**A9 – Main Accesses to the database and transactions**

This artefact shows the main accesses to the database in the Project Management application. All the main accesses are described with the corresponding SQL code and web resource reference. It also includes all the required transactions for this application.

1. **Main Accesses**

M01 Create new user

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| SQL101 | Creates new user in the platform |
| Web resource | R105 |
| INSERT INTO User (e\_mail, password, URL, username)  VALUES ($e\_mail, $password, $URL, $username) | |

M02 Projects

|  |  |
| --- | --- |
| SQL201 | Search project |
| Web resource | R603 |
| SELECT id, name, description, start\_date, ts\_rank\_cd(textsearch, query) AS rank  FROM Project, to\_tsquery($search) AS query, to\_tsvector(name || ‘ ‘ || description) AS textsearch  WHERE query @@ textsearch\\ ORDER BY rank DESC; | |

M03 Boards

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| SQL301 | Search board |
| Web resource | R215 |
| SELECT id, name, description ts\_rank\_cd(textsearch, query) AS rank  FROM Board, to\_tsquery($search) AS query, to\_tsvector(name || ‘ ‘ || description) AS textsearch  WHERE query @@ textsearch\\ ORDER BY rank DESC; | |

M04 Tasks

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| --- | --- |
| SQL401 | Search task |
| Web resource | R307 |
| SELECT id, name, description ts\_rank\_cd(textsearch, query) AS rank  FROM Task, to\_tsquery($search) AS query, to\_tsvector(name || ‘ ‘ || description) AS textsearch  WHERE query @@ textsearch\\ ORDER BY rank DESC; | |

M05 Users

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| SQL501 | Retrieve user's current projects |
| Web resource | R503 |
| SELECT username, full\_name, e\_mail FROM User  WHERE username LIKE %$search% OR full\_name LIKE %$search%;  ORDER BY username; | |

M06 User’s projects

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| --- | --- |
| SQL601 | Retrieve user's current projects |
| Web resource | R113 |
| SELECT \*  FROM Project  INNER JOIN Project\_team ON Project.id=Project\_team.id\_project  WHERE Project.id\_coordinator=$user OR Project\_team.id\_user=$user | |

1. **Transactions**

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| T01 | Change project state |
| Isolation level |  |
| Justification | When a project is archived (still exists, but can’t be edited) or deleted, the state of all its boards and tasks must also change (to archived or deleted, respectively). |
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| T02 | Delete user |
| Isolation level |  |
| Justification | When a user is deleted (removed from database), all the projects he coordinated are archived, as well as all their boards and projects. |
|  | |

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