index\_performance.md

* **User Table**: Columns frequently used in WHERE clauses.
* **Booking Table**: Columns often involved in JOIN conditions or ORDER BY clauses.
* **Property Table**: Columns widely queried or filtered.

Summary of columns to index:

* Table **bookings**: user\_id, property\_id
* Table **users**: email
* Table **properties**: location

INDEX Commands

-- Index on the user\_id column in the bookings table for faster joins with users

CREATE INDEX idx\_bookings\_user\_id ON bookings(user\_id);

-- Index on the property\_id column in the bookings table for faster joins with properties

CREATE INDEX idx\_bookings\_property\_id ON bookings(property\_id);

-- Index on the email column in the users table for faster user lookups

CREATE INDEX idx\_users\_email ON users(email);

-- Index on the location column in the properties table for faster searching/filtering

CREATE INDEX idx\_properties\_location ON properties(location);

Measuring the query performance:

* Run this query command

EXPLAIN ANALYZE

SELECT \*

FROM bookings b

JOIN users u ON b.user\_id = u.user\_id

WHERE u.email = 'example\_user@email.com';

* Create the Index

CREATE INDEX idx\_bookings\_user\_id ON bookings(user\_id);

CREATE INDEX idx\_users\_email ON users(email);

* Re-run the query command