**Project Name**

Laboratory Inventory Management System in Mule Soft with API -LED

**Use Case**

Laboratory Management System is developed using Mule API-LED. Talking about the project, it contains an admin side where a user can manage all the inventory records. The admin plays an important role in the management of this system. In this project, the user has to perform all the main functions from the admin side which directly connects to database.

**System API**

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| --- | --- | --- | --- |
| **S.No** | **Resource Link** | **Description** | **Operations** |
| 1 | http://localhost:8081/api/user | To create a new User record | POST |
| 2 | http://localhost:8081/api/user | To fetch all User records | GET |
| 3 | http://localhost:8081/api/user?id=7 | To update User record based on id | PUT |
| 4 | http://localhost:8081/api/user?id=7 | To delete User record based on id | DELETE |
| 5 | http://localhost:8081/api/user/7 | To get User based on id | GET |
| 6 | http://localhost:8081/api/user/7 | To delete User based on id | DELETE |
| 7 | http://localhost:8081/api/room\_equipment | To create a new Room\_equipment record | POST |
| 8 | http://localhost:8081/api/room\_equipment | To fetch all Room\_equipment records | GET |
| 9 | http://localhost:8081/api/room\_equipment?id=18 | To update Room\_equipment record based on id | PUT |
| 10 | http://localhost:8081/api/room\_equipment?id=18 | To delete Room\_equipment record based on id | DELETE |
| 11 | http://localhost:8081/api/room\_equipment/18 | To get Room\_equipment based on id | GET |
| 12 | http://localhost:8081/api/room\_equipment/18 | To delete Room\_equipment based on id | DELETE |
| 13 | http://localhost:8081/api/room | To create a new Room record | POST |
| 14 | http://localhost:8081/api/room | To fetch all Room records | GET |
| 15 | http://localhost:8081/api/room?id=15 | To update Room record based on id | PUT |
| 16 | http://localhost:8081/api/room?id=15 | To delete Room record based on id | DELETE |
| 17 | http://localhost:8081/api/room/15 | To get Room based on id | GET |
| 18 | http://localhost:8081/api/room/15 | To delete Room based on id | DELETE |
| 19 | http://localhost:8081/api/reservation\_status | To create a new Reservation\_status record | POST |
| 20 | http://localhost:8081/api/reservation\_status | To fetch all Reservation\_status records | GET |
| 21 | http://localhost:8081/api/reservation\_status?reservation\_code=0217202006314801 | To update Reservation\_status record based on id | PUT |
| 22 | http://localhost:8081/api/reservation\_status?reservation\_code=0217202006314801 | To delete Reservation\_status record based on id | DELETE |
| 23 | http://localhost:8081/api/reservation\_status/17 | To get Reservation\_status based on id | GET |
| 24 | http://localhost:8081/api/reservation\_status/17 | To delete Reservation\_status based on id | DELETE |
| 25 | http://localhost:8081/api/reservation | To create a new Reservation record | POST |
| 26 | http://localhost:8081/api/reservation | To fetch all Reservation records | GET |
| 27 | http://localhost:8081/api/reservation?id=3 | To update Reservation record based on id | PUT |
| 28 | http://localhost:8081/api/reservation?id=3 | To delete Reservation record based on id | DELETE |
| 29 | http://localhost:8081/api/reservation/3 | To get Reservation based on id | GET |
| 30 | http://localhost:8081/api/reservation/3 | To delete Reservation based on id | DELETE |
| 31 | http://localhost:8081/api/member | To create a new Member record | POST |
| 32 | http://localhost:8081/api/member | To fetch all Member records | GET |
| 33 | http://localhost:8081/api/member?m\_department=BSCE | To update Member record based on m\_department=BSCE | PUT |
| 34 | http://localhost:8081/api/member?m\_department=BSCE | To delete Member record based on m\_department=BSCE | DELETE |
| 35 | http://localhost:8081/api/member/lucky | To get Member based on member name | GET |
| 36 | http://localhost:8081/api/member/lucky | To delete Member based on member name | DELETE |
| 37 | http://localhost:8081/api/item\_transfer | To create a new Item\_transfer record | POST |
| 38 | http://localhost:8081/api/item\_transfer | To fetch all Item\_transfer records | GET |
| 39 | http://localhost:8081/api/item\_transfer?id=4 | To update Item\_transfer record based on id | PUT |
| 40 | http://localhost:8081/api/item\_transfer?id=4 | To delete Item\_transfer record based on id | DELETE |
| 41 | http://localhost:8081/api/item\_transfer/4 | To get Item\_transfer based on id | GET |
| 42 | http://localhost:8081/api/item\_transfer/4 | To delete Item\_transfer based on id | DELETE |
| 43 | http://localhost:8081/api/item\_stock | To create a new Item\_stock record | POST |
| 44 | http://localhost:8081/api/item\_stock | To fetch all Item\_stock records | GET |
| 45 | http://localhost:8081/api/item\_stock?item\_id=26 | To update Item\_stock record based on item\_id | PUT |
| 46 | http://localhost:8081/api/item\_stock?item\_id=26 | To delete Item\_stock record based on item\_id | DELETE |
| 47 | http://localhost:8081/api/item\_stock/23 | To get Item\_stock based on item\_stock | GET |
| 48 | http://localhost:8081/api/item\_stock/23 | To delete Item\_stock based on item\_stock | DELETE |
| 49 | http://localhost:8081/api/item\_inventory | To create a new Item\_inventory record | POST |
| 50 | http://localhost:8081/api/item\_inventory | To fetch all Item\_inventory records | GET |
| 51 | http://localhost:8081/api/item\_inventory?id=10 | To update Item\_inventory record based on id | PUT |
| 52 | http://localhost:8081/api/item\_inventory?id=10 | To delete Item\_inventory record based on id | DELETE |
| 53 | http://localhost:8081/api/item\_inventory/9 | To get Item\_inventory based on id | GET |
| 54 | http://localhost:8081/api/item\_inventory/9 | To delete Item\_inventory based on id | DELETE |
| 55 | http://localhost:8081/api/item | To create a new Item record | POST |
| 56 | http://localhost:8081/api/item | To fetch all Item records | GET |
| 57 | http://localhost:8081/api/item?i\_category=audio-jack | To update Item record based on i\_category | PUT |
| 58 | http://localhost:8081/api/item?id=29 | To delete Item record based on id | DELETE |
| 59 | http://localhost:8081/api/item | To get Item based on id | GET |
| 60 | http://localhost:8081/api/item | To delete Item based on id | DELETE |
| 61 | http://localhost:8081/api/borrow | To create a new Borrow record | POST |
| 62 | http://localhost:8081/api/borrow | To fetch all Borrow records | GET |
| 63 | http://localhost:8081/api/borrow?member\_id=6 | To update Borrow record based on member\_id | PUT |
| 64 | http://localhost:8081/api/borrow?id=13 | To delete Borrow record based on id | DELETE |
| 65 | http://localhost:8081/api/borrow/12 | To get Borrow based on id | GET |
| 67 | http://localhost:8081/api/borrow/13 | To delete Borrow based on id | DELETE |
| 68 | http://localhost:8081/api/history\_logs | To create a new History\_logs record | POST |
| 69 | http://localhost:8081/api/history\_logs | To fetch all History\_logs records | GET |
| 70 | http://localhost:8081/api/history\_logs?table\_name=equipment123 | To update History\_logs record based on table\_name | PUT |
| 71 | http://localhost:8081/api/history\_logs?id=57 | To delete History\_logs record based on id | DELETE |
| 72 | http://localhost:8081/api/history\_logs/50 | To get History\_logs based on id | GET |
| 73 | http://localhost:8081/api/history\_logs/59 | To delete History\_logs based on id | DELETE |
| 74 | http://localhost:8081/api/equipment | To create a new Equipment record | POST |
| 75 | http://localhost:8081/api/equipment | To fetch all Equipment records | GET |
| 78 | http://localhost:8081/api/equipment?id=103 | To update Equipment record based on id | PUT |
| 79 | http://localhost:8081/api/equipment?id=103 | To delete Equipment record based on id | DELETE |
| 80 | http://localhost:8081/api/equipment/104 | To get Equipment based on id | GET |
| 81 | http://localhost:8081/api/equipment | To delete Equipment based on id | DELETE |
| 82 | http://localhost:8081/api/equipment\_inventory | To create a new Equipment\_inventory record | POST |
| 83 | http://localhost:8081/api/equipment\_inventory | To fetch all Equipment\_inventory records | GET |
| 84 | http://localhost:8081/api/equipment\_inventory?id=3 | To update Equipment\_inventory record based on id | PUT |
| 85 | http://localhost:8081/api/equipment\_inventory?id=3 | To delete Equipment\_inventory record based on id | DELETE |
| 86 | http://localhost:8081/api/equipment\_inventory/2 | To get Equipment\_inventory based on id | GET |
| 87 | http://localhost:8081/api/equipment\_inventory/2 | To delete Equipment\_inventory based on id | DELETE |

**Use Case**

This is the application user interface where all the business logic/code is written. In technical terms, this is where code/algorithm resides. This API employs the application to allow input from users, evaluate it based on the condition, validates the request and sends back the response.

**LIMS Process API**

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| --- | --- | --- | --- | --- |
| **S.No** | **Resource Name** | **Resource Link** | **Description** | **Operations** |
| 1 | Create-User | http://localhost:8082/api/User?admin\_id=4&typer=1 | To create a new User record | POST |
| 2 | Create-Room\_equipment | http://localhost:8082/api/Room\_equipment?admin\_id=4&typer=1 | To create a new Room\_equipment record | POST |
| 3 | Create-Room | http://localhost:8082/api/Room?admin\_id=4&typer=1 | To create a new Room record | POST |
| 4 | Create-Reservation\_status | http://localhost:8082/api/Reservation\_status?admin\_id=4&typer=1 | To create a new Reservation\_status record | POST |
| 5 | Create-Reservation | http://localhost:8082/api/Reservation?admin\_id=4&typer=1 | To create a new Reservation record | POST |
| 6 | Create-Member | http://localhost:8082/api/Member?admin\_id=4&typer=1 | To create a new Member record | POST |
| 7 | Create-Item\_transfer | http://localhost:8082/api/Item\_transfer?admin\_id=4&typer=1 | To create a new Item\_transfer record | POST |
| 8 | Create-Item\_stock | http://localhost:8082/api/Item\_stock?admin\_id=4&typer=1 | To create a new Item\_stock record | POST |
| 9 | Create-Item\_inventory | http://localhost:8082/api/Item\_inventory?admin\_id=4&typer=1 | To create a new Item\_inventory record | POST |
| 10 | Create-Item | http://localhost:8082/api/Item?admin\_id=4&typer=1 | To create a new Item record | POST |
| 11 | Create-History\_logs | http://localhost:8082/api/History\_logs?admin\_id=4&typer=1 | To create a new History\_logs record | POST |
| 12 | Create-Equipment\_inventory | http://localhost:8082/api/Equipment\_inventory?admin\_id=4&typer=1 | To create a new Equipment\_inventory record | POST |
| 13 | Create-Equipment | http://localhost:8082/api/Equipment?admin\_id=4&typer=1 | To create a new Equipment record | POST |
| 14 | Create-Borrow | http://localhost:8082/api/Borrow?admin\_id=4&typer=1 | To create a new Borrow record | POST |
| 15 | Fetch-User from User | http://localhost:8082/api/User | To fetch all User records | GET |
| 16 | Fetch-view\_equipment from Room | http://localhost:8082/api/Room\view\_equipment | To fetch view\_equipment record | GET |
| 17 | Fetch-tbluser\_reservation from reservation | http://localhost:8082/api/Reservation\tbluser\_reservation | To fetch tbluser\_reservation record | GET |
| 18 | Fetch-tbluser\_inbox from Reservation\_status | http://localhost:8082/api/Reservation\_status\tbluser\_inbox | To fetch tbluser\_inbox record | GET |
| 19 | Fetch-tbl\_member\_profile from Borrow | http://localhost:8082/api/Borrow\tbl\_member\_profile | To fetch tbl\_member\_profile record | GET |
| 20 | Fetch-table\_history from History-logs | http://localhost:8082/api/History\_logs\table\_history | To fetch table\_history record | GET |
| 21 | Fetch-rooms from Room | http://localhost:8082/api/Room/rooms | To fetch Rooms record | GET |
| 22 | Fetch-table\_dashboard from Item\_stock | http://localhost:8082/api/Item\_stock\table\_dashboard | To fetch table\_dashboard record | GET |
| 23 | Fetch-room\_reserve from Room | http://localhost:8082/api/Room/room\_reserve | To fetch room\_reserve record | GET |
| 24 | Fetch-roomInfo from Room | http://localhost:8082/api/Room/roomInfo | To fetch roomInfo record | GET |
| 25 | Fetch-pending\_reservation from Reservation | http://localhost:8082/api/Reservation/pending\_reservation | To fetch pending\_reservation record | GET |
| 26 | Fetch-newtransaction from Equipment | http://localhost:8082/api/Equipment/newtransaction | To fetch newtransaction record | GET |
| 27 | Fetch-memberselect from Member | http://localhost:8082/api/Member/memberselect?m\_status=1&m\_fname=lucky | To fetch memberselect record based on m\_status and m\_fname | GET |
| 28 | Fetch-loadReservationJSON from Reservation | http://localhost:8082/api/Reservation\loadReservationsJSON | To fetch loadReservationJSON record | GET |
| 29 | Fetch-item\_borrow from item\_stock | http://localhost:8082/api/Item\_stock/item\_borrow | To fetch item\_borrow record | GET |
| 30 | Fetch-equipmentinfo from Item\_stock | http://localhost:8082/api/Item\_stock\equipmentinfo | To fetch equipmentinfo record | GET |
| 31 | Fetch-equipment\_pulled from equipment\_inventory | http://localhost:8082/api/Equipment\_inventory/equipment\_pulled | To fetch equipment\_pulled record | GET |
| 32 | Fetch-equipment\_old from equipment\_inventory | http://localhost:8082/api/Equipment\_inventory\equipment\_old | To fetch equipment\_old record | GET |
| 33 | Fetch-equipment\_new from equipment\_inventory | http://localhost:8082/api/Equipment\_inventory/equipment\_new | To fetch equipment\_new record | GET |
| 34 | Fetch-equipment\_all from Item | http://localhost:8082/api/Item/equipment\_all | To fetch equipment\_all record | GET |
| 35 | Fetch-dashboard\_history from History-logs | http://localhost:8082/api/History\_logs/dashboard\_history | To fetch dashboard\_history record | GET |
| 36 | Fetch-count\_reservation from Reservation | http://localhost:8082/api/Reservation/count\_reservation | To fetch count\_reservation record | GET |
| 37 | Fetch-count\_pendingres from Reservation | http://localhost:8082/api/Reservation/count\_pendingres | To fetch count\_pendingres record | GET |
| 38 | Fetch-count\_due\_borrow from Borrow | http://localhost:8082/api/Borrow/count\_due\_borrow | To fetch count\_due\_borrow record | GET |
| 39 | Fetch-count\_client from Member | http://localhost:8082/api/Member/count\_client | To fetch count\_client record | GET |
| 40 | Fetch-count\_cancelres from Reservation | http://localhost:8082/api/Reservation/count\_cancelres | To fetch count\_cancelres record | GET |
| 41 | Fetch-count\_acceptres from Reservation | http://localhost:8082/api/Reservation\count\_acceptres | To fetch count\_acceptres record | GET |
| 42 | Fetch-chart\_return from Borrow | http://localhost:8082/api/Borrow/chart\_return | To fetch chart\_return record | GET |
| 43 | Fetch-chart\_inventory from item\_inventory | http://localhost:8082/api/Item\_inventory/chart\_inventory | To fetch chart\_inventory record | GET |
| 44 | Fetch-chart\_borrow from Borrow | http://localhost:8082/api/Borrow/chart\_borrow | To fetch chart\_borrow record | GET |
| 45 | Fetch-chartFrequency from Borrow | http://localhost:8082/api/Borrow/chartFrequency | To fetch chartFrequency record | GET |
| 46 | Fetch-accept\_reservation from Reservation | http://localhost:8082/api/Reservation/accept\_reservation | To fetch accept\_reservation record | GET |
| 47 | Fetch-Room | http://localhost:8082/api/Room?rm\_status=1 | To fetch Room record  based on rm\_status | GET |
| 48 | Fetch-Member | http://localhost:8082/api/Member | To fetch all Member records | GET |
| 49 | Fetch-Equipment | http://localhost:8082/api/Equipment | To fetch all Equipment records | GET |
| 50 | Fetch-Borrow | http://localhost:8082/api/Borrow | To fetch all Borrow records | GET |
| 51 | Update-Room | http://localhost:8082/api/Room?id=1 | To update Room record based on id | PUT |
| 52 | Update-Item | http://localhost:8082/api/Item?i\_deviceID=21 | To update Item record based on i\_deviceID | PUT |
| 53 | Update-edit\_user from User | http://localhost:8082/api/User/edit\_user?id=1 | To update edit\_user record based on id | PUT |
| 54 | Update-accept\_reservation from Reservation | http://localhost:8082/api/Reservation\accept\_reservation?reservation\_code=123 | To update accept\_reservation record based on reservation\_code | PUT |
| 55 | Update-active\_member from Member | http://localhost:8082/api/Member\activate\_member?id=2 | To update active\_member record based on reservation\_code | PUT |
| 56 | Update-activate\_user from User | http://localhost:8082/api/User\activate\_user?id=1 | To update active\_user record based on id | PUT |
| 57 | Update-borrowreserve from Item\_stock | http://localhost:8082/api/Item\_stock\borrowreserve?id=1 | To update borrowreserve record based on id | PUT |
| 58 | Update-cancel\_reservation from Reservation | http://localhost:8082/api/Reservation\cancel\_reservation?reservation\_code=34234 | To update cancel\_reservation record based on reservation\_code | PUT |
| 59 | Update-changepassword from User | http://localhost:8082/api/User\changepassword?id=1 | To update changepassword record based on id | PUT |
| 60 | Update-deactive\_member from Member | http://localhost:8082/api/Member\deactivate\_member?id=12 | To update deactive\_member record based on id | PUT |
| 61 | Update-deactive\_user from User | http://localhost:8082/api/User\deactivate\_user?id=2 | To update deactive\_user record based on id | PUT |
| 62 | Update-edit\_member from Member | http://localhost:8082/api/Member\edit\_member?id=2 | To update edit\_member record based on id | PUT |
| 63 | Update-equipment\_status from Item-stock | http://localhost:8082/api/Item\_stock\equipmentstatus?item\_id=2&item\_status=1 | To update equipment\_status record based on item\_id and item\_status | PUT |
| 64 | Update-moveroom from Room\_equipment | http://localhost:8082/api/Room\_equipment\moveroom?room\_id=308&equipment\_id=123 | To update moveroom record based on room\_id and equipment\_id | PUT |
| 65 | Update-return\_item from Item\_stock | http://localhost:8082/api/Item\_stock\return\_item?id=1 | To update return\_item record based on id | PUT |
| 66 | Update-return\_item from Borrow | http://localhost:8082/api/Borrow\return\_item?borrowcode=123456 | To update return\_item record based on borrowcode | PUT |
| 67 | Update-return\_transfer | http://localhost:8082/api/Item\_stock\return\_transfer?id=2 | To update return\_transfer record based on id | PUT |