DATABASE SECURITY OF HUMAN RESOURCE MANAGEMENT SYSTEM IN CLOUD

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Abstract: Database security is a very significant aspect for the overall management of the DB services and which pertains to core areas of large applications .Human Resource Management System, which includes areas such as Soft Joining, Promotion, Confirmation, Attendance and Exit, etc. Payroll Information Portal, wherein employees can view their individual Salary details, submit investment declaration, Reimbursement claim etc. Management of Large Database in Cloud involves continuous monitoring with regards to the critical areas of security of the data by Encryption & Decryption mechanism, which uses user-defined functions (key and algorithms).Auditing provides a detailed control of the user's action on the database, which enhances the database security to the larger extent, and at any point of time all those actions of the users can be traced, and the information of which can be maintained both at the database level and also at the operating system level . All the basic user's privileges and profiles are well defined under the database security mechanism, and thus it provides many layers of security of the data, so that the unauthorized access is completely eradicated, and data confidentiality is maintained all the time, and which helps in providing the enhanced database security.

Broad Academic Area of Work: CLOUD COMPUTING

Key words: AWS Cloud, Database, ERP, Hotels, PL/SQL, S3 bucket and Query.

INTRODUCTION

Oracle Database works by utilizing the various components of the Hardware resources. The performance of the database depends upon the resource usages. Queries in a database is written to fetch or get the results, wherein all the resources are utilized. Security a very important aspect in the database, which needs to be looked into a great extent, for the betterment of the database services.

Most of the organizations prefer to use Oracle database on the Linux flavors world-wide, however, Oracle also provides database services for the Windows Operating System users as well. Linux is more robust, and from the security point of view is more desirable as compared to the Windows O/S.

The latest version of 19c provides the database in the form of CDB & PDB's on ASM & LVM.

One of the best feature called **LVM**, which stands for **Logical Volume Manager**, is a highly efficient used framework in the Linux distributions, owing to the facility of providing logical volume management for the Linux kernel. The basic function of LVM, is to provide allocation of disks, mirroring and stripping, and re-sizing the logical volumes.

Also, keeping the data files on the SAN box is mandatory not only for performance (I/O), but also in case any damage happens to any of the disks due to block corruption, the other mirrored disks can be used , and hence, there will not be any data loss or any DB outage.
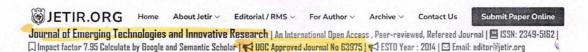
Oracle Golden Gate is used for the data migration services to replicate data from one database to the other database across different geographic regions world-wide. Oracle Golden Gate allows to migrate the committed transactions in the database across multiple heterogeneous systems. Oracle Golden Gate comes as a separate software product, which needs installation & configurations.

As I being a DBA (Database Administrator), my core responsibility is to manage all the company's database pertaining to the very important and critical areas such as database security (apart from other area as well such as performance, backup & recovery) through the encryption and decryption mechanism as per the industry standards, the solutions implemented in the database focuses in the core areas of security, keeping in view the wide variety of clients world wide. Before the implementation of any security solutions on the production, the same is first tested on the UAT environment by our Team and in consultation with the IT Team.

Now I am working on the fore-front of the implementation of solutions in the OCI (Oracle Cloud Infrastructure) in conjunction with the AWS cloud. Also working for the migration of databases to a higher version which presents various enhanced database security features, which helps the company's growth immensely. Another solution which needs to be implemented for the database is the migration of the current database from Non-Container database to container database (CDB / PDB's), and also to utilize the **ATP (Autonomous Transaction Processing)** of Oracle database. OCI (Oracle Cloud Infrastructure)

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