

Lecture Notes – CurrentDate & Time

Section 1: Lecture Summary

The lecture covers MySQL date and time functions for retrieving current date and time, including `NOW()`, `SYSDATE()`, `CURRENT_DATE()`, and `CURDATE()`. It demonstrates their behavior with delays using `SLEEP()`, explains differences in how they handle multiple calls within a query, and provides practical queries using the eCommerceDB to filter payments made today and orders within a 30-day return window.

Section 2: Key Concepts and Explanations

`NOW()` returns the current date and time, but when called multiple times in the same query (even with `SLEEP(5)` in between), it provides the same timestamp each time, capturing the value at query start.

`SYSDATE()` also returns the current date and time, but each call fetches a fresh timestamp from the system, so it reflects actual elapsed time (e.g., seconds increase after a 5-second delay).

`CURRENT_DATE()` and `CURDATE()` both return only the current date (no time), producing identical results; use whichever is preferred.

`CURTIME()` returns only the current time.

The `DATE()` function extracts just the date portion from a datetime value, useful for comparisons ignoring time.

Date arithmetic uses `INTERVAL`, such as `CURRENT_DATE() - INTERVAL 30 DAY` to subtract days for filtering recent records.

Section 3: Example Code and Use Cases

Query to show payments made today from the `Payments` table (compares date portion of `PaymentDate`):

```
SELECT *
FROM Payments
WHERE DATE(PaymentDate) = CURRENT_DATE()
ORDER BY PaymentDate DESC;
```

This filters payments where the date matches today, ignoring time differences, and sorts by `PaymentDate` descending. No results appear if no matching data exists.

Query to find orders within the 30-day return window from the **Orders** table:

```
SELECT OrderID, OrderDate
FROM Orders
WHERE OrderDate > CURRENT_DATE() - INTERVAL 30 DAY
ORDER BY OrderDate DESC;
```

This retrieves orders placed after 30 days ago, using date subtraction for the return policy condition, sorted descending by **OrderDate**.

Section 4: Key Takeaways

Choose **NOW()** for consistent timestamps across a query or **SYSDATE()** for real-time updates per call.

Use **CURRENT_DATE()** or **CURDATE()** interchangeably for date-only values, **DATE()** to strip time from datetime fields, and **INTERVAL** for date math like subtracting days.

Apply these in **WHERE** clauses for filtering recent records, such as today's payments or orders in a time window.