TicketIt

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Level Two

Department General

Code	Course Name	Credit Hours
IS212	Database	3

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System Description

This is a ticket issuing application that helps developers or maintainers organize their tasks, bugs and discussions.

Data Dictionaries

Categories

Field Name	Data Type	Description	Example
id	int		
name	varchar		
color	bigint		

Categories Users

This table describes the many-to-many relationship between users and categories

Field Name	Data Type	Description	Example
category_id	int		
user_id	int		

Users

Field Name	Data Type	Description	Example
id	int		
ticketit_admin	boolean	Is this user an admin?	
ticketit_agent	boolean	Is this user an agent?	

Ticket Audits

Field Name	Data Type	Description	Example
id	int		
operation	text	What happened on the ticket	
user_id	int	Action user id	
ticket_id	int	The ticket updated	
created_at	datetime		
updated_at	datetime		

Tickets

Field Name	Data Type	Description	Example
id	int		
subject	varchar	Title of ticket	
content	longtext	Ticket description	
html	longtext (optional)	Ticket description but styled in html	
status_id	int		
priority_id	int		
user_id	int		
agent_id	int		
category_id	int		
created_at	datetime		
updated_at	bigint		

completed_at	timestamp (optional)	When was the ticket closed off dicussion	

Ticket Statuses

Field Name	Data Type	Description	Example
id	int		
name	varchar		
color	bigint		

Ticket Priorities

Field Name	Data Type	Description	Example
id	int		
name	varchar		
color	bigint		

Ticket Comments

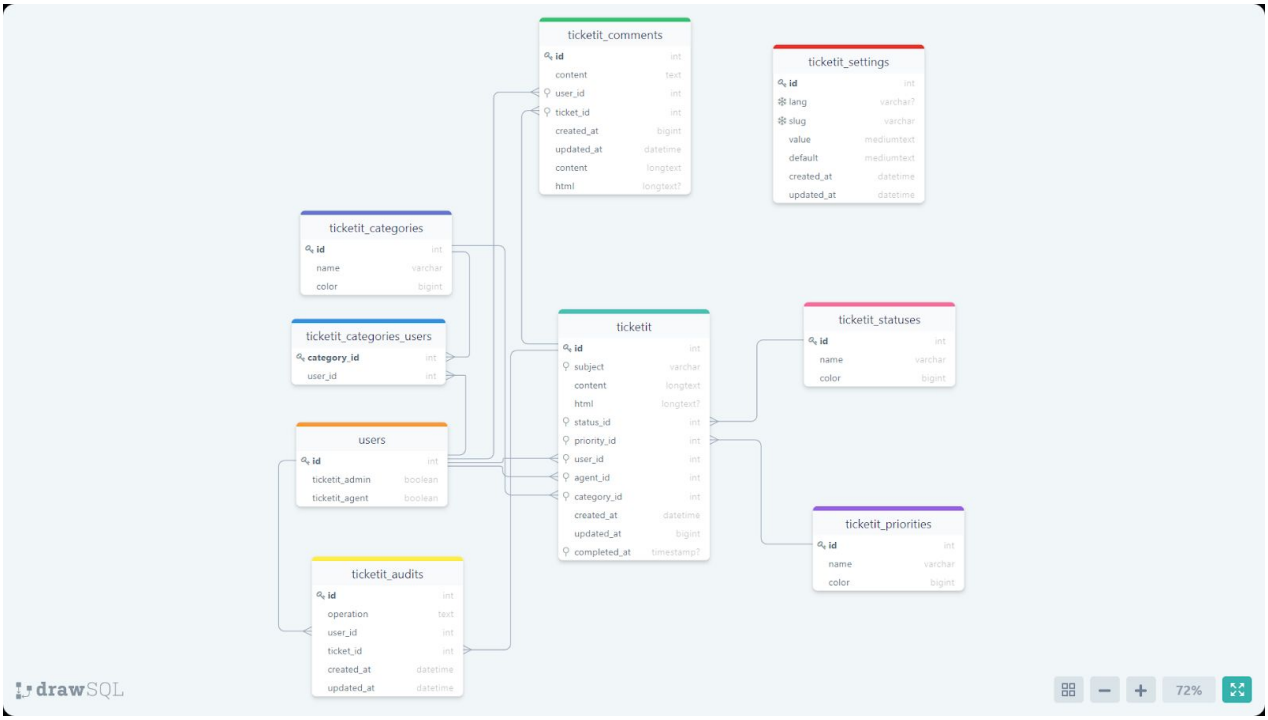
Field Name	Data Type	Description	Example
id	int		
content	longtext		
user_id	int		
ticket_id	int		
created_at	bigint		
updated_at	datetime		
html	longtext (optional)		

Settings

Field Name	Data Type	Description	Example
id	int		
lang	varchar (optional)		
slug	varchar		
value	mediumtext		
default	mediumtext		
created_at	datetime		
updated_at	datetime		

Entity Relationship Diagram

This diagram explains the relationships between every field of a table in the database.



Select Statements using Different Functions

How many languages do we support?

```
SELECT COUNT(`lang`) FROM `ticketit_settings` GROUP BY `lang`
```

What is the last comment on ticket?

```
SELECT LAST(*) FROM `ticketit_comments` WHERE `ticket_id`=<ticket_id>
```

How many comments does a ticket have?

```
SELECT COUNT(*) FROM `ticketit_comments` WHERE
`ticket_id`=<ticket_id>
```

Select statements using Subquery

Select comments with a ticket of a certain priority

```
SELECT * FROM `ticketit_comments` WHERE `ticket_id` IN (SELECT `id`
FROM `tickets` WHERE `priority_id`=<priority_id>)
```

Select comments with a ticket of a certain category

```
SELECT * FROM `ticketit_comments` WHERE `ticket_id` IN (SELECT `id`
FROM `tickets` WHERE `category_id`=<category_id>)
```

Select ticket statuses that are assigned to a certain priority

```
SELECT * FROM `ticketit_statuses` WHERE `id` IN (SELECT `status_id`
FROM `ticketit` WHERE `priority_id`=<priority_id>)
```

Select statements using Count and Group functions

How many comments of each priority do we have?

```
SELECT `priority_id`, COUNT(*) as `count` FROM `ticketit` GROUP BY
`priority_id`
```

How many comments does a ticket have?

```
SELECT COUNT(*) FROM `ticketit_comments` WHERE
`ticket_id`=<ticket_id>
```

Select statements using Different Joins

What is the category of each user?

```
SELECT * FROM `users`, `ticketit_categories_users` INNER JOIN
`ticketit_categories_users` ON users.id =
ticketit_categories_users.user_id
```

What are the comments for this ticket and the users they belong to?

```
SELECT * FROM `ticketit_comments`, `users` LEFT JOIN `users` ON
ticketit_comments.user_id = users.id
```

Insert Statements

Create a new category

```
INSERT INTO `ticketit_categories` (`name`, `color`) VALUES (<name>,
<color>)
```

Create a status

```
INSERT INTO `ticketit_statuses` (`name`, `color`) VALUES (<name>,
<color>)
```

Create a priority

```
INSERT INTO `ticketit_priorities` (`name`, `color`) VALUES (<name>, <color>)
```

Create a user

```
INSERT INTO `users` (`ticketit_admin`, `ticketit_agent`) VALUES (<is_admin>, <is_agent>)
```

Comment on a ticket

```
INSERT INTO `ticketit_comments` (`content`, `ticket_id`, `user_id`, `html`) VALUES (<content>, <ticket_id>, <user_id>, <html>)
```

Update Statements

Update ticket status

```
UPDATE `ticketit` SET `status_id`=<status_id> WHERE `id`=<ticket_id>
```

Update ticket priority

```
UPDATE `ticketit` SET `priority_id`=<priority_id> WHERE `id`=<ticket_id>
```

Close ticket

```
UPDATE `ticketit` SET `completed_at` = Now() WHERE `id`=<ticket_id>
```

Update priority color

```
UPDATE `ticketit_priorities` SET `color`=<color> WHERE
`id`=<ticket_priority_id>
```

Update status color

```
UPDATE `ticketit_statuses` SET `color`=<color> WHERE
`id`=<ticket_status_id>
```

Delete Statements

Delete a comment

```
DELETE FROM `ticketit_comments` WHERE `id`=<user_id>
```

Delete a ticket

```
DELETE FROM `ticketit_comments` WHERE `ticket_id`=<ticket_id>
DELETE FROM `ticketit` WHERE `id`=<ticket_id>
```

Delete a setting

```
DELETE FROM `ticketit_settings` WHERE `id`=<id>
```

Delete a user

```
DELETE FROM `users` WHERE `id`=<user_id>
```

References

- What is a data dictionary?
  https://www.tutorialspoint.com/What-is-Data-Dictionary
- What is an entity relationship diagram?
  https://www.smartdraw.com/entity-relationship-diagram/
- SQL Reference from W3Schools
  https://www.w3schools.com/sql/sql_ref_keywords.asp

GitHub Repository Link

GitHub Repository