTGRES FOR ORACLE DBAS

About the course: This course is designed for Oracle DBAs to get kick-started with Postgres. In this training you will learn the fundamental concepts of Postgres including: system architecture and configuration, with a comparison of various Postgres features to Oracle. You will learn how you can leverage your Oracle DBA skills to manage an EDB Postgres system.

Course Outline: This course is for DBAs driving digital transformations and modernization in the enterprise, who are leveraging open-source based database technology. It covers the following topics:

- Introduction to EDB Postgres
- EDB Postgres Advanced Server Features
- Comparing EDB Postgres and Oracle
- System Architecture
- Creating and Managing Database Clusters
- Object Hierarchy
- Creating and Managing Databases, Users, and Schemas
- Configuration
- User Tools – edb-psql and EDB*Plus
- Using Tablespaces
- SQL Tuning in Postgres
- Materialized Views
- Moving Data – with Copy and EDB*Loader
- Backup, Recovery, and Point in Time Recovery

- Routine Maintenance
- Data Dictionary – System Catalog and sys Schema
- Oracle Compatibility Features
- Migration Process and Assessment
- Migrating Oracle Objects with the Migration Toolkit (MTK)
- Tools for Postgres Database Management and Resiliency

Target Audience: Intended for experienced Oracle DBAs who are getting started on Postgres and who want to understand the key differences with EDB Postgres and apply their existing knowledge to managing EDB Postgres database systems for the enterprise.

Recommended Pre-requisites: Hands-on experience managing Oracle databases.

10.7 EDB POSTGRES ADVANCED SERVER DBA - ESSENTIALS (INSTRUCTOR-LED ONLY)

About the Course: This course gives students a unique opportunity to get trained and certified on the essentials for EDB Postgres Advanced Server database administration, to enhance skill proficiency using the latest and most powerful version of EDB Postgres Advanced Server.

EDB Postgres Advanced Server DBA Essentials is a five-day course that teaches the essential techniques for how to design, implement and manage EDB Postgres Advanced Server. Learn how to administer enterprise-scale data solutions using the different features and tools available in EDB Postgres Advanced Server.

Upon course completion, attendees will have the essential skills required to install, configure, manage and maintain EDB Postgres Advanced Server and will be prepared to manage large, highly available databases and their security requirements with confidence.

Course Outline:

- Introduction to EDB Postgres Advanced Server
- Major Features for Enterprise Database Systems
- System Architecture and Processes
- Installation
- Working with Database Clusters
- Configuration and Auditing
- Creating and Managing Databases
- User Tools – Command Line Interfaces

- GUI Tools
- Security
- SQL Primer
- Backup and Recovery
- Point in Time Recovery
- Performing Routine Maintenance Tasks
- Data Dictionary
- Moving and Loading Data
- EDB*Plus, EDB*Loader
- Tablespaces – creating and using
- Oracle Compatibility
- Migrating Oracle Objects to EDB Postgres Advanced Server
- Assessing Migrations
- Migration Toolkit
- Preparing for Deployment
- Ongoing Maintenance and Optimization

Target Audience: Designed for DBAs, Architects, System Administrators and IT Professionals who are responsible for administration and maintenance of EDB Postgres Advanced Server and want to understand how to use the primary features.

Recommended Pre-requisites: A working knowledge of relational databases and a basic knowledge of Linux.

Certification: Prepares students for success with the EDB Postgres Advanced Server Associate-Level Exam.

10.8 EDB POSTGRES TOOLS BASICS (INSTRUCTOR-LED ONLY)

About the course: This 2-day course covers the suite of EDB tools designed for large scale and mission critical enterprise performance, availability, scalability, security, and management. All EDB tools work with either PostgreSQL or EDB™ Postgres Advanced Server databases. Each course section provides an overview of the tool and how it can be used to help effectively manage Postgres databases. Training on installation and how to utilize key features is provided.

Course Outline:

- EDB Postgres Enterprise Manager (PEM)
 - Introduction and Overview
 - Features, New and Improved PEM 7
 - Architecture and Components
 - Installation and Configuration
 - PEM Server, Agent, Client
 - PEM Server Installation
 - PEM Web Client
 - Global Overview Dashboard
 - Add a Postgres Server and Monitor
 - Installing the PEM Agent
 - Binding the PEM Agent with Postgres Database Clusters
 - Remote Monitoring
 - Performance Monitoring and Management
 - Key Dashboards Overview
 - Performance Dashboards
 - Global Overview Dashboard
 - Server Analysis Dashboard
 - Memory Analysis Dashboard
 - I/O Analysis Dashboard
 - Monitoring and Viewing Alerts
 - Capacity Planner
 - Log Manager
 - Audit Manager
 - Learning More
- EDB Postgres Backup and Recovery Tool (BART)
 - Introduction and Architecture
 - Features and Components
 - Installation and Configuration
 - Using BART Commands
 - Backup and Restore Multiple Databases
 - Manage the Backup and Recovery System
- EDB Postgres Replication Server
 - Features, Architecture, and Components
 - Overview and Supported Databases
 - Replication Models
 - Publications and Subscriptions Architecture
 - Replication Server Components
 - Setting Up a Replication System
 - Installation and Configuration

- Replication Console
- Enabling Access to Oracle, SQL Server
- Publication and Subscription Database Users
- Verifying Host Accessibility
- Publication Server Configuration File Parameters
- Using EDB Replication Server to Optimize and Monitor
- Optimizing Synchronization Replication
- Synchronization Configuration Options
- Design Considerations, Limitations and Restrictions
- EDB Postgres Failover Manager (EFM)
 - Introduction and Feature Overview
 - Architecture and Components
 - Installation and Configuration
 - Configuration a EFM High Availability Cluster
 - Using EFM
 - Adding Nodes
 - Controlled Switchovers
 - Failover Scenarios
 - Monitor and Manage a EFM Cluster
- EDB Migration Toolkit (MTK)
 - Best Practice Migration Process
 - Assessing Database Instances for Migration
 - Database Migration
 - EDB Migration Toolkit (MTK)
 - Installation and Setup
 - Command Line Options
 - Migration Demo
- EDB SQL/Protect
 - SQL Injection Attacks
 - SQL/Protect Overview
 - Types of Attacks
 - Unauthorized Relations
 - SQL Tautology
 - Unbounded DML Statements
 - Monitoring SQL Injection Attacks
 - Configuring SQL/Protect
 - Setting and Listing the Protected Roles
 - Setting the Protection Level
 - Learn Mode Test
 - Role Based Protection

- Viewing Suspicious Activity
- Removing Role and Relation from List
- Deleting Statistics and Offending Queries
- Disabling and Enabling Monitoring
- EDB*Plus – Features and using
- EDB*Loader – Features and Using
- EDB*Wrap
 - Overview of EDB*Wrap
 - Obfuscating Source Code
 - Using the edbwrap Utility
- Update Monitor
 - Overview
 - Updates and Alerts
 - Using StackBuilder for Upgrades

Target Audience: Postgres DBAs, Architects, Data Analysts, and other users who must meet enterprise requirements for effective database management of mission-critical applications, and are responsible for data resiliency.

Pre-requisites: Basic knowledge of EDB Postgres Advanced Server or PostgreSQL

Recommended Pre-requisites: Completing any of: **Foundations of PostgreSQL Administration**, **Postgres Administration Essentials**, or **EDB Postgres Advanced Server DBA Essentials**.

10.9 USING EDB POSTGRES ENTERPRISE MANAGER

About the course: In this course you will learn how to install and deploy EDB Postgres Enterprise Manager (PEM), which delivers the enterprise-class tools necessary for managing, monitoring and tuning large Postgres deployments en masse at the fingertips of DBAs and developers from a single graphical console. This course also covers how to use PEM to effectively monitor and manage your Postgres database servers. Upon completion of this course, you will be able to configure PEM and add managed Postgres Instances for monitoring. You will also be able to setup alerting and run various integrated tools for forecasting and tuning.

Course Outline: This course covers the use of EDB Postgres Enterprise Manager for the following tasks:

- Installation and preparing for lab exercises

- Using performance dashboards
- Creating and managing custom dashboards and charts
- Set up monitoring for critical events
- Monitoring alerts
 - The Alerts Dashboard
 - Probe configuration
 - Creating and managing alerts
 - Alert notifications
 - Defining custom probes
 - Custom alert templates
- Perform capacity planning based historical trends and data analysis and using the Capacity Manager
- Future forecasting and capacity reports
- Log management and auditing
 - Using Log Manager and Audit Manager
 - Log analysis and reports
- Using the Postgres Expert for expert analysis and advice on performance, security and configuration
 - Configuration Expert
 - Schema Expert
 - Security Expert
- High Availability Monitoring – configuring streaming replication and using the analysis dashboard
 - Configuration and monitoring
 - Promote a standby node
 - Streaming Replication Analysis Dashboard
- Performance Tuning
 - Working with SQL Profiler
 - Diagnose slow running queries
 - Monitoring and analyzing SQL
 - Using Index Advisor
- Upgrading and Maintaining PEM components
- The EDB Postgres Enterprise Manager REST APIs

Throughout the course, important details about Postgres performance and monitoring are covered.

Target Audience: This class is intended for DBAs and Developers who want to keep a close watch on Postgres and EDB Postgres Advanced Server Databases activities and performance.

Pre-requisites: Prior working knowledge of PostgreSQL or EDB Postgres Advanced Server is required.

Recommended: Ideally, participants have completed any of: **Foundations of PostgreSQL Administration, Postgres Administration Essentials, or EDB Postgres Advanced Server DBA Essentials** course prior to taking this class.

10.10 POSTGRES DEVELOPER FUNDAMENTALS

About the course: In this course, you will learn the essential skills for database development in Postgres. Learn about Postgres data types, database objects, indexes, transactions, and working with connectors and drivers, with basic installation.

You will learn how to implement a PostgreSQL database and the fundamentals of effective database development in Postgres. The expert Postgres Trainer takes you through tables, indexes, views, stored procedures, and other database objects. Learn about techniques for designing indexes, managing transactions, and using large objects. Get an overview of standard functions, Postgres specific functions, and how to write a new database function in Postgres.

Course Outline:

- PostgreSQL Introduction
- Introduction to PostgreSQL and EDB Postgres
- Getting Started
 - Database and source code installation
 - Preparing the sample database for lab exercises
- Introduction to GUI Tools for database design and management
 - pgAdmin 4
- Transactions and Concurrency
- Connectors and Extensions, including JDBC and .NET
- Database Design
- Data Types in PostgreSQL
- SQL Primer - What Postgres offers for SQL standards (DDL, DML, DCL, constraints, etc.)
- Views, Materialized Views, Sequences, Domains
- Working with Indexes in Postgres
- Postgres Functions
- Large Objects Support
- PL/PGSQL Basics

Target Audience: For experienced Database Developers who are new to Postgres and want to gain the essential skills required to effectively design and implement Postgres databases for applications while incorporating Postgres features.

Pre-requisites:

- Experience in database development
- Basic Knowledge of SQL
- Familiarity with programming languages

10.11 POSTGRES DEVELOPER ADVANCED

About the course: This course teaches the advanced skills needed by Postgres database developers in a 2-day online instructor-led training. You will learn about using data adapters to interact with additional data sources, a multi-step plan for SQL tuning, and approaches for data security and localization. This is the second class in the Postgres Developers Track and follows **Postgres Developer Fundamentals**.

You will learn How to create rules and triggers, implement full text searching, and an approach for localization, all taught by an expert Postgres Trainer. Learn about techniques for SQL tuning and get a detailed look at how to design and tune PL/PGSQL functions, implement exception handling and use cursors in Postgres. Also provided is an introduction to PostGIS for working with geospatial data in Postgres.

Course Outline:

- Detailed look at using PL/PGSQL
- Defining Rules and Creating Triggers
- SQL Tuning
- Using Background Workers and Processes
- Localization
- Using Data Adapters (Foreign Data Wrappers)
- Full Text Searching
- Data Security and Encryption
- An introduction to Working with Geographic Data: PostGIS

Target Audience: For experienced Database Developers who are working with Postgres and need to gain the advanced skills required to effectively design and implement Postgres databases for applications while incorporating Postgres features.

Pre-requisites:

- Experience in database development

- Completion of the **Postgres Developer Fundamentals** class
- Experience in database development
- Knowledge of SQL
- Familiarity with programming languages
- Foundational knowledge of PostgreSQL

10.12 USING EDB ARK

About the course: This course is for users new to EDB Ark who want to understand how to quickly provision and use database instances with EDB Ark, manage Postgres clusters in private cloud environments using the Ark console, and apply configuration for database resiliency. Migration and upgrade of existing databases is also covered, and participants will understand the powerful functionality available for DBaaS hybrid cloud management under the EDB Ark Platform, including the RESTful API for potential automation and integration. At the end of the class, students will understand the main features of EDB Ark and the architecture, be able to perform fast self-service database provisioning, and will know how to use the EDB Ark interface successfully for cloud-based database management activities.

Course Outline: With only a few steps, get up and running quickly, provisioning and managing robust Postgres clusters with EDB Ark.

- Step 1: Provision a new database instance using EDB Ark
- Step 2: Setup connections and manage Postgres database clusters
- Step 3: Configure resilient database clusters for scalability, high availability and disaster recovery
- Also: Understand available API interconnectivity and operations

Target Audience: Designed for DBAs, Developers, and Database Architects who want to learn how to provision and manage resilient Postgres database clusters in a hybrid cloud environment using EDB Ark. Suitable for users of EDB Postgres Advanced Server and PostgreSQL.

Pre-requisites: Basic knowledge of Postgres or other RDBMS.

In order to perform lab exercises, an OpenStack environment is required along with a running installation of EDB Ark. Administrators can refer to the course Cloud Management and Administration with EDB Ark to learn more.

10.13 CLOUD MANAGEMENT AND ADMINISTRATION WITH EDB ARK

About the course: This course is for administrators who need to learn how to best set up and

configure EDB Ark to allow for fast provisioning and for managing robust Postgres clusters. Learn how to configure and use the product's core features for greater control and visibility over database deployments in an OpenStack cloud environment. At the end of the class, administrators will be prepared to properly install, configure, and use EDB Ark for efficient implementation of database as a service in a private cloud. Access control, security, monitoring and troubleshooting are all covered.

Course Outline:

- Introduction to the EDB Postgres Platform
- Overview of the OpenStack Framework
- EDB Ark Overview, Architecture, and Features
- Installation and Configuration
- Servers and Database Engines
- Deploy and Configuring User Access
- Security Options
- Managing the EDB Ark Console
- EDB Ark Console Backup
- Monitoring
- Troubleshooting Basics

Target Audience: Designed for Infrastructure Administrators, IT Operations Managers, and OpenStack Administrators who are responsible for managing the underlying infrastructure for databases in the cloud, and want to offer their users a self-service, managed database service for Postgres that offers security, availability, performance and disaster-recovery capabilities. Suitable for EDB Postgres Advanced Server and PostgreSQL deployments.

Recommended Pre-requisites: No prior experience is required with Postgres. The following pre-requisites are recommended:

- Intermediate knowledge or above of OpenStack. (This training will not teach OpenStack and assumes students have prior knowledge.)
- Basic knowledge of Postgres and knowledge of backup and recovery processes in Postgres. For more information refer to the Backup and Recovery with Postgres course to learn more.
- *Pre-requisite for hands-on lab work: Access to an OpenStack environment, set up on a version currently supported by EDB Ark.

10.14 FOUNDATIONS OF POSTGRESQL ADMINISTRATION

About the course: This course conveys the knowledge necessary to perform the duties of a Postgres DBA. In this introductory course you will learn the essential details of Postgres administration including architecture, configuration, maintenance, monitoring, backup, recovery, and data movement. It will also introduce you to enterprise class tools for Postgres administration and will prepare you to handle real time, production environments.

Platform: The course is appropriate for both the community edition of PostgreSQL and EDB Postgres Advanced Server, however the course [***EDB Postgres Database Administration Essentials***](#) is recommended instead for users of EDB Postgres Advanced Server (EPAS).

Course Outline:

- Introduction
- System Architecture
- Installation and Database Clusters
- Configuration
- Creating and Managing Databases
- User Tools: Command Line Interfaces: psql, edb-psql, EDB*Plus
- GUI Tools: pgAdmin 4, EDB Postgres Enterprise Manager
- Security
- SQL Primer
- Backup and Recovery
- Point in Time Recovery
- Routine Maintenance Tasks
- Postgres Data Dictionary
- Loading and Moving Data

Target Audience: This class is intended for DBAs and IT Professionals who want to administer and maintain Postgres databases. It is designed for people with experience in database administration who are new to Postgres. No prior knowledge of Postgres is required to attend this class.

Recommended Pre-requisites:

- Intermediate knowledge of RDBMS concepts
- Basic understanding of SQL
- Basic experience with use of the Linux operating system is helpful

10.15 ADVANCED POSTGRESQL ADMINISTRATION

About the course: This course builds on the PostgreSQL Foundational course and addresses advanced topics, such as replication to safe guard data and high availability, partitioning for performance and maintainability, and security for privacy and protection. The Advanced PostgreSQL Administration course prepares DBAs to manage large, highly available databases and their related security requirements with confidence.

The course focuses on PostgreSQL Community Edition.

Course Outline:

- PostgreSQL Introduction
- PostgreSQL Sources Installation
- Preparing a Sample Database
- SQL Tuning
- Performance Tuning
- Performance Benchmarking
- WAL Archiving
- Streaming Replication
- Connection Pooling
- Table Partitioning
- Extensions
- Foreign Data Wrappers
- Monitoring
- Database Security
- Upgrading Best Practices

Target Audience: This class is intended for DBAs and IT Professionals who want to enhance their Postgres administration skill to the next level.

Recommended Pre-requisites: Participants should be proficient in regular Postgres DBA functions. It is recommended to attend the **Foundations of PostgreSQL Administration** training prior to this class. It is beneficial to complete the **PostgreSQL Associate Certification** prior to attending this training.

10.16 COMPREHENSIVE POSTGRESQL ADMINISTRATION

About the course: Comprehensive PostgreSQL Administration teaches the essential skills required by PostgreSQL DBAs to be successful. This course presents the PostgreSQL database architecture and core administrative tasks including configuration, maintenance, monitoring, backups, recovery, and moving data.

Advanced topics are also covered including replication to safeguard data, clustering for high availability, partitioning for performance and maintainability, and security for privacy and protection.

Upon course completion, you will be prepared to manage large, highly available databases and their security requirements with confidence.

Course Outline:

Essentials

- PostgreSQL System Architecture
- Installation and Getting Started
- Database Clusters
- Configuration
- Creating and Managing Databases
- Command Line Tools: an Introduction to PSQL
- GUI Tools: Using pgAdmin 4
- Security Basics
- SQL Primer
- Backup and Recovery
- Point-in Time Recovery
- Routine Maintenance Tasks
- Data Dictionary
- Moving Data

Advanced Topics

- SQL Tuning
- Performance Tuning
- Streaming Replication
- Connection Pooling
- Table Partitioning
- Extensions
- Monitoring
- Upgrading Best Practices

Target Audience: This class is intended for DBAs and IT Professionals who are responsible for administration and maintenance of PostgreSQL, and want to increase proficiency and learn best practices.

Pre-requisites: Basic experience in database administration. No prior knowledge of PostgreSQL is required.

11 CONTACT INFORMATION

To purchase training, access a certification or to learn more about EDB's training services, please contact sales@enterprisedb.com or call us at:

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