

**doc\_db****auth\_group**

| Column                | Type         | Null | Default | Comments |
|-----------------------|--------------|------|---------|----------|
| id ( <i>Primary</i> ) | int          | No   |         |          |
| name                  | varchar(150) | No   |         |          |

**Indexes**

| Keyname | Type  | Unique | Packed | Column | Cardinality | Collation | Null | Comment |
|---------|-------|--------|--------|--------|-------------|-----------|------|---------|
| PRIMARY | BTREE | Yes    | No     | id     | 0           | A         | No   |         |
| name    | BTREE | Yes    | No     | name   | 0           | A         | No   |         |

**auth\_group\_permissions**

| Column                | Type   | Null | Default | Comments |
|-----------------------|--------|------|---------|----------|
| id ( <i>Primary</i> ) | bigint | No   |         |          |
| group_id              | int    | No   |         |          |
| permission_id         | int    | No   |         |          |

**Indexes**

| Keyname   | Type  | Unique | Packed | Column        | Cardinality | Collation | Null | Comment |
|---|-------|--------|--------|---------------|-------------|-----------|------|---------|
| PRIMARY   | BTREE | Yes    | No     | id            | 0           | A         | No   |         |
| auth_group_permissions_group_id_permission_id_0cd325b0_uniq | BTREE | Yes    | No     | group_id      | 0           | A         | No   |         |
|   |       |        |        | permission_id | 0           | A         | No   |         |
| auth_group_permission_permission_id_84c5c92e_fk_auth_perm   | BTREE | No     | No     | permission_id | 0           | A         | No   |         |

**auth\_permission**

| Column                | Type         | Null | Default | Comments |
|-----------------------|--------------|------|---------|----------|
| id ( <i>Primary</i> ) | int          | No   |         |          |
| name                  | varchar(255) | No   |         |          |
| content_type_id       | int          | No   |         |          |
| codename              | varchar(100) | No   |         |          |

**Indexes**

| Keyname  | Type  | Unique | Packed | Column          | Cardinality | Collation | Null | Comment |
|--|-------|--------|--------|-----------------|-------------|-----------|------|---------|
| PRIMARY  | BTREE | Yes    | No     | id              | 30          | A         | No   |         |
| auth_permission_content_type_id_codename_01ab375a_uniq | BTREE | Yes    | No     | content_type_id | 8           | A         | No   |         |
|  |       |        |        | codename        | 30          | A         | No   |         |

**backend\_customuser**

| Column                     | Type         | Null | Default | Comments |
|----------------------------|--------------|------|---------|----------|
| user_id ( <i>Primary</i> ) | bigint       | No   |         |          |
| password                   | varchar(128) | No   |         |          |
| last_login                 | datetime(6)  | Yes  | NULL    |          |
| is_superuser               | tinyint(1)   | No   |         |          |
| is_active                  | tinyint      | No   |         |          |
| username                   | varchar(150) | No   |         |          |
| first_name                 | varchar(150) | No   |         |          |
| last_name                  | varchar(150) | No   |         |          |
| is_staff                   | tinyint(1)   | No   |         |          |
| date_joined                | datetime(6)  | No   |         |          |
| email                      | varchar(254) | No   |         |          |
| full_name                  | varchar(150) | No   |         |          |

**Indexes**

| Keyname  | Type  | Unique | Packed | Column   | Cardinality | Collation | Null | Comment |
|----------|-------|--------|--------|----------|-------------|-----------|------|---------|
| PRIMARY  | BTREE | Yes    | No     | user_id  | 3           | A         | No   |         |
| username | BTREE | Yes    | No     | username | 3           | A         | No   |         |
| email    | BTREE | Yes    | No     | email    | 3           | A         | No   |         |

## backend\_customuser\_groups

| Column        | Type   | Null | Default | Comments |
|---------------|--------|------|---------|----------|
| id (Primary)  | bigint | No   |         |          |
| customuser_id | bigint | No   |         |          |
| group_id      | int    | No   |         |          |

### Indexes

| Keyname  | Type  | Unique | Packed | Column        | Cardinality | Collation | Null | Comment |
|--|-------|--------|--------|---------------|-------------|-----------|------|---------|
| PRIMARY  | BTREE | Yes    | No     | id            | 0           | A         | No   |         |
| backend_customuser_groups_customuser_id_group_id_a4f8c55e_uniq | BTREE | Yes    | No     | customuser_id | 0           | A         | No   |         |
|  |       |        |        | group_id      | 0           | A         | No   |         |
| backend_customuser_groups_group_id_5fab7100_fk_auth_group_id   | BTREE | No     | No     | group_id      | 0           | A         | No   |         |

## backend\_customuser\_user\_permissions

| Column        | Type   | Null | Default | Comments |
|---------------|--------|------|---------|----------|
| id (Primary)  | bigint | No   |         |          |
| customuser_id | bigint | No   |         |          |
| permission_id | int    | No   |         |          |

### Indexes

| Keyname  | Type  | Unique | Packed | Column        | Cardinality | Collation | Null | Comment |
|--|-------|--------|--------|---------------|-------------|-----------|------|---------|
| PRIMARY  | BTREE | Yes    | No     | id            | 0           | A         | No   |         |
| backend_customuser_user_customuser_id_permission_ca2b53b6_uniq | BTREE | Yes    | No     | customuser_id | 0           | A         | No   |         |
|  |       |        |        | permission_id | 0           | A         | No   |         |
| backend_customuser_u_permission_id_9e1b6f57_fk_auth_perm       | BTREE | No     | No     | permission_id | 0           | A         | No   |         |

## chapter5

| Column           | Type      | Null | Default           | Comments |
|------------------|-----------|------|-------------------|----------|
| doc_id (Primary) | bigint    | No   |                   |          |
| user_id          | bigint    | No   |                   |          |
| intro_th         | longtext  | Yes  | NULL              |          |
| sections_json    | json      | No   |                   |          |
| created_at       | timestamp | Yes  | CURRENT_TIMESTAMP |          |
| updated_at       | timestamp | Yes  | CURRENT_TIMESTAMP |          |

### Indexes

| Keyname     | Type  | Unique | Packed | Column  | Cardinality | Collation | Null | Comment |
|-------------|-------|--------|--------|---------|-------------|-----------|------|---------|
| PRIMARY     | BTREE | Yes    | No     | doc_id  | 0           | A         | No   |         |
| fk_user_ct5 | BTREE | No     | No     | user_id | 0           | A         | No   |         |

## django\_admin\_log

| Column          | Type         | Null | Default | Comments |
|-----------------|--------------|------|---------|----------|
| id (Primary)    | int          | No   |         |          |
| action_time     | datetime(6)  | No   |         |          |
| object_id       | longtext     | Yes  | NULL    |          |
| object_repr     | varchar(200) | No   |         |          |
| action_flag     | smallint     | No   |         |          |
| change_message  | longtext     | No   |         |          |
| content_type_id | int          | Yes  | NULL    |          |

| Column  | Type   | Null | Default | Comments |
|---------|--------|------|---------|----------|
| user_id | bigint | No   |         |          |

**Indexes**

| Keyname  | Type  | Unique | Packed | Column          | Cardinality | Collation | Null | Comment |
|--|-------|--------|--------|-----------------|-------------|-----------|------|---------|
| PRIMARY  | BTREE | Yes    | No     | id              | 0           | A         | No   |         |
| django_admin_log_content_type_id_c4bce8eb_fk_django_co     | BTREE | No     | No     | content_type_id | 0           | A         | Yes  |         |
| django_admin_log_user_id_c564eba6_fk_backend_customuser_id | BTREE | No     | No     | user_id         | 0           | A         | No   |         |

## django\_content\_type

| Column       | Type         | Null | Default | Comments |
|--------------|--------------|------|---------|----------|
| id (Primary) | int          | No   |         |          |
| app_label    | varchar(100) | No   |         |          |
| model        | varchar(100) | No   |         |          |

**Indexes**

| Keyname   | Type  | Unique | Packed | Column    | Cardinality | Collation | Null | Comment |
|---|-------|--------|--------|-----------|-------------|-----------|------|---------|
| PRIMARY   | BTREE | Yes    | No     | id        | 8           | A         | No   |         |
| django_content_type_app_label_model_76bd3d3b_uniq | BTREE | Yes    | No     | app_label | 5           | A         | No   |         |
|   |       |        |        | model     | 8           | A         | No   |         |

## django\_migrations

| Column       | Type         | Null | Default | Comments |
|--------------|--------------|------|---------|----------|
| id (Primary) | bigint       | No   |         |          |
| app          | varchar(255) | No   |         |          |
| name         | varchar(255) | No   |         |          |
| applied      | datetime(6)  | No   |         |          |

**Indexes**

| Keyname | Type  | Unique | Packed | Column | Cardinality | Collation | Null | Comment |
|---------|-------|--------|--------|--------|-------------|-----------|------|---------|
| PRIMARY | BTREE | Yes    | No     | id     | 19          | A         | No   |         |

## django\_session

| Column                | Type        | Null | Default | Comments |
|-----------------------|-------------|------|---------|----------|
| session_key (Primary) | varchar(40) | No   |         |          |
| session_data          | longtext    | No   |         |          |
| expire_date           | datetime(6) | No   |         |          |

**Indexes**

| Keyname                             | Type  | Unique | Packed | Column      | Cardinality | Collation | Null | Comment |
|-------------------------------------|-------|--------|--------|-------------|-------------|-----------|------|---------|
| PRIMARY                             | BTREE | Yes    | No     | session_key | 9           | A         | No   |         |
| django_session_expire_date_a5c62663 | BTREE | No     | No     | expire_date | 9           | A         | No   |         |

## doc\_abstract

| Column           | Type         | Null | Default | Comments        |
|------------------|--------------|------|---------|-----------------|
| doc_id (Primary) | int          | No   |         |                 |
| user_id          | bigint       | No   |         |                 |
| total_pages      | int          | No   |         |                 |
| keyword_th       | varchar(200) | No   |         |                 |
| keyword_en       | varchar(200) | No   |         |                 |
| abstract_th_json | json         | No   |         |                 |
| abstract_en_json | json         | Yes  | NULL    |                 |
| acknow_json      | json         | Yes  | NULL    | กิตติกรรมประกาศ |

**Indexes**

| Keyname     | Type  | Unique | Packed | Column  | Cardinality | Collation | Null | Comment |
|-------------|-------|--------|--------|---------|-------------|-----------|------|---------|
| PRIMARY     | BTREE | Yes    | No     | doc_id  | 1           | A         | No   |         |
| uq_abs_doc  | BTREE | Yes    | No     | doc_id  | 1           | A         | No   |         |
| fk_abs_user | BTREE | No     | No     | user_id | 1           | A         | No   |         |

## doc\_chapter\_1

Table comments: ข้อมูลบทที่ 1 ในรูปแบบ JSON (ใช้โครงสร้างเดียวกับบทที่ 5)

| Column           | Type     | Null | Default           | Comments  |
|------------------|----------|------|-------------------|---|
| doc_id (Primary) | int      | No   |                   | PK: รหัสรายการ (อัตโนมัติ)  |
| user_id          | bigint   | No   |                   |   |
| intro_body       | longtext | Yes  | NULL              | บทนำ (ข้อความอีสระ)   |
| sections_json    | json     | Yes  | NULL              | ข้อมูลหัวข้อทั้งหมดในรูปแบบ JSON array [{"title, body, points:[{main, subs:[]}]}] |
| created_at       | datetime | Yes  | CURRENT_TIMESTAMP | เวลาสร้างข้อมูล   |
| updated_at       | datetime | Yes  | CURRENT_TIMESTAMP | เวลาอัปเดตข้อมูลล่าสุด  |

**Indexes**

| Keyname   | Type  | Unique | Packed | Column  | Cardinality | Collation | Null | Comment |
|-----------|-------|--------|--------|---------|-------------|-----------|------|---------|
| PRIMARY   | BTREE | Yes    | No     | doc_id  | 1           | A         | No   |         |
| use_chap1 | BTREE | No     | No     | user_id | 1           | A         | No   |         |

## doc\_chapter\_2

Table comments: ข้อมูลบทที่ 1 ในรูปแบบ JSON (ใช้โครงสร้างเดียวกับบทที่ 5)

| Column           | Type     | Null | Default           | Comments  |
|------------------|----------|------|-------------------|---|
| doc_id (Primary) | int      | No   |                   | PK: รหัสรายการ (อัตโนมัติ)  |
| user_id          | bigint   | No   |                   |   |
| intro_body       | longtext | Yes  | NULL              | บทนำ (ข้อความอีสระ)   |
| sections_json    | json     | Yes  | NULL              | ข้อมูลหัวข้อทั้งหมดในรูปแบบ JSON array [{"title, body, points:[{main, subs:[]}]}] |
| pic_id           | int      | Yes  | NULL              |   |
| chap_id          | int      | Yes  | NULL              |   |
| created_at       | datetime | Yes  | CURRENT_TIMESTAMP | เวลาสร้างข้อมูล   |
| updated_at       | datetime | Yes  | CURRENT_TIMESTAMP | เวลาอัปเดตข้อมูลล่าสุด  |

**Indexes**

| Keyname    | Type  | Unique | Packed | Column  | Cardinality | Collation | Null | Comment |
|------------|-------|--------|--------|---------|-------------|-----------|------|---------|
| PRIMARY    | BTREE | Yes    | No     | doc_id  | 0           | A         | No   |         |
| user_id_fk | BTREE | No     | No     | user_id | 0           | A         | No   |         |
| pic_id_fk  | BTREE | No     | No     | pic_id  | 0           | A         | Yes  |         |
| chapid_fk  | BTREE | No     | No     | chap_id | 0           | A         | Yes  |         |

## doc\_introduction

| Column           | Type         | Null | Default | Comments |
|------------------|--------------|------|---------|----------|
| doc_id (Primary) | int          | No   |         |          |
| name_pro_th      | varchar(255) | No   |         |          |
| name_pro_en      | varchar(255) | No   |         |          |
| student_name     | json         | Yes  | NULL    |          |
| school_y_BE      | int          | Yes  | NULL    | พ.ศ      |
| school_y_AD      | int          | Yes  | NULL    | ค.ศ      |
| comm_dean        | varchar(255) | Yes  | NULL    |          |
| comm_prathan     | varchar(255) | Yes  | NULL    |          |
| comm_first       | varchar(255) | Yes  | NULL    |          |
| comm_sec         | varchar(255) | Yes  | NULL    |          |
| advisor_th       | varchar(200) | Yes  | NULL    |          |
| advisor_en       | varchar(200) | Yes  | NULL    |          |

| Column       | Type         | Null | Default           | Comments |
|--------------|--------------|------|-------------------|----------|
| coadvisor_th | json         | Yes  | NULL              |          |
| coadvisor_en | json         | Yes  | NULL              |          |
| dep_th       | varchar(255) | Yes  | NULL              |          |
| dep_en       | varchar(255) | Yes  | NULL              |          |
| user_id      | bigint       | No   |                   |          |
| created_at   | timestamp    | No   | CURRENT_TIMESTAMP |          |
| updated_at   | timestamp    | No   | CURRENT_TIMESTAMP |          |

**Indexes**

| Keyname       | Type  | Unique | Packed | Column  | Cardinality | Collation | Null | Comment |
|---------------|-------|--------|--------|---------|-------------|-----------|------|---------|
| PRIMARY       | BTREE | Yes    | No     | doc_id  | 1           | A         | No   |         |
| uq_intro_user | BTREE | Yes    | No     | user_id | 1           | A         | No   |         |

**doc\_ref\_book**

| Column                | Type         | Null | Default | Comments    |
|-----------------------|--------------|------|---------|-------------|
| ref_book_id (Primary) | int          | No   |         | รหัสหนังสือ |
| book_authors_en       | json         | Yes  | NULL    |             |
| book_authors_th       | json         | No   |         |             |
| book_title_en         | varchar(255) | Yes  | NULL    |             |
| book_title_th         | varchar(255) | No   |         |             |
| book_print_count_en   | int          | Yes  | NULL    |             |
| book_print_count_th   | int          | No   |         |             |
| book_city_print_en    | varchar(255) | Yes  | NULL    |             |
| book_city_print_th    | varchar(255) | No   |         |             |
| book_publisher_en     | varchar(255) | Yes  | NULL    |             |
| book_publisher_th     | varchar(255) | No   |         |             |
| book_y_print_en       | int          | Yes  | NULL    |             |
| book_y_print_th       | int          | No   |         |             |
| user_id               | bigint       | No   |         |             |

**Indexes**

| Keyname        | Type  | Unique | Packed | Column      | Cardinality | Collation | Null | Comment |
|----------------|-------|--------|--------|-------------|-------------|-----------|------|---------|
| PRIMARY        | BTREE | Yes    | No     | ref_book_id | 0           | A         | No   |         |
| userid_refbook | BTREE | No     | No     | user_id     | 0           | A         | No   |         |

**doc\_ref\_web**

| Column               | Type         | Null | Default | Comments |
|----------------------|--------------|------|---------|----------|
| ref_web_id (Primary) | int          | No   |         |          |
| ref_no               | varchar(10)  | No   |         |          |
| ref_web_authors_th   | json         | No   |         |          |
| ref_web_authors_en   | json         | No   |         |          |
| ref_web_title_th     | varchar(255) | No   |         |          |
| ref_web_title_en     | varchar(255) | No   |         |          |
| ref_url              | varchar(255) | No   |         |          |
| ref_date_access      | date         | No   |         |          |
| user_id              | bigint       | No   |         |          |

**Indexes**

| Keyname         | Type  | Unique | Packed | Column     | Cardinality | Collation | Null | Comment |
|-----------------|-------|--------|--------|------------|-------------|-----------|------|---------|
| PRIMARY         | BTREE | Yes    | No     | ref_web_id | 1           | A         | No   |         |
| user_id_ref_web | BTREE | No     | No     | user_id    | 1           | A         | No   |         |

**sp\_project**

| Column           | Type         | Null | Default | Comments |
|------------------|--------------|------|---------|----------|
| id (Primary)     | int          | No   |         |          |
| name_pro_th      | varchar(255) | Yes  | NULL    |          |
| name_pro_en      | varchar(255) | Yes  | NULL    |          |
| case_stu         | varchar(100) | Yes  | NULL    |          |
| term             | varchar(50)  | Yes  | NULL    |          |
| school_y         | varchar(10)  | Yes  | NULL    |          |
| adviser          | varchar(255) | Yes  | NULL    |          |
| co_advisor       | varchar(255) | Yes  | NULL    |          |
| strategic        | longtext     | Yes  | NULL    |          |
| plan             | longtext     | Yes  | NULL    |          |
| key_result       | longtext     | Yes  | NULL    |          |
| bg_and_sig_para1 | longtext     | No   |         |          |
| bg_and_sig_para2 | longtext     | No   |         |          |
| bg_and_sig_para3 | longtext     | No   |         |          |
| purpose_1        | varchar(255) | No   |         |          |
| purpose_2        | varchar(255) | No   |         |          |
| purpose_3        | varchar(255) | No   |         |          |
| scope_json       | json         | No   |         |          |
| user_id          | bigint       | Yes  | NULL    |          |

## Indexes

| Keyname | Type  | Unique | Packed | Column  | Cardinality | Collation | Null | Comment |
|---------|-------|--------|--------|---------|-------------|-----------|------|---------|
| PRIMARY | BTREE | Yes    | No     | id      | 2           | A         | No   |         |
| user_id | BTREE | No     | No     | user_id | 2           | A         | Yes  |         |

## sp\_project\_author

| Column       | Type         | Null | Default | Comments |
|--------------|--------------|------|---------|----------|
| id (Primary) | bigint       | No   |         |          |
| name         | varchar(100) | No   |         |          |
| userid       | bigint       | No   |         |          |
| sp_id        | int          | No   |         |          |

## Indexes

| Keyname | Type  | Unique | Packed | Column | Cardinality | Collation | Null | Comment |
|---------|-------|--------|--------|--------|-------------|-----------|------|---------|
| PRIMARY | BTREE | Yes    | No     | id     | 4           | A         | No   |         |
| userid  | BTREE | No     | No     | userid | 2           | A         | No   |         |
| sp_id   | BTREE | No     | No     | sp_id  | 2           | A         | No   |         |

## tb\_chap

| Column            | Type         | Null | Default | Comments |
|-------------------|--------------|------|---------|----------|
| chap_id (Primary) | int          | No   |         |          |
| chap_name         | varchar(100) | No   |         |          |
| chap_no           | int          | No   |         | ເລກທີ    |

## Indexes

| Keyname | Type  | Unique | Packed | Column  | Cardinality | Collation | Null | Comment |
|---------|-------|--------|--------|---------|-------------|-----------|------|---------|
| PRIMARY | BTREE | Yes    | No     | chap_id | 5           | A         | No   |         |

## tb\_picture

| Column           | Type   | Null | Default | Comments                             |
|------------------|--------|------|---------|--------------------------------------|
| pic_id (Primary) | int    | No   |         |                                      |
| pic_data_json    | json   | No   |         | ເກີບຂໍອມລູກ pic_name pic_path pic_no |
| user_id          | bigint | No   |         |                                      |
| chap_id          | int    | No   |         | id_ເລກທີ                             |

**Indexes**

| Keyname    | Type  | Unique | Packed | Column  | Cardinality | Collation | Null | Comment |
|------------|-------|--------|--------|---------|-------------|-----------|------|---------|
| PRIMARY    | BTREE | Yes    | No     | pic_id  | 0           | A         | No   |         |
| chap_id_fk | BTREE | No     | No     | chap_id | 0           | A         | No   |         |
| userid_fk  | BTREE | No     | No     | user_id | 0           | A         | No   |         |