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DataBase on Demand : insight how to build your own DBaaS

Inspired on different database as a service, DBaaS, providers, the database group at CERN has developed a platform to allow CERN user community to run a database instance with database administrator privileges providing a full toolkit that allows the instance owner to perform backup/ point in time recoveries, monitoring specific database metrics, start/stop of the instance and uploading/downloading specific logging or configuration files. With about 150 instances Oracle (11g and 12c), MySQL and PostgreSQL the platform has been designed and proofed to be flexible to run different RDBMS vendors and to scale up.

Initially running on virtual machines, OracleVM, the instances are represented as objects in the management database toolset, making it independent of its physical representation. Nowadays instances run on physical servers together with virtual machines. A high availability solution has been implemented using Oracle cluster ware.

This talk explains how we have built this platform, different technologies involved, actual user interface, command execution based on a database queue, backups based on snapshots, and possible future evolution (Linux containers, storage replication, OpenStack, Puppet, ...).

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