

SYSTEM DESIGN

1 USE CASE DIAGRAM

1.1 Manager

It has all the access and controls the functioning of system and database; it manages all the resources functionalities and database.

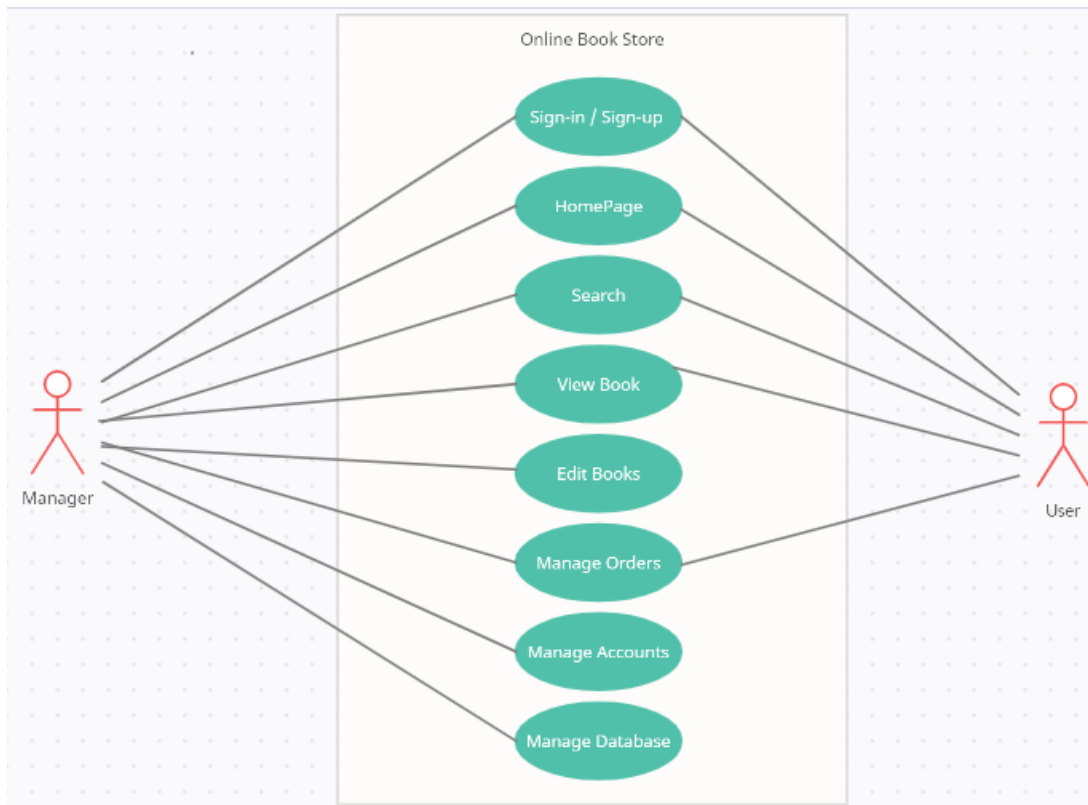
The manager will be provided with special functionalities like

- Add or delete a book category
- Add or delete a member
- Manage member orders.
- Add or delete a Book

1.2 Customer/User

They are the users or visitors or clients of the application. They don't have the full access of the application they are just provided with some functionalities like:

- Login/Logout
- View book
- Search book
- Add to cart
- View Book Description



2 DATABASE schemas

The Database have been created on PhpMyAdmin which has the following tables

Table	Action	Rows	Type	Collation	Size	Overhead
<input type="checkbox"/> books	★ Browse Structure Search Insert Empty Drop	11	InnoDB	latin1_general_ci	16.0 KiB	-
<input type="checkbox"/> cart	★ Browse Structure Search Insert Empty Drop	4	InnoDB	latin1_general_ci	16.0 KiB	-
<input type="checkbox"/> cartitems	★ Browse Structure Search Insert Empty Drop	4	InnoDB	latin1_general_ci	16.0 KiB	-
<input type="checkbox"/> category	★ Browse Structure Search Insert Empty Drop	7	InnoDB	latin1_general_ci	16.0 KiB	-
<input type="checkbox"/> customers	★ Browse Structure Search Insert Empty Drop	0	InnoDB	latin1_swedish_ci	16.0 KiB	-
<input type="checkbox"/> expert	★ Browse Structure Search Insert Empty Drop	1	InnoDB	latin1_general_ci	16.0 KiB	-
<input type="checkbox"/> manager	★ Browse Structure Search Insert Empty Drop	1	InnoDB	latin1_general_ci	16.0 KiB	-
<input type="checkbox"/> publisher	★ Browse Structure Search Insert Empty Drop	5	InnoDB	latin1_general_ci	16.0 KiB	-
8 tables	Sum	33	InnoDB	utf8mb4_0900_ai_ci	128.0 KiB	0 B

2.1 Book

Book table will contain the details of all the books that have been added by the manager.

#	Name	Type	Collation	Attributes	Null	Default
1	book_isbn 🔑	varchar(20)	latin1_general_ci		No	<i>None</i>
2	book_title	varchar(60)	latin1_general_ci		Yes	<i>NULL</i>
3	book_author	varchar(60)	latin1_general_ci		Yes	<i>NULL</i>
4	book_image	varchar(40)	latin1_general_ci		Yes	<i>NULL</i>
5	book_descr	longtext	latin1_general_ci		Yes	
6	book_price	decimal(6,2)			No	<i>None</i>
7	publisherid	int		UNSIGNED	No	<i>None</i>
8	categoryid	int			Yes	<i>NULL</i>

In book table, **book_isbn** is the primary key

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	book_isbn	11	A	No	

2.2 Cart

Cart table will contain the details of the user's cart.

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	id 🔑	int			No	<i>None</i>		AUTO_INCREMENT
2	customerid	int		UNSIGNED	No	<i>None</i>		
3	date	timestamp			No	CURRENT_TIMESTAMP		DEFAULT_GENERATED

In Cart table, **id** is the primary key

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	id	4	A	No	

2.3 Cartitem

Cartitem table will contain the book that are added by the user or customer.

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	id 🔑	int			No	<i>None</i>		AUTO_INCREMENT
2	cartid	int		UNSIGNED	No	<i>None</i>		
3	productid	varchar(20)	latin1_general_ci		No	<i>None</i>		
4	quantity	tinyint		UNSIGNED	No	<i>None</i>		

In Cartitem table, **id** is the primary key

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	id	4	A	No	

2.4 Category

Category table will contain the category name of the books.

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	categoryid 🔑	int			No	None		AUTO_INCREMENT
2	category_name	varchar(60)	latin1_general_ci		No	None		

Here, **categoryid** is the primary key

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	categoryid	7	A	No	

2.5 Customer

Customer table will contain all the details of the customer

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	id 🔑	int			No	None		AUTO_INCREMENT
2	firstname	varchar(40)	latin1_swedish_ci		No	None		
3	lastname	varchar(40)	latin1_swedish_ci		No	None		
4	email	varchar(40)	latin1_swedish_ci		No	None		
5	password	varchar(40)	latin1_swedish_ci		No	None		
6	address	varchar(120)	latin1_swedish_ci		No	None		
7	city	varchar(40)	latin1_swedish_ci		No	None		
8	zipcode	varchar(40)	latin1_swedish_ci		No	None		

Here, **id** is the primary key

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

2.6 Manager

Manager table will contain the details of all the managers who have the administration access

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	name	varchar(20)	latin1_general_ci		No	None		
2	pass	varchar(40)	latin1_general_ci		No	None		

2.7 Publisher

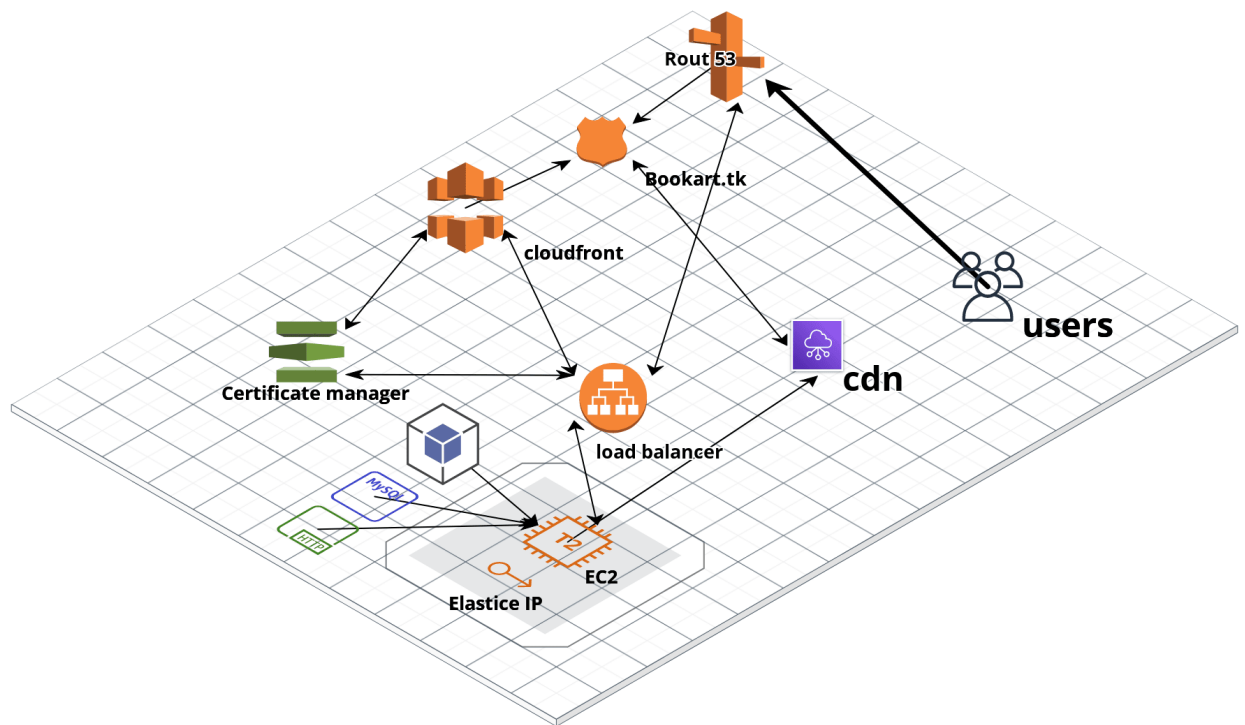
Publisher table will contain the details of the publisher who published the book

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	publisherid 🔑	int		UNSIGNED	No	None		AUTO_INCREMENT
2	publisher_name	varchar(60)	latin1_general_ci		No	None		

Here, **publisherid** is the primary key

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	publisherid	5	A	No	

3 ARCHITECTURE



3.1 Steps to follow:

- Create EC2 Instance and configure it with PHP, PhpMyAdmin, MYSQL, HTTP
- Associate an Elastic IP with EC2 instance
- Create a hosted zone in R53
- Create Certificate Manager for SSL
- Create Load Balancer and configure ACM
- Configure CloudFront