**IT252 – DATABASE SYSTEMS**

Lab Assignment 2 – DDL Constraints

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1. **Primary Key**

> ALTER TABLE borrow\_request ADD PRIMARY KEY (id);

1. **Foreign Key**

> ALTER TABLE borrow\_request ADD FOREIGN KEY (user\_id) REFERENCES user(id);

> ALTER TABLE borrow\_request ADD FOREIGN KEY (book\_id) REFERENCES book(id);

1. **Unique**

> ALTER TABLE borrow\_request ADD UNIQUE (id);

1. **Not Null**

> ALTER TABLE borrow\_request MODIFY user\_id int NOT NULL;

> ALTER TABLE borrow\_request MODIFY book\_id int NOT NULL;

1. **Null**

> ALTER TABLE borrow\_request MODIFY status VARCHAR(25) NULL;

1. **Default**

> ALTER TABLE borrow\_request ALTER status SET DEFAULT ‘requested’;

1. **On Update**
   1. **Cascade**

> ALTER TABLE borrow\_request ADD FOREIGN KEY (user\_id) REFERENCES user(id) ON DELETE CASCADE ON UPDATE CASCADE;

* 1. **No Action**

> ALTER TABLE borrow\_request ADD FOREIGN KEY (book\_id) REFERENCES book(id) ON DELETE NO ACTION ON UPDATE NO ACTION;

* 1. **Set Null**

> ALTER TABLE borrow\_request ADD FOREIGN KEY (genre\_id) REFERENCES genre(id) ON DELETE SET NULL ON UPDATE SET NULL;

* 1. **Set Default**

> ALTER TABLE borrow\_request ADD FOREIGN KEY (admin\_id) REFERENCES admin(id) ON DELETE SET DEFAULT ON UPDATE SET DEFAULT;

**Note:** As per the official MySQL docs, SET DEFAULT: This action is recognized by the MySQL parser, but both [InnoDB](https://dev.mysql.com/doc/refman/8.0/en/innodb-storage-engine.html) and [NDB](https://dev.mysql.com/doc/refman/8.0/en/mysql-cluster.html) reject table definitions containing ON DELETE SET DEFAULT or ON UPDATE SET DEFAULT clauses. Hence you won’t see the change as shown in the screenshot.

1. **On Delete**
   1. **Cascade**

> ALTER TABLE borrow\_request ADD FOREIGN KEY (user\_id) REFERENCES user(id) ON DELETE CASCADE ON UPDATE CASCADE;

* 1. **No Action**

> ALTER TABLE borrow\_request ADD FOREIGN KEY (book\_id) REFERENCES book(id) ON DELETE NO ACTION ON UPDATE NO ACTION;

* 1. **Set Null**

> ALTER TABLE borrow\_request ADD FOREIGN KEY (genre\_id) REFERENCES genre(id) ON DELETE SET NULL ON UPDATE SET NULL;

* 1. **Set Default**

> ALTER TABLE borrow\_request ADD FOREIGN KEY (admin\_id) REFERENCES admin(id) ON DELETE SET DEFAULT ON UPDATE SET DEFAULT;

**Note:** As per the official MySQL docs, SET DEFAULT: This action is recognized by the MySQL parser, but both [InnoDB](https://dev.mysql.com/doc/refman/8.0/en/innodb-storage-engine.html) and [NDB](https://dev.mysql.com/doc/refman/8.0/en/mysql-cluster.html) reject table definitions containing ON DELETE SET DEFAULT or ON UPDATE SET DEFAULT clauses. Hence you won’t see the change as shown in the screenshot.