

20 Advantages of Database Management System (DBMS)

From the beginning, File Processing System was not able to solve all of its limitations. DBMS is able to solve all the issues related to File Processing System. There are lots of Advantages of DBMS over [File Processing System](#). A Database Administrator (DBA) should know all the key points and advantages of DBMS so that he can utilize all its functions.

This article discusses all the key Advantages of Database Management System (DBMS) in a detailed manner.

1. Minimize Data Redundancy

In File Processing System, duplicate data is created in many places because all the programs have their own files. This creates data redundancy which in turns wastes labor and space. In Database Management System, all the files are integrated in a single [database](#). The whole data is stored only once at a single place so there is no chance of duplicate data.

For example: A student record in library or examination can contain duplicate values, but when they are converted into a single database, all the duplicate values are removed.

Complete redundancy can be removed because somehow we needs duplicate value to relate tables with each other. But still DBMS controls data redundancy that saves lots of labor and time.

Also See: [25 Examples of Popular Database Management Systems](#)

2. Sharing Of Data

In DBMS, Data can be shared in between authorized user of database. All the users have their own right to access the database up to a level. Database Administration has complete access of database. He can assign users to access the database. Others users are also authorized to access database and also they can share data between them. Many users have same authority to access the database.

3. Data Consistency

DBMS controls data redundancy which in turn controls data consistency. Data consistency means if you want to update data in any files then all the files should not be updated again. As in DBMS, data is stored in a single database so data becomes more consistent in comparison to file processing system. Also updated values are available to all the users immediately.

4. Data Integrity

Data integrity means unification of so many files into a single file. In DBMS data is stored in different tables. A database contains different tables that are linked to each other. Many users feed entries in these tables so it is important to maintain data items and association between data items. DBMS allows data integrity that makes it easy to decrease data duplicity Data integration reduces redundancy as well as data inconsistency.

Also Read: [Characteristics of Database Approach](#)

5. Search Capability

Users of database may require to fetch data from the database. There are numerous queries users may ask about the data. Search speed of the database must be fast to produce quick results. If users execute any query then it is required that he get fastest results from the database. It is an objective of database to maintain flexible search capability.

6. Security

Data security means protecting your precious data from unauthorized access. Data in database should be kept secure and safe to unauthorized modifications. Only authorized users should have the grant to access the database. There is a username set for all the users who access the database with password so that no other guy can access these information. DBMS always keep database tamperproof, secure and theft free.

7. Privacy

Privacy means up to what extent a user can access the data. It is predetermined by the DBA that who will access the data and up to what level he will be able to access it. Let say when you make a Facebook page then you have the power to give rights to other users that who will be the promoter, editor and admin.

8. Simplicity

Simplicity means to represent the overall logical view of data in a simple and clear manner. DBMS is very simple for its users who use it. All the operations like insert, delete, create and update are very easy to implement.

9. Backup and Recovery

Data loss is a very big problem for all the organizations. In traditional file processing system, a user needs to backup the database after a regular interval of time that wastes lots of time and resources. If the volume of data is large then this process may take a very long time.

DBMS solves this problem of taking backup again and again because it allows automatic backup and recovery of database. For examples, if a system fails in the middle of any process then DBMS stores the values of that state in which database were before query execution.

10. Integrity Constraints

Constraints are used to store accurate data because there are many users who feed data in database. Data stored in database should always be correct and accurate. DBMS provides the capability to enforce these constraints on database.

For example, the maximum marks obtained by the students can never be more than 100. Also account balance of Banks like Axis should not be less than 2500 otherwise you will be penalized.

11. Data Atomicity

Any complete transaction in database is called atomic unit. It is the duty of DBMS to store a complete transaction in database. If any transaction is partially completed then it roll backs them.

For example, in railway reservation system, if user has completed the process of ticket reservation then his record will be stored and amount of money will be deducted from his account otherwise no amount will be deducted and if deducted it will be given back.

12. Development of new applications

If a new application is required and data is available for creating the application then it is very easy to develop new application. No time will be consumed in creating stored data again and again.

13. Concurrency Control

If two users are accessing data simultaneously and they both want to update values of same record then it may create concurrency. DBMS has the power to control concurrency so that no transactions are lost.

14. Data Migration

Data migration means adjusting storage of data according to its popularity. In a database, there is some kind of data that is accessed frequently and at the same time some data is accessed occasionally. So it is required to store frequently accessed data in a manner that it can be accessed quickly.

15. Tunability

Tuning means adjusting something to get better performance. Same in the case of DBMS, as it provides tunability to improve performance. DBA adjust database to get effective results.

16.Solves Enterprise and Individual Requirement

A DBMS provides a wide range of user interfaces to use a database. There are many users working on the database having a different level of knowledge.

So it is desirable that DBMS gives user interface to all the users. Still Enterprise requirement is more than any users so DBMS focus mainly on the Enterprise requirement.

17.Powerful User Language

A DBMS permits end users to use database without having special training or expertise. Any untrained user can easily query, search and updates data in database. He can easily generate report or documents with less knowledge.

18.Standards can be enforced

As DBMS have central control of database so a DBA can ensure that all the applications follow some standards such as format of data, document standards etc. These standards help in data migrations or in interchanging the data.

19.Maintaining Cost is lower

DBMS systems are costly but after purchasing them their maintenance cost is very less. It can be maintained by few programmers that is not costly for an enterprise.

20.Very Less Chances of Data Loss

As there is lot of security constraint made on database so chances of data loss are minimum. One can store their precious data or many years in DBMS without loss of any information.

So these were some common Advantages of Database Management System (DBMS). I hope you liked it.