

LAAS message protocol for client-server communication

Function	Precondition	Direction Client Server	#	Data1	Data2	Data3	Data4	Data5	Data6	Data7	Data8	Data9
Login	None	C → S	1	Email	Password							
Result of login attempt	Login attempt received at server	S → C	2	“ok” /”no”	Exception-message / ”null”	Email	SysID	Name	AccessLvl	Password		
Update a gadgets’ state	User makes request to update a gadget’s state	C → S	3	SysID (of client making request)	Type	ID	New state					
Update all gadgets’ states	User has updated a gadget’s state	S → C	4	“nonnull” / “null”	Type	ID	State	“next” / “null” next = from Data2				
Update gadgets’ info	User makes request to update gadget info	C → S	5	SysID (of client making request)	Type	ID	“remove” / “keep” Default: keep	Name	Room	State	Consumpt	“next” / “null” next = from Data2
Add a gadget	User makes request to add a gadget	C → S	6	SysID (of client making request)	Type	Name	Room	Consumpt				
Update gadgets’ info	User has updated gadget info	S → C	7	“nonnull” / “null”	Type	ID	Name	Room	State	Consumpt	“next” / “null” next = from Data2	
Update users	User makes request to update users’ info	C → S	8	SysID (of client making request)	Email	Name	“remove” / “keep” Default: keep	Password of non-admins and client’s own			AccessLvl	“next” / “null” next = from Data2
Add a user	User makes request to add a user	C → S	9	SysID (of client making request)	Email	Name	Password	AccessLvl				
Update users	User has made request to update users’ info	S → C	10	SysID (of client making request)	Email	Name	Password of non-admins and client’s own			AccessLvl	“next” / “null” next = from Data2	

Request log	User makes request to receive log	C → S	11	SysID (of client making request)								
Receive log	User has made request to receive log	S → C	12	One log	“next” / “null” next = from Data1							
Exception message	User request has failed	S → C	13	Exception message								

Commands are separated by colon

Purple = Instance variables of the referred object(s)

Examples

Update a gadgets’ state (C → S) example: “3:1:Lamp:3:On”

Above: Client requests a lamp to turn on.

Update gadgets’ info (C → S) example: “5:1:Lamp:3:keep:LampOne:kitchen:On:25:next:Door:2:keep:FrontDoor:Hall:Locked:5:null”

Above: Two gadgets (a lamp and a door) and all their info is sent to the server.

= CommandNumber:SysID:GadgetType:Keep(don’t remove):GadgetName:Room:State:Consumption:Next(read in one more gadget; a door)

Notes

Naming users/gadgets should not allow colon (“:”).