PIANO FORMATIVO NAZIONALE
DEL PERSONALE DELL'ISTITUTO NAZIONALE DI FISICA NUCLEARE

PFN 2015

POSTGRESQL ADMINISTRATION & PERFORMANCE TUNING

Obiettivi e Target:
Corso DBA postgreSQL. Rivolto ad amministratori di sistema o DBA che sono interessati ad approfondire le caratteristiche e l'impiego di PostgreSQL.

Date:
29/06/2015 – 03/07/2015

Scuola di formazione:
Cybertec
http://www.cybertec.at/

Organizzazione logistica:
Il corso si terra' presso INFN –CNAF (Sala riunioni di via Ranzani 13/2)
Le informazioni su come raggiungere il CNAF e sugli alberghi in convenzione INFN sono reperibili al seguente indirizzo:
https://www.cnaf.infn.it/en/how-to-reach-us

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PROGRAMMA

Installing PostgreSQL

Installing PostgreSQL on Windows
Installing PostgreSQL on Linux
Compiling PostgreSQL source code
Performing upgrades
Creating database instances
Creating and dropping databases
Encoding and character sets
Adjusting kernel parameters

The PostgreSQL architecture

Overview
Postmaster
Backends
Using shared memory
Stats collector
Checkpoint subprocesses
PostgreSQL security

TCP vs. UNIX sockets
Managing pg_hba.conf
Encrypted database connections
Creating users / role
Access permissions
Central authentication
PostgreSQL performance tuning

Optimizing storage

Tablespaces
Adjusting storage parameters
Optimizing checkpoints
Optimizing the background writer process
Optimizer internals
Intelligent benchmarking
Understanding and using indexes
Partial indexes
Detecting unnecessary indexes
Finding slow queries
Using “explain”
Maintenance

VACUUM
Reclaiming storage
Preventing transaction wraparound
VACUUM FULL
VACUUM FREEZE
Rebuilding optimizer statistics
Monitoring

Creating log files
Monitoring queries
Collecting performance data
I/O caching and cache hit rates
I/O statistics
Backup and recovery

Performing backups
Disaster recovery
Point-In-Time-Recovery
Transaction log shipping
Asynchronous and synchronous replication
Creating standby systems