DISTRIBUTED CLASS MANAGEMENT SYSTEM DESIGN DOCUMENTATION

version 1.0

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1. System Architecture

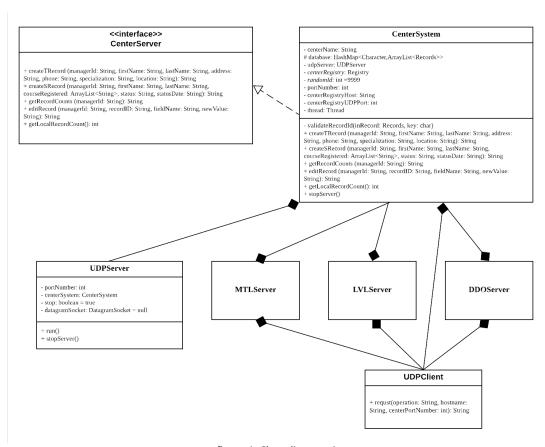


figure 1. Class diagram 1

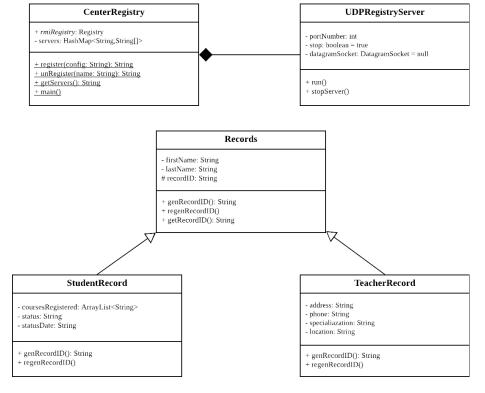


figure 2. Class diagram 2

2. Test Scenario

DCMS Test Scenario # TS001						
Version	#:	1.0		Test Scenario ID:	TS00	1
Objectiv	e:	Can successfully cre	ate a RMI	Registry and close it b	y pressi	ng stop.
Assump Constrai		-				
Test Ste	ps:					
Step #		Description	Ex	pected Result		Actual Result
Execute CenterRegistry to 1 create a RMI registry for the servers.		registry a	fully create a RMI and print related on logs in console.	As exp	pected.	
2	Stop Cen the service	terRegistry to close ces.		created RMI registry related information onsole.	As exp	pected.
DCMS Test Scenario # TS002						
Version #: 1.0			Test Scenario ID:	TS002	2	
Objective: Can successfully sta			rt MTL ser	ver based on the crea	ted RMI	registry.
Assumptions/ Constraints: The RMI registry has bee				ated successfully.		
Test Steps:						
Step #		Description		Expected Result		Actual Result
1		CenterRegistry to RMI registry for the	Successfully create a RMI registry and print related information logs in console.		As expected.	
Execute MTLServer to start the server for MTL.		Successfully start the MTL server and print succeed log in console of MTLServer and the register information of MTL server in console of CenterRegistry.				
	tile serve		informati	on of MTL server in co	nsole	As expected.
3	Stop MTL	r for MTL.	informati of Cente Stop MT	on of MTL server in co		As expected. As expected.
3	Stop MTI	r for MTL. server. terRegistry to close	informati of Cente Stop MT informati	on of MTL server in co rRegistry. L server and print relat	red	
4	Stop MTL Stop Cen the service	r for MTL. server. terRegistry to close	informati of Cente Stop MT informati Stop the print rela console.	on of MTL server in corRegistry. L server and print relation logs in console. created RMI registry a	red	As expected.
4	Stop MTL Stop Centhe service Test S	r for MTL. server. terRegistry to close ces.	informati of Cente Stop MT informati Stop the print rela console.	on of MTL server in corRegistry. L server and print relation logs in console. created RMI registry a	red	As expected. As expected.
4 DCMS	Stop MTL Stop Cen the service Test S #:	terRegistry to close ces. cenario # TS00	informati of Cente Stop MT informati Stop the print rela console.	on of MTL server in corRegistry. L server and print relation logs in console. created RMI registry atted information logs in	red and TS003	As expected. As expected.
4 DCMS Version	Stop MTL Stop Cen the service Test S #: e: tions/	terRegistry to close ces. cenario # TS00	Stop MT informati Stop the print rela console. 13 rt LVL serv	on of MTL server in corRegistry. L server and print relation logs in console. created RMI registry atted information logs in Test Scenario ID:	red and TS003	As expected. As expected.
4 DCMS Version Objectiv Assump	Stop MTL Stop Centhe service Test S #: e: tions/ nts:	terRegistry to close ces. cenario # TS00 1.0 Can successfully sta	Stop MT informati Stop the print rela console. 13 rt LVL serv	on of MTL server in corRegistry. L server and print relation logs in console. created RMI registry atted information logs in Test Scenario ID:	red and TS003	As expected. As expected.

1		CenterRegistry to RMI registry for the	Successfully create a RMI registry and print related information logs in console.		As expected.	
Execute LVLServer to start the server for LVL.		print suc LVLServ informati	Successfully start the LVL server and print succeed log in console of LVLServer and the register information of LVL server in console of CenterRegistry.		As expected.	
3	3 Stop LVL server.			server and print relate on logs in console.	ed	As expected.
4	Stop CenterRegistry to close the services.			created RMI registry a ted information logs in	nd	As expected.
DCMS Test Scenario # TS004						
Version	#:	1.0		Test Scenario ID:	TS004	1
Objectiv	e:	Can successfully sta	rt DDO se	rver based on the crea	ted RMI	registry.
Assumptions/ Constraints: The RMI registry		The RMI registry has	been crea	ated successfully.		
Test Steps:						
Step#		Description		Expected Result		Actual Result
1		CenterRegistry to RMI registry for the	Successfully create a RMI registry and print related information logs in console.		As expected.	
2		DDOServer to start r for DDO.	Successfully start the DDO server and print succeed log in console of DDOServer and the register information of DDO server in console of CenterRegistry.		As expected.	
3	Stop DD0	O server.	Stop DDO server and print related information logs in console.		As expected.	
4	Stop CenterRegistry to close the services.		Stop the created RMI registry and print related information logs in console.		As expected.	
DCMS	Test S	cenario # TS00)5			
Version	#:	1.0		Test Scenario ID:	TS005	5
Objectiv	e:	Can successfully start LVL server based on the created RMI registry and with MTL server started.				
Assump Constra		The RMI registry has successfully.	been crea	ated successfully, and	the MTL	server has started
Test Ste	ps:					
Step#		Description		Expected Result		Actual Result
1		CenterRegistry to RMI registry for the		fully create a RMI regis related information log		As expected.
1						

Execute MTLServer to start the server for MTL.		Successfully start the MTL server and print succeed log in console of MTLServer and the register information of MTL server in console of CenterRegistry.		As expected.		
3 Execute LVLServer to start the server for LVL.		Successfully start the LVL server and print succeed log in console of LVLServer and the register information of LVL server in console of CenterRegistry.		As expected.		
4	Stop servers.			L server and LVL serverelated information logs		As expected.
5	Stop Cen the service	terRegistry to close ces.		created RMI registry a ted information logs in		As expected.
DCMS	Test S	cenario # TS00)6			
Version	#:	1.0		Test Scenario ID:	TS00	6
Objectiv	e:	Can successfully sta server started.	rt DDO se	rver based on the crea	ited RM	II registry and with LVL
	Assumptions/ Constraints: The RMI registry has successfully.		been crea	ated successfully, and	the LVI	server has started
Test Ste	ps:					
Step#		Description	Expected Result			Actual Result
	Execute CenterRegistry to create a RMI registry for the			=xpootou rtoouit		
1			and print console.	fully create a RMI regis related information loo	gs in	As expected.
2	create a l servers.		and print console. Success and print DDOSer informati console	fully create a RMI regist related information log fully start the DDO server and the register on of DDO server in of CenterRegistry.	yer e of	As expected. As expected.
	create a l servers. Execute l the serve	DDOServer to start r for DDO. VLServer to start	and print console. Success and print DDOSer informati console of Success and print LVLServ informati	fully create a RMI regist related information log fully start the DDO server and the register on of DDO server in	yer e of	·
2	create a servers. Execute I the serve	DDOServer to start r for DDO. LVLServer to start r for LVL.	and print console. Success and print DDOSer informati console of Success and print LVLServ informati console of Stop DDO	fully create a RMI register related information log fully start the DDO server and the register on of DDO server in of CenterRegistry. Fully start the LVL server and the register on of MTL server in of CenterRegistry. O server and LVL serveting related information	yer e of er e of	As expected.
3	Execute I the serve	DDOServer to start r for DDO. LVLServer to start r for LVL. Vers.	and print console. Success and print DDOSer informati console of Success and print LVLServ informati console of Stop DDO with print in consol	fully create a RMI register related information log fully start the DDO server and the register on of DDO server in of CenterRegistry. Fully start the LVL server and the register on of MTL server in of CenterRegistry. O server and LVL serveting related information	yer e of er e of	As expected. As expected.
3 4 5	Execute I the serve Stop Serve Stop Cen the service	DDOServer to start r for DDO. LVLServer to start r for LVL. Vers.	and print console. Success and print DDOSer informati console of Success and print LVLServ informati console of Stop DDO with print in consol Stop the print relaconsole.	fully create a RMI regist related information log fully start the DDO server and the register on of DDO server in of CenterRegistry. Fully start the LVL server succeed log in consoler and the register on of MTL server in of CenterRegistry. O server and LVL serveting related information lee.	yer e of er e of	As expected. As expected. As expected.
3 4 5	Execute I the serve Stop Serve Stop Centhe service Test S	DDOServer to start r for DDO. VLServer to start r for LVL. vers. terRegistry to close ses.	and print console. Success and print DDOSer informati console of Success and print LVLServ informati console of Stop DDO with print in consol Stop the print relaconsole.	fully create a RMI regist related information log fully start the DDO server and the register on of DDO server in of CenterRegistry. Fully start the LVL server succeed log in consoler and the register on of MTL server in of CenterRegistry. O server and LVL serveting related information lee.	yer e of er e of	As expected. As expected. As expected. As expected.

Assump Constra		The RMI registry has server have started s		ated successfully, and ly.	the LV	L server and the DDO
Test Ste	ps:					
Step#	l	Description		Expected Result		Actual Result
1	servers. console.		As expected.			
Execute LVLServer to start the server for LVL.		and print LVLServ informati	fully start the LVL serve succeed log in console er and the register on of MTL server in of CenterRegistry.		As expected.	
Execute MTLServer to start the server for MTL.		Success and print MTLServ informati	fully start the MTL servesucceed log in consolorer and the register on of MTL server in the CenterRegistry.		As expected.	
Execute DDOServer to start the server for DDO.		Successfully start the DDO server and print succeed log in console of DDOServer and the register information of DDO server in console of CenterRegistry.		As expected.		
5	5 Stop servers.		Stop DDO server, MTL server and LVL server with printing related information logs in console.		As expected.	
6	Stop Cen the service	terRegistry to close ces.	Stop the created RMI registry and print related information logs in console.		As expected.	
DCMS	Test S	cenario # TS00)8			
Versior	ı #:	1.0		Test Scenario ID:	TS00	08
Objective: Can successfully state server started and D					ed RM	II registry and with LVL
Assumptions/ Constraints: The RMI registry has server have started a				ated successfully, and ly.	the LV	L server and the DDO
Test Ste	ps:					
Step#		Description		Expected Result		Actual Result
1		CenterRegistry to RMI registry for the		fully create a RMI regis related information log		As expected.
2	Execute I	_VLServer to start r for LVL.	and print LVLServ informati	fully start the LVL serve succeed log in console er and the register on of MTL server in		As expected.

console of CenterRegistry.

Successfully start the MTL server and print succeed log in console of MTLServer and the register

information of MTL server in console of CenterRegistry.

As expected.

Execute MTLServer to start

the server for MTL.

3

4	Execute DDOServer to start the server for DDO.	Successfully start the DDO server and print succeed log in console of DDOServer and the register information of DDO server in console of CenterRegistry. Stop DDO server, MTL server and	As expected.
5	Stop servers.	LVL server with printing related information logs in console.	As expected.
6	Stop CenterRegistry to close the services.	Stop the created RMI registry and print related information logs in console.	As expected.

DCMS Test Scenario # TS009

Version #:	1.0 Test Scenario ID: TS009				
Objective:	Create a teacher record and accomplish the valid operations for the record type.				
Assumptions/ Constraints:	The RMI registry has been created successfully, and servers have started successfully				

Test Steps:

Step#	Description	Expected Result	Actual Result
1	Execute CenterRegistry to create a RMI registry for the servers.	Successfully create a RMI registry and print related information logs in console.	As expected.
2	Start one or some server(s).	Successfully start one or some server(s) for further operations.	As expected.
3	Execute Client.	Successfully start client for further operations.	As expected.
4	Enter a valid manager ID.	The operation menu will be printed in console.	As expected.
5	Enter "1" to create a teacher record.	Start to create a teacher record. Obey the prompt in console to finish the relevant fields. When finish creations of all the fields, there will be a prompt for the information of this record.	As expected.
6	Enter former manager ID for the operation after creating teacher records.	The operation menu will be printed in console.	As expected.
7	Enter "3" to view the record count.	It will prompt the record counts of each server.	As expected.
8	Enter "4" to edit the record.	It will prompt a portal to enter the record id and user can choose which field to be edit.	As expected.

9	Enter "5" to exit client.	Stop client.	As expected.
5	Stop servers.	Stop DDO server, MTL server and LVL server with printing related information logs in console.	As expected.
6	Stop CenterRegistry to close the services.	Stop the created RMI registry and print related information logs in console.	As expected.

DCMS Test Scenario # TS010

Version #:	1.0 Test Scenario ID: TS010				
Objective:	Create a student record and accomplish the valid operations for the record type.				
Assumptions/ Constraints:	The RMI registry has been created successfully, and servers have started successfully.				

Test Steps:

rest steps.						
Step #	Description	Expected Result	Actual Result			
1	Execute CenterRegistry to create a RMI registry for the servers.	Successfully create a RMI registry and print related information logs in console.	As expected.			
2	Start one or some server(s).	Successfully start one or some server(s) for further operations.	As expected.			
3	Execute Client.	Successfully start client for further operations.	As expected.			
4	Enter a valid manager ID.	The operation menu will be printed in console.	As expected.			
5	Enter "2" to create a student record.	Start to create a student record. Obey the prompt in console to finish the relevant fields. When finish creations of all the fields, there will be a prompt for the information of this record.	As expected.			
6	Enter former manager ID for the operation after creating student records.	The operation menu will be printed in console.	As expected.			
7	Enter "3" to view the record count.	It will prompt the record counts of each server.	As expected.			
8	Enter "4" to edit the record.	It will prompt a portal to enter the record id and user can choose which field to be edit.	As expected.			
9	Enter "5" to exit client.	Stop client.	As expected.			

5	Stop servers.	Stop DDO server, MTL server and LVL server with printing related information logs in console.	As expected.
6	Stop CenterRegistry to close the services.	Stop the created RMI registry and print related information logs in console.	As expected.