

# Lecture 08 - Design Database with Entity Relationship Diagrams (ERD)

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4820 L08 Draw ERD - <https://youtu.be/2gSC6mwCwps>

4820 L08 pt2 Use Lucid to draw ERD - <https://youtu.be/rBdPFzsqpWI>

From Amazon S3 - for download (same as youtube videos)

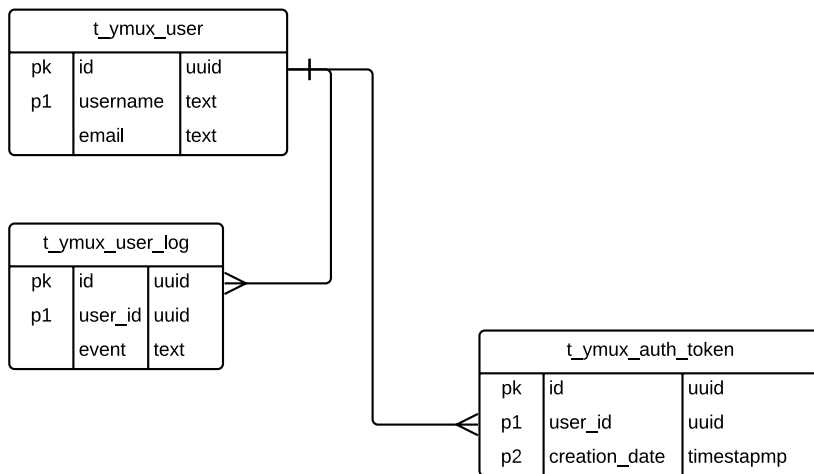
4820 L08 Draw ERD

4820 L08 pt2 Use Lucid to draw ERD

## ERDs.

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An example with 3 tables.



An entity is a table.

The lines are foreign keys between tables.

Normally you create a table:

```
CREATE TABLE ct_homework_seen (
    id                                uuid DEFAULT uuid_generate_v4()
    , user_id                        uuid not null
    , homework_id                    uuid not null
    , homework_no                     text not null
    , when_seen                       timestamp
    , watch_count                     int default 0 not null
    , when_start                      timestamp
    , updated                         timestamp
    , created                         timestamp default current_times
);
```

It has a unique primary key, type `uuid` , called `id` .

The `user_id` looks like a foreign key to a user table.

```
ALTER TABLE ct_homework_seen
    ADD CONSTRAINT ct_homework_seen_id_fk
    FOREIGN KEY (user_id)
    REFERENCES "t_ymux_user" ("id")
;
```

The foreign key is the line between the tables.

The design above is using <https://lucid.app/> It is not a tremendous tool for doing a ERD, but there is a free account and it is adequate for small designs. We will use it in this class. You should sign up for a free account.

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