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