Our database will have 5 tables: Users, Workspaces, Workspace\_User, Boards, and Tasks.

The cardinalities are as follows:

The connections and cardinalities are listed in the following table:

|  |  |  |  |
| --- | --- | --- | --- |
| **Origin** | **Target** | **Cardinality** | **FK** |
| Users | Workspaces\_Users | One to many | user\_id |
| Users | Tasks | Zero/one to zero/many | user\_id |
| Tasks | Users | Many to one | user\_id |
| Tasks | Boards | Many to one | board\_id |
| Boards | Tasks | One to zero/many | board\_id |
| Boards | Workspaces | Many to one | workspace\_id |
| Workspaces | Boards | One to zero/many | workspace\_id |
| Workspaces | Workspaces\_Users | One to many | workspace\_id |
| Workspaces\_Users | Workspaces | Many to one | workspace\_id |
| Workspaces\_Users | Users | Many to one | user\_id |

The table Workspaces\_Users exists to represent the Many to Many relationship between Users and Workspaces, as a user can be a member of many workspaces and each workspace can have many users.

The ERD diagram can be found below:

