

PostgreSQL : Backup - Recovery and Replication

Module 1 : Introduction to PostgreSQL Server

- I. Introduction to PostgreSQL server
- II. Features of PostgreSQL server

Module 2 : Postgres Client Server Architecture

- I. Client Server Architecture
- II. Utility Processes
- III. Shared Memory

Module 3 : Installation of PostgreSQL Server

- I. Install the PostgreSQL Server
- II. Setting Environment Variables
- III. Creating a Cluster
- IV. Running Server

Module 4 : PostgreSQL client

- I. Introduction To PSQL
- II. Meta Commands, SQL queries and Parameters
- III. Using graphical administration tool – pgAdmin

Module 5: Remote client connection

- I. Postgres hosed based access configuration
- II. Remote client connection using pgAdmin

Module 6: Backup and Recovery

- I. Introduction to Backup and Recovery
- II. Types of Backup
 1. Logical Backup
 - a. Pg_dump utility
 - b. Pg_dumpall utility
 2. Physical Backup
 - a. Pg_basebackup utility
 - i. Plain format and compressed format backup
- III. Recovery:
 1. Recovering logically backed up objects
 2. Recovering complete file system using physical backup
 3. Point In Time Recovery

Module 7: Replication

- I. Introduction to Replication
- II. Types of replications
 - a. Physical Replication
 - i. Streaming Replication / Hot Standby
 1. Switching roles of primary and hot standby during failover

- ii. Warm Replication/ log shipping
- iii. Synchronous Vs Asynchronous Replication
- b. Logical replication
 - i. Publication and subscription model

Module 8: pgPool II

- I. Pgpool-II Features
- II. Configuring Pgpool-II with Streaming Replication
- III. Configuring Pgpool-II for Load Balancing
- IV. Configure Pgpool for PostgreSQL High-Availability

Module 9: pgBouncer

- I. Introduction to connection Pooling
- II. Building pgBouncer setup
- III. Installing and configuring pgBouncer
- IV. Connecting to pgBouncer
- V. Settings for performance