



**Course:** MSc in Computer Engineering / MSc in Bioinformatics  
**U.C.:** NoSQL Databases

Exercise Sheet PL08	
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Theme:	Introduction to Redis
Class:	Laboratory Practice
Academic Year:	2023-2024 – 2nd Semester
Duration of the lesson:	2 hours

**Exercise**

The objective of this exercise is to develop a Python script to create a caching system for Oracle queries using Redis. The script will connect to an Oracle database, execute queries to fetch data from specified tables, and cache the results in Redis.

Consider Oracle database of FE01.

**Script Functionality:**

- Connect to Oracle database.
- Connect to Redis database (use ping to test the connection).
- Receive a query as input from the console.
- Execute specified queries to fetch data from the tables.
- Cache the query results in Redis with a 1 hour timeout.
- Before executing a query in the Oracle database, check if the query result is cached in Redis. If so, return the result from the cache and do not query the oracle database.

**Technical Requirements:**

Python 3.x  
Python Packages: cx\_Oracle for Oracle database connectivity, redis for Redis connectivity.

**Submission:**

Submit the developed Python script (oracle\_to\_redis.py) along with any necessary documentation to understand and run the script. Ensure that the documentation includes setup instructions, usage guidelines, and any additional considerations.