

Projektdokumentation EVA

Chatclient und Serveranwendung

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Inhaltsverzeichnis

1. Motivation	2
2. Problembeschreibung und Umsetzung	2
3. Anleitung	4

1. Motivation

Im Rahmen des Vorlesungsmoduls Entwicklung Verteilter Anwendungen soll ein Programm entwickelt werden, welches auf einer Server- als auch Client-Anwendung aufbaut. In dieser Vorlesung wurden die Grundlagen der verteilten Anwendungen gelegt und wie es sichergestellt werden kann, dass das Programm über Fehlerrobustheit verfügt.

Hierzu wurde sich auf ein Chat-Programm konzentriert, bei dem zwei Personen über die Client-Anwendung miteinander kommunizieren können.

Die Software sollte folgende Eigenschaften besitzen:

- Sollte ein Anwender die Verbindung verlieren, so bekommt sein Chatpartner die Verbindung, dass sein Gegenüber nicht mehr vorhanden ist
- Sollte die Verbindung wieder zu Stande kommen, da es sich nur einen kurzen Verlust der Verbindung handelte, so wird seinem Chatpartner die Anwesenheit seines Gegenübers angezeigt, solange sich dieser das Chatprogramm noch geöffnet hat
- Sollte ein Client geschlossen werden, wird dies seinem Gegenüber angezeigt
- Man muss sich mit einem Benutzernamen anmelden
- Durch die Eingabe des Nutzernamens, kann mit dem jeweiligen Nutzer gechattet werden
- Die Uhrzeit der gesendeten Nachricht wird angezeigt
- Das Programm läuft auf der Kommandozeile und hat keine grafische Oberfläche

2. Problembeschreibung und Umsetzung

Das Programm wurde in der Entwicklungsumgebung Eclipse entwickelt.

Zuerst wurde versucht, die Datei für den Server zu erstellen. Danach wurde der Chatclient entwickelt.

Das Verbinden des Chatclients mit dem Server hat am meisten Zeit in Anspruch genommen.

Zuerst wurde über einen localhost der Server mit dem Client verbunden.

Nach späterem Übertragen der Server-Datei auf den Hochschulserver kam es wieder zu Problemen zu Connect Problemen.

Nach separatem Compilen der beiden Anwendungen, warf der Chatclient viele Fehler auf, da er Klassenprobleme aufzeigte.

Folgend die Probleme:

Markers	Properties	Servers	Data Source Explorer	Snippets	Problems	Console	Call Hierarchy	
116 errors, 18 warnings, 0 others (Filter matched 118 of 134 items)								
Description					Resource	Path	Location	Type
▼ Errors (100 of 116 items)								
SpringBootTest cannot be resolved to a type					ChatserverAppl...	/chatclient/chatserver...	line 12	Java Problem
Test cannot be resolved to a type					ChatserverAppl...	/chatclient/chatserver...	line 17	Java Problem
The constructor User(String, String) is undefined					ChatClientUl.java	/chatclient/src/main/j...	line 108	Java Problem
The constructor User(String, String) is undefined					ChatserverAppl...	/chatclient/chatserver...	line 19	Java Problem
The constructor User(String, String) is undefined					ChatserverAppl...	/chatserver/src/test/j...	line 19	Java Problem
The constructor User(String, String) is undefined					SimpleUserRep...	/chatclient/chatserver...	line 15	Java Problem
The constructor User(String, String) is undefined					SimpleUserRep...	/chatclient/chatserver...	line 16	Java Problem
The constructor User(String, String) is undefined					SimpleUserRep...	/chatclient/chatserver...	line 17	Java Problem
The constructor User(String, String) is undefined					SimpleUserRep...	/chatclient/chatserver...	line 18	Java Problem
The constructor User(String, String) is undefined					SimpleUserRep...	/chatclient/chatserver...	line 19	Java Problem
The constructor User(String, String) is undefined					SimpleUserRep...	/chatclient/chatserver...	line 20	Java Problem
The constructor User(String, String) is undefined					SimpleUserRep...	/chatclient/chatserver...	line 21	Java Problem
The constructor User(String, String) is undefined					SimpleUserRep...	/chatclient/chatserver...	line 22	Java Problem
The constructor User(String, String) is undefined					SimpleUserRep...	/chatclient/chatserver...	line 23	Java Problem
The constructor User(String, String) is undefined					SimpleUserRep...	/chatclient/chatserver...	line 24	Java Problem
The constructor User(String, String) is undefined					SimpleUserRep...	/chatclient/chatserver...	line 25	Java Problem
The constructor User(String, String) is undefined					SimpleUserRep...	/chatclient/chatserver...	line 26	Java Problem
The constructor User(String, String) is undefined					SimpleUserRep...	/chatserver/src/main/...	line 15	Java Problem
The constructor User(String, String) is undefined					SimpleUserRep...	/chatserver/src/main/...	line 16	Java Problem
The constructor User(String, String) is undefined					SimpleUserRep...	/chatserver/src/main/...	line 17	Java Problem
The constructor User(String, String) is undefined					SimpleUserRep...	/chatserver/src/main/...	line 18	Java Problem
The constructor User(String, String) is undefined					SimpleUserRep...	/chatserver/src/main/...	line 19	Java Problem
The constructor User(String, String) is undefined					SimpleUserRep...	/chatserver/src/main/...	line 20	Java Problem
The constructor User(String, String) is undefined					SimpleUserRep...	/chatserver/src/main/...	line 21	Java Problem
The constructor User(String, String) is undefined					SimpleUserRep...	/chatserver/src/main/...	line 22	Java Problem
The constructor User(String, String) is undefined					SimpleUserRep...	/chatserver/src/main/...	line 23	Java Problem
The constructor User(String, String) is undefined					SimpleUserRep...	/chatserver/src/main/...	line 24	Java Problem
The constructor User(String, String) is undefined					SimpleUserRep...	/chatserver/src/main/...	line 25	Java Problem
The constructor User(String, String) is undefined					SimpleUserRep...	/chatserver/src/main/...	line 26	Java Problem
The declared package "" does not match the expected package ".mvn.wrapper"					MavenWrapper...	/chatclient/chatserver...	line 1	Java Problem
The declared package "com.chatserver.config" does not match the expected package "src.main.java.com.chatserver.conf"					WebsocketCon...	/chatclient/chatserver...	line 1	Java Problem
Markers	Properties	Servers	Data Source Explorer	Snippets	Problems	Console	Call Hierarchy	
116 errors, 18 warnings, 0 others (Filter matched 118 of 134 items)								
Description					Resource	Path	Location	Type
The declared package "com.chatserver.config" does not match the expected package "src.main.java.com.chatserver.conf"					WebsocketCon...	/chatclient/chatserver...	line 1	Java Problem
The declared package "com.chatserver.controller" does not match the expected package "src.main.java.com.chatserver.c"					Authentication...	/chatclient/chatserver...	line 1	Java Problem
The declared package "com.chatserver.controller" does not match the expected package "src.main.java.com.chatserver.c"					ChatController.j...	/chatclient/chatserver...	line 1	Java Problem
The declared package "com.chatserver.controller" does not match the expected package "src.main.java.com.chatserver.c"					Message.java	/chatclient/chatserver...	line 1	Java Problem
The declared package "com.chatserver.controller" does not match the expected package "src.main.java.com.chatserver.c"					MessageType.j...	/chatclient/chatserver...	line 1	Java Problem
The declared package "com.chatserver.persistence" does not match the expected package "src.main.java.com.chatserver"					SimpleUserRep...	/chatclient/chatserver...	line 1	Java Problem
The declared package "com.chatserver.persistence" does not match the expected package "src.main.java.com.chatserver"					User.java	/chatclient/chatserver...	line 1	Java Problem
The declared package "com.chatserver.service" does not match the expected package "src.main.java.com.chatserver.serv"					Authentication...	/chatclient/chatserver...	line 1	Java Problem
The declared package "com.chatserver" does not match the expected package "src.main.java.com.chatserver"					ChatserverAppl...	/chatclient/chatserver...	line 1	Java Problem
The declared package "com.chatserver" does not match the expected package "src.test.java.com.chatserver"					ChatserverAppl...	/chatclient/chatserver...	line 1	Java Problem
The import org.junit cannot be resolved					ChatserverAppl...	/chatclient/chatserver...	line 5	Java Problem
The import org.springframework.boot.test cannot be resolved					ChatserverAppl...	/chatclient/chatserver...	line 7	Java Problem
The import org.springframework.test cannot be resolved					ChatserverAppl...	/chatclient/chatserver...	line 9	Java Problem
The method asList(T...) in the type Arrays is not applicable for the arguments (User, User, User, User, User, User, User, User, User)					SimpleUserRep...	/chatclient/chatserver...	line 14	Java Problem
The method asList(T...) in the type Arrays is not applicable for the arguments (User, User, User, User, User, User, User, User, User)					SimpleUserRep...	/chatserver/src/main/...	line 14	Java Problem
The method assertTrue(String, boolean) is undefined for the type ChatserverApplicationTests					ChatserverAppl...	/chatclient/chatserver...	line 22	Java Problem
The method assertTrue(String, boolean) is undefined for the type ChatserverApplicationTests					ChatserverAppl...	/chatclient/chatserver...	line 25	Java Problem
The method getFrom() is undefined for the type Message					ChatService.java	/chatclient/src/main/j...	line 84	Java Problem
The method getFrom() is undefined for the type Message					ChatService.java	/chatclient/src/main/j...	line 97	Java Problem
The method getFrom() is undefined for the type Message					ChatService.java	/chatclient/src/main/j...	line 105	Java Problem
The method getFrom() is undefined for the type Message					ChatService.java	/chatclient/src/main/j...	line 113	Java Problem
The method getFrom() is undefined for the type Message					ChatService.java	/chatclient/src/main/j...	line 119	Java Problem
The method getFrom() is undefined for the type Message					ChatService.java	/chatclient/src/main/j...	line 130	Java Problem
The method getFrom() is undefined for the type Message					ChatService.java	/chatclient/src/main/j...	line 132	Java Problem
The method getFrom() is undefined for the type Message					ChatService.java	/chatclient/src/main/j...	line 140	Java Problem
The method getFrom() is undefined for the type Message					ChatService.java	/chatclient/src/main/j...	line 144	Java Problem
The method getFrom() is undefined for the type Message					ChatService.java	/chatclient/src/main/j...	line 149	Java Problem
The method getFrom() is undefined for the type Message					ChatService.java	/chatclient/src/main/j...	line 160	Java Problem
The method getMessageType() is undefined for the type Message					ChatService.java	/chatclient/src/main/j...	line 83	Java Problem
The method getMessageType() is undefined for the type Message					ChatService.java	/chatclient/src/main/j...	line 103	Java Problem
The method getMessageType() is undefined for the type Message					ChatService.java	/chatclient/src/main/j...	line 111	Java Problem
The method getMessageType() is undefined for the type Message					ChatService.java	/chatclient/src/main/j...	line 128	Java Problem

Markers Properties Servers Data Source Explorer Snippets Problems Console Call Hierarchy				
116 errors, 18 warnings, 0 others (Filter matched 118 of 134 items)				
Description	Resource	Path	Location	Type
The method getMessageType() is undefined for the type Message	ChatService.java	/chatclient/src/main/j...	line 139	Java Problem
The method getMessageType() is undefined for the type Message	ChatService.java	/chatclient/src/main/j...	line 148	Java Problem
The method getMessageType() is undefined for the type Message	ChatService.java	/chatclient/src/main/j...	line 157	Java Problem
The method getPassword() is undefined for the type User	Authentication...	/chatclient/chatserver...	line 28	Java Problem
The method getPassword() is undefined for the type User	Authentication...	/chatclient/src/main/j...	line 31	Java Problem
The method getPassword() is undefined for the type User	Authentication...	/chatserver/src/main/...	line 28	Java Problem
The method getPassword() is undefined for the type User	ChatserverAppl...	/chatclient/chatserver...	line 21	Java Problem
The method getPassword() is undefined for the type User	ChatserverAppl...	/chatserver/src/test/j...	line 21	Java Problem
The method getTo() is undefined for the type Message	ChatService.java	/chatclient/src/main/j...	line 92	Java Problem
The method getTo() is undefined for the type Message	ChatService.java	/chatclient/src/main/j...	line 124	Java Problem
The method getUsername() is undefined for the type User	Authentication...	/chatclient/chatserver...	line 28	Java Problem
The method getUsername() is undefined for the type User	Authentication...	/chatclient/chatserver...	line 44	Java Problem
The method getUsername() is undefined for the type User	Authentication...	/chatclient/src/main/j...	line 30	Java Problem
The method getUsername() is undefined for the type User	Authentication...	/chatclient/src/main/j...	line 42	Java Problem
The method getUsername() is undefined for the type User	Authentication...	/chatserver/src/main/...	line 28	Java Problem
The method getUsername() is undefined for the type User	Authentication...	/chatserver/src/main/...	line 44	Java Problem
The method getUsername() is undefined for the type User	ChatClientUI.java	/chatclient/src/main/j...	line 37	Java Problem
The method getUsername() is undefined for the type User	ChatClientUI.java	/chatclient/src/main/j...	line 150	Java Problem
The method getUsername() is undefined for the type User	ChatClientUI.java	/chatclient/src/main/j...	line 163	Java Problem
The method getUsername() is undefined for the type User	ChatClientUI.java	/chatclient/src/main/j...	line 173	Java Problem
The method getUsername() is undefined for the type User	ChatClientUI.java	/chatclient/src/main/j...	line 185	Java Problem
The method getUsername() is undefined for the type User	ChatClientUI.java	/chatclient/src/main/j...	line 192	Java Problem
The method getUsername() is undefined for the type User	ChatClientUI.java	/chatclient/src/main/j...	line 199	Java Problem
The method getUsername() is undefined for the type User	ChatClientUI.java	/chatclient/src/main/j...	line 200	Java Problem
The method getUsername() is undefined for the type User	ChatService.java	/chatclient/src/main/j...	line 84	Java Problem
The method getUsername() is undefined for the type User	ChatService.java	/chatclient/src/main/j...	line 92	Java Problem
The method getUsername() is undefined for the type User	ChatService.java	/chatclient/src/main/j...	line 97	Java Problem
The method getUsername() is undefined for the type User	ChatService.java	/chatclient/src/main/j...	line 120	Java Problem
The method getUsername() is undefined for the type User	ChatService.java	/chatclient/src/main/j...	line 140	Java Problem
The method getUsername() is undefined for the type User	ChatService.java	/chatclient/src/main/j...	line 149	Java Problem
The method getUsername() is undefined for the type User	ChatService.java	/chatclient/src/main/j...	line 153	Java Problem
The method getUsername() is undefined for the type User	ChatService.java	/chatclient/src/main/j...	line 161	Java Problem
The method getUsername() is undefined for the type User	ChatService.java	/chatclient/src/main/j...	line 161	Java Problem
The method getUsername() is undefined for the type User	ChatService.java	/chatclient/src/main/j...	line 184	Java Problem
The method getUsername() is undefined for the type User	ChatService.java	/chatclient/src/main/j...	line 185	Java Problem
The method getUsername() is undefined for the type User	ChatService.java	/chatclient/src/main/j...	line 189	Java Problem
The method getUsername() is undefined for the type User	ChatService.java	/chatclient/src/main/j...	line 211	Java Problem
The method getUsername() is undefined for the type User	ChatserverAppl...	/chatclient/chatserver...	line 21	Java Problem
The method getUsername() is undefined for the type User	ChatserverAppl...	/chatserver/src/test/j...	line 21	Java Problem
Warnings (18 items)				
Build path specifies execution environment JavaSE-1.8. There are no JREs installed in the workspace that are strictly com	chatclient		Build path	JRE System Lib
Build path specifies execution environment JavaSE-1.8. There are no JREs installed in the workspace that are strictly com	chatserver		Build path	JRE System Lib
The compiler compliance specified is 1.8 but a JRE 12 is used	chatclient		Compiler Com...	JRE Compiler C.
The compiler compliance specified is 1.8 but a JRE 12 is used	chatserver		Compiler Com...	JRE Compiler C.
The type AbstractWebSocketMessageBrokerConfigurer is deprecated	WebSocketCon...	/chatclient/chatserver...	line 5	Java Problem
The type AbstractWebSocketMessageBrokerConfigurer is deprecated	WebSocketCon...	/chatclient/chatserver...	line 11	Java Problem
The type AbstractWebSocketMessageBrokerConfigurer is deprecated	WebSocketCon...	/chatserver/src/main/...	line 5	Java Problem
The type AbstractWebSocketMessageBrokerConfigurer is deprecated	WebSocketCon...	/chatserver/src/main/...	line 11	Java Problem
The value of the field ChatService.chatClientUI is not used	ChatService.java	/chatclient/src/main/j...	line 34	Java Problem
The value of the field Message.from is not used	Message.java	/chatserver/src/main/...	line 11	Java Problem
The value of the field Message.messageType is not used	Message.java	/chatclient/src/main/j...	line 17	Java Problem
The value of the field Message.messageType is not used	Message.java	/chatserver/src/main/...	line 14	Java Problem
The value of the field Message.text is not used	Message.java	/chatserver/src/main/...	line 13	Java Problem
The value of the field Message.to is not used	Message.java	/chatclient/src/main/j...	line 15	Java Problem
The value of the field Message.to is not used	Message.java	/chatserver/src/main/...	line 12	Java Problem
The value of the field User.password is not used	User.java	/chatclient/src/main/j...	line 15	Java Problem
The value of the field User.username is not used	User.java	/chatclient/src/main/j...	line 14	Java Problem
The value of the field User.username is not used	User.java	/chatserver/src/main/...	line 14	Java Problem

Insgesamt nahm das Projekt 6 Wochen in Anspruch.

3. Anleitung

Das Programm ist in zwei Teile aufgeteilt:

Man muss die Server Datei auf den Hochschulserver überspielen.

Dort muss die Datei chatserver.jar in der Kommandozeile ausgeführt werden: **java -jar chatserver.jar**

Nachdem die Datei ausgeführt wurde und keine Fehlermeldung zeigt, kann man sich dem Chatclient widmen.

Es ist die Kommandozeile zu öffnen.

Dort ist sich in das Verzeichnis mit dem chatclient.jar zu navigieren.

Nun wird der chatclient.jar ausgeführt: **java -jar chatclient.jar**

Sollte das Programm Fehlerfrei funktionieren, wird man zur Chat World begrüßt.

Nun wird man aufgefordert einen Username einzugeben. Es kann zwischen (test1, ..., test12) ausgewählt werden.

Das password ist für alle User: 123456789

Nun kann man sich per Eingabe der **1** die logged User ansehen.

Per **2** einen Chat starten.

Per **3** den Chatraum verlassen.

Nach dem versenden der Chatnachricht werden immer Uhrzeit und Datum der gesendeten Nachricht angezeigt.

Sollte der Nutzer länger abwesend sein, wird dies seinem Gegenüber mitgeteilt.