LAAS message protocol for client-server communication

Function	Precondition		#	Data1	Data2	Data3	Data4	Data5	Data6	Data7	Data8	
Login	None	$C \rightarrow S$	1	Email	Password							
Result of login attempt	Login attempt received at server	$S \to C$	2	"ok" /"no"	Exception- message / "null"	Email	SysID	Name	admin boolean 1/0	Password		
Alter a gadgets' state [Key feature]	User makes request to alter a gadget's state	$C \rightarrow S$	3	ID integer	New state integer							
Update all gadgets' states [Key feature]	User has updated a gadget's state	$S \rightarrow C$	4	"notnull" / "null"	ID integer	State integer	"next" / "null" next = from Data2					
Request all gadgets' info	User has just logged in	$C \rightarrow S$	5									
Edit gadgets' info	Admin user makes request to edit gadget info	$C \rightarrow S$	6	Туре	ID integer	Name	Room	Consumpt				
Add a gadget	Admin user makes request to add a gadget	$C \rightarrow S$	7a	Туре	Name	Room	Consumpt					
Delete a gadget	Admin user requests to delete a gadget	$C \rightarrow S$	7b	ID integer								
Update all gadgets' info	Gadget info updated, or user just logged in	$S \rightarrow C$	8	"notnull" / "null"	Туре	ID integer	Name	Room	State integer	Consumpt	"next" / "null" next = from Data2	
Request all user info	Admin user requests its system's users	$C \rightarrow S$	9									

Edit user info	Admin user makes request to edit users' info	$C \rightarrow S$	10	Email	Name	admin boolean 1/0	Password of non-admins and client's own		
Add a user	Admin user makes request to add a user	$C \rightarrow S$	11a	Email	Name	admin boolean 1/0	Password if new user is admin		
Delete a user	Admin user makes request to delete a user	$C \rightarrow S$	11b	Email					
Update all users info	Admin user has made request to update users' info	$S \rightarrow C$	12	Email	Name	admin boolean 1/0	Password of non-admins	"next" / "null" next = from Data1	
Request log	User makes request to receive log	$C \rightarrow S$	13						
Receive log	User has made request to receive log	$S \to C$	14	Timestam p	Log	"next" / "null" next = from Data1			
Exception message	User request has failed	$S \to C$	15	Exception message					
Logout	User has requested logout	$C \rightarrow S$	16						
Connection fail	Client lost connection with server	C → C Thread communication	17						

Commands are separated by colon

Purple = Instance variables of the referred object(s)

Examples

Update a gadgets' state (C \rightarrow S) example: "3:1:1"

Above: Client requests a lamp to turn on.

Notes

- Naming users/gadgets should not allow colon (":").
- Server already knows the systemID of each active clients, from which it receives requests, so sending systemID to server is redundant.