



Hibernate & Spring Data JPA

Beginner to Guru

Paging and Sorting



Overview of Paging and Sorting

- **Paging** - Is a way to get a 'page' of data from a long list of values
 - For example, page three of 100 records
 - Common on websites search results or catalogs
- **Sorting** - How the data is ordered
 - Can be natural (order came out of database)
 - Or by one or more columns



SQL Paging

- **SQL Paging** - Uses SQL clauses of limit and offset
 - **Limit** - Limits the number of rows returned
 - **Offset** - Number of rows to skip over
- Example 30 records, 10 per page
 - Page 1 - Limit 10, Offset 0
 - Page 2 - Limit 10, Offset 10
 - Page 3 - Limit 10, Offset 20





SQL Sorting

- **SQL Sorting** - Uses SQL order by clause
 - **ASC** - (default) Ascending Order
 - **Desc** - Descending
- **Physical Order** - When no sort clause is provided. Whatever order the records are stored in the database.
 - Often will return rows in the same order, BUT this **is not guaranteed**





Paging and Sorting Performance

- Would it be faster to do perform Paging and Sorting on the Application Server?
 - Generally, NO
 - Modern databases are VERY efficient with paging and sorting
 - Plus need to transfer large data sets between database server and application server
 - There are edge cases where offloading the computational workload does make sense



