

Service Layer

UserService
- uc: userController
+ Register(email: string, password: string): string + Login(email:string, password:string): string + Logout(email:string): string + ChangePassword(email:string, oldP:string, newP:string): string + InProgressTasks(email:string): string - ReturnJson(response:Response): string + LoadData(): string + DeleteData(): string

BoardService
-uc: UserController - bc: BoardController
+ AddBoard(email:string, boardName:string): string + RemoveBoard(email:string, boardName:string): string + ChangeOwner(ownerEmail:string,newOwnerEmail:string, boardID:int): string + JoinBoard(email:string, BoardID:int):string + LeaveBoard(email:string, BoardID:int):string + GetBoardName(boardID: int): string - ReturnJson(response:Response):string + LoadData(): string + DeleteData(): string

Response
+ ErrorMessage:string + ReturnValue: object

TaskService
-uc:UserController
+ AdvanceTask(email:string, boardName:string, columnOrdinal:int, taskID:int): string + AddTask(email:string, boardName:string, title:string, description:string, dueDate:DateTime): string + GetColumn(email:string, boardName:string, columnOrdinal:int): string + UpdateTaskDueDate (email:string, dueDate:DateTime, boardName:string, columnOrdinal:int, taskID:int): string + UpdateTaskTitle (email:string, boardName:string, columnOrdinal:int, taskID:int, title:string): string + UpdateTaskDescription (email:string, boardName:string, columnOrdinal:int, taskID:int, Description:string): string + AssignTask(currEmail:string, moveToEmail:string, taskID:int, boardID) - ReturnJson(response:Response):string

ColumnService
-uc:UserController
+ LimitColumn (email:string, boardName:string, columnOrdinal:int, limit:int): string + GetColumnName(email:string, boardName:string, columnOrdinal:int):string + GetColumnLimit(email:string, boardName:string, columnOrdinal:int): string - ReturnJson(response:Response):string

Business Layer

User
-boards:Dictionary:<string,Board> + UserEmail: string + Password: string + Status: bool -UC:UserController -UserDTO:UserDTO
+ Login(useremail:string, password:string): void + Logout(useremail:string): void + ChangePassword(oldP:string, newP:string): void + InProgressTasks(): List<Task> + IsExists(name:string):bool + GetBoard(name:string):Board + JoinBoard(email:string, BoardID:int):string + LeaveBoard(email:string, BoardID:int):string

UserController
-users: Dictionary<string, user>
+ CreateUser(email:string, password:string): void + DeleteUser(email:string, password:string): void + IsExists(email:string): bool + GetUser(email:string): User + IsValidPassword(password:string): bool + IsValidEmail(email:string):bool + IsLogIn(email:string):bool + LoadData(): void +removeData():void

Column
+ Limit: int + Name: string + Tasks: Dictionary<int,Task>
+ LimitColumn(limit: int): void + AddTask(title:string, description:string, dueDate:DateTime): void + GetTask(taskID:int):Task + IsExists(taskID:int):bool

Board
<ul style="list-style-type: none">- columns:List<Column>- taskIdCounter:int+ Name: string-owner:string-IDCounter:int-boardID:int-members:List<user>-UC:UserController-BoardDTO:BoardDTO
<ul style="list-style-type: none">+ EditName(name:string): void+ AdvanceTask(columnOrdinal:int, taskId:int): void+ GetColumn(columnOrdinal:int):Column+ ChangeOwner(ownerEmail:string,newOwnerEmail:string, boardID:int)

Task
-CreationDate: DateTime -DueDate: DateTime -Title: string -Description: string -taskID: int -assignee:string -TaskDTO:TaskDTO
+ UpdateTaskDueDate(dueDate:DateTime): void + UpdateTaskTitle(title:string): void + UpdateTaskDescription(Description:string): void + ChangeAssignee(currEmail:string, moveToEmail:string, taskID:int, boardID) + IsAssignee(email:string):boolean

BoardController
- board: Dictionary<string, Board> - IDcounter: int - uc: UserController
+ AddBoard(User:user, name:string): void + RemoveBoard(name:string): void + LoadData(): void +removeData():void

DataAccessLayer

UserDTO	BoardDTO	TaskDTO	UserBoardDTO
- _status: boolean	- _id: int	- _creationDate: DateTime	+ _user

<div><div>- _email:string</div><div>- _password:string</div></div>	<div><div>- _name:string</div><div>- _tasks:list<Tasks></div><div>- _permissions:Dictionary<string,UserBoardDTO></div><div>- _owner:string</div></div>	<div><div>- _dueDate: DateTime</div><div>- _title: string</div><div>- _description: string</div><div>- _taskID: int</div><div>- _assignee: string</div></div>	<div><div>+ _boardID</div><div>+ _type</div></div>
<div>+ Method(type): type</div>	<div>+ AddTask(title:string, description:string, dueDate:DateTime): Task</div>	<div>+ Method(type): type</div>	<div>+ Method(type): type</div>