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# DIFFERENCE OLTP & OLAP

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## **Difference about OLTP and OLAP?**

**OLTP is a Online Transaction Processing system.** the most focus of OLTP system is to record the present Update, Insertion and Deletion while transaction. The OLTP queries are simpler and short and hence require less time in processing, and also requires less space.

**OLAP is a Online Analytical Processing system.** OLAP database stores historical data that has been inputted by OLTP. It allows a user to look at different summaries of multi-dimensional data. Using OLAP, you'll extract information from an outsized database and analyze it for deciding .

### **Key Differences Between OLTP and OLAP :**

1. The purpose that distinguishes OLTP and OLAP is that OLTP is a Online transaction system whereas, OLAP is a web data retrieval and analysis system.
2. Online transactional data becomes the source of knowledge for OLTP. However, the various OLTPs database becomes the source of knowledge for OLAP.
3. OLTP's main operations are insert, update and delete whereas, OLAP's main operation is to extract multidimensional data for analysis.
4. OLTP has short but frequent transactions whereas, OLAP has long and fewer frequent transaction.
5. Time interval for the OLAP's transaction is more as compared to OLTP
6. OLAPs queries are more complex with respect OLTPs.
7. The tables in OLTP database must be normalized (3NF) whereas, the tables in OLAP database might not be normalized.
8. As OLTPs frequently executes transactions in database, just in case any transaction fails in middle it's going to harm data's integrity and hence it must lookout of knowledge integrity. While in OLAP the transaction is a smaller amount frequent hence, it doesn't bother much about data integrity.



**The following table shows the difference between OLTP and OLAP**

BASIC COMPARISON	OLTP	OLAP
<b>BASIC</b>	It is an online transactional system and manages database modification.	It is an online data retrieving and data analysis system.
<b>FOCUS</b>	Insert, Update, Delete information from the database.	Extract data for analyzing that helps in decision making.
<b>DATA</b>	OLTP and its transactions are the original source of data.	Different OLTPs database becomes the source of data for OLAP.
<b>TRANSACTION</b>	OLTP has short transactions.	OLAP has long transactions.
<b>TIME</b>	The processing time of a transaction is comparatively less in OLTP.	The processing time of a transaction is comparatively more in OLAP.
<b>QUERIES</b>	Simpler queries.	Complex queries.
<b>NORMALIZATION</b>	Tables in OLTP database are normalized (3NF)	Tables in OLAP database are not normalized.
<b>INTEGRITY</b>	OLTP database must maintain data integrity constraint.	OLAP database does not get frequently modified. Hence, data integrity is not affected.