Difference Between Primary key and Unique Not Null

Contents

Overview

This document is intended to provide Difference between Primary key and Unique Not Null in oracle.

Difference between primary key and unique not null

Feature	Primary Key	UNIQUE + Not Null
Purpose	Identifies a record uniquely	Ensures uniqueness and non-nullability
Nulls allowed	**Not allowed** (implicitly `NOT NULL`)	`UNIQUE` allows nulls, but adding `NOT NULL` prevents them
Number allowed per table	Only **one** per table	**Multiple** allowed per table
Index creation	PK will be created as a clustered index **by default** (you can change that) Clustered means the records will be actually stored in that physical order, no consuming disk space,	A unique key **by default** (you can change that also) will be created as a non-clustered index Non-clustered means it will be stored in a structure "attached" to the table and will consume disk space.
Constraint name (default)	Automatically named `SYS_C...` unless specified	Same behavior
Composite columns	Can be composite (multi-column)	Also supports composite keys
Logical meaning	Declares the main identifier of a row	Just enforces data uniqueness and presence

Example:

```
-- Primary Key
CREATE TABLE employees (
  emp_id NUMBER PRIMARY KEY,
  name VARCHAR2(100)
);

-- Unique + Not Null
CREATE TABLE departments (
  department_id VARCHAR2(10) UNIQUE NOT NULL,
  department_name VARCHAR2(100)
);
```

Conclusion:

Both primary key and unique keys enforce uniqueness of the column on which they are defined. But by default, the primary key creates a clustered index on the column, whereas unique key creates a non-clustered index by default. Another major difference is that primary key doesn't allow NULLs, but UNIQUE allows nulls, but adding NOT NULL prevents them.