PostgreSQL Advanced Training: Course Overview

After completing this **three-day** training course, participants will be able to build and manage a **PostgreSQL HA solution** using **etcd, Patroni, PgBouncer**, and **HAProxy**, and implement a backup and recovery strategy based on **pgBackRest**.

Topics covered:

1. Understanding Patroni
- About **Patroni**
- Architecture of **Patroni**

2. Etcd
- **Configuring** etcd
- **Connecting** and **using** etcd
- **Leases**
- More **etcdctl**

3. Patroni
- Patroni **configuration**
- DCS and local **configuration**
- **Leadership election**
- Cluster **bootstrap**
- **Parameters**
- Booting Patroni
- **patronictl**
- Manage the **configuration**
- **Query** data
- **Manage** the cluster
- **Switchover** and **failover**

4. pgBackrest
- **pgBackrest architecture**
- **Configure** pgBackrest
- **Stanzas** and **repositories**
- **Archiving**
- Making **backups**
- Make **Patroni** and **pgBackrest** BFF
- Restore **full**, **partial**, and **point-in-time**

5. PgBouncer
- Basics of **connection pooling**
- **Installing** and **configuring**
- **Pooling strategies**
- **Logs** and **metrics**

6. HAProxy
- **HAProxy Fundamentals**
- **Health-checks** and **role-based** routing.
- **Failover**

After completing this course, participants will understand how to build and operate highly available PostgreSQL environments using key components such as HAProxy, PgBouncer, Patroni, etcd, and pgBackRest. They will gain the skills to deploy and manage resilient PostgreSQL clusters, implement efficient connection pooling and load balancing, understand automated failover using distributed consensus, and configure reliable backup and recovery workflows following industry best practices.