

Systems Project

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Chapter 1

Hierarchical Index

1.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

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Chapter 2

Class Index

2.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

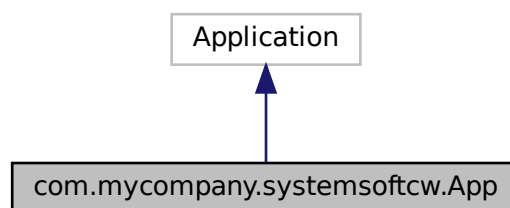
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Chapter 3

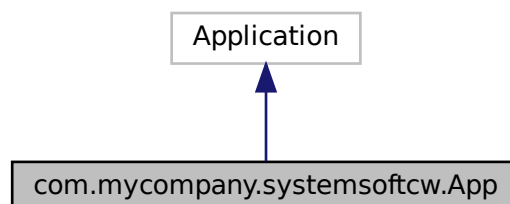
Class Documentation

3.1 com.mycompany.systemsoftcw.App Class Reference

Inheritance diagram for com.mycompany.systemsoftcw.App:



Collaboration diagram for com.mycompany.systemsoftcw.App:



Public Member Functions

- void **start** (Stage stage) throws IOException

Static Public Member Functions

- static void **main** (String[] args)

3.1.1 Detailed Description

JavaFX [App](#)

The documentation for this class was generated from the following file:

- App.java

3.2 com.mycompany.systemsoftcw.Dbcon Class Reference

Database Connection Class.

Static Public Member Functions

- static Connection **conDb** ()

3.2.1 Detailed Description

Database Connection Class.

Author

N0992216

This function creates the connection between the program and the AccountDB database return connection to be used with the other controllers. E.g. Login & Register Controllers

Returns

the connection if correct if not returns error.

The documentation for this class was generated from the following file:

- Dbcon.java

3.3 com.mycompany.systemsoftcw.Encryption Class Reference

Static Public Member Functions

- static void [encrypt](#) (Path inputFilePath, Path outputFilePath, String username) throws Exception
- static void [decrypt](#) (Path inputFilePath, Path outputFilePath, String username) throws Exception

3.3.1 Detailed Description

method for encryption and decryption using AES ALGO

Author

n1004932

3.3.2 Member Function Documentation

3.3.2.1 decrypt()

```
static void com.mycompany.systemsoftcw.Encryption.decrypt (
    Path inputFilePath,
    Path outputFilePath,
    String username ) throws Exception [inline], [static]
```

Decrypts the input file using AES algorithm with a key derived from the user's password and a generated salt stored in the file.

Parameters

<i>inputFilePath</i>	the path of the input file
<i>outputFilePath</i>	the path of the output file
<i>username</i>	the username of the user whose password is used to derive the encryption key

Exceptions

<i>IOException</i>	if there is an I/O error while reading or writing the files
<i>NoSuchAlgorithmException</i>	if the specified encryption algorithm is not available

3.3.2.2 encrypt()

```
static void com.mycompany.systemsoftcw.Encryption.encrypt (
    Path inputFilePath,
    Path outputFilePath,
    String username ) throws Exception [inline], [static]
```

The database URL uses the AES technique to encrypt the supplied input file using the user's password as the key and a salt that is created at random.

Parameters

<i>inputFilePath</i>	the path of the input file
<i>outputFilePath</i>	the path of the output file
<i>username</i>	the username of the user whose password is used to derive the encryption key

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Exceptions

<i>IOException</i>	if there is an I/O error while reading or writing the files
<i>NoSuchAlgorithmException</i>	if the specified encryption algorithm is not available
<i>InvalidKeySpecException</i>	if the specified key specification isn't valid
<i>SQLException</i>	if there is an error accessing the database

The documentation for this class was generated from the following file:

- Encryption.java

3.4 com.mycompany.systemsoftcw.ErrorWarningMonitor Class Reference

Static Public Member Functions

- static void **main** (String[] args)

3.4.1 Detailed Description

Monitors and lets users view logs errors and warnings and sends email notifications to admin.

Author

n1004932

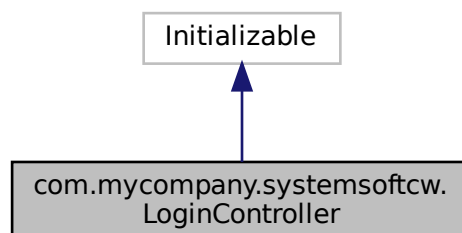
The documentation for this class was generated from the following file:

- ErrorWarningMonitor.java

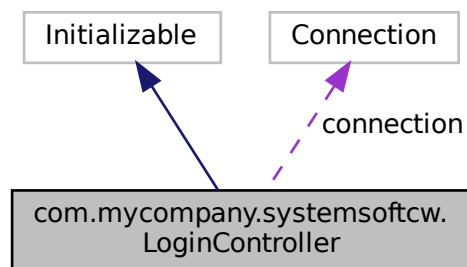
3.5 com.mycompany.systemsoftcw.LoginController Class Reference

Login Controller Class.

Inheritance diagram for com.mycompany.systemsoftcw.LoginController:



Collaboration diagram for com.mycompany.systemsoftcw.LoginController:



Public Member Functions

- boolean `validateUser` (String email, String pass)
Validate User Function.
- void `initialize` (URL url, ResourceBundle rb)

3.5.1 Detailed Description

Login Controller Class.

FXML Controller class

Author

N0992216

Login Controller connects to Login view. Takes in the email and password of the user. Allows Users to go into the main program if details are correct.

3.5.2 Member Function Documentation

3.5.2.1 initialize()

```
void com.mycompany.systemsoftcw.LoginController.initialize (  
    URL url,  
    ResourceBundle rb ) [inline]
```

Initializes the controller class.

3.5.2.2 validateUser()

```
boolean com.mycompany.systemsoftcw.LoginController.validateUser (  
    String email,  
    String pass ) [inline]
```

Validate User Function.

Takes in the username and password combination. Compares it to the database. If matches returns true to the confirmLogins procedure.

Parameters

in	<i>The</i>	email inputted by the user
in	<i>password</i>	input by the user after it has been hashed

Returns

The Boolean variable flag which shows if the verification is successful or not

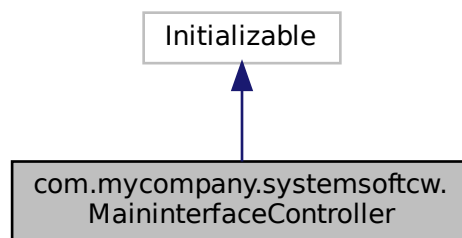
The documentation for this class was generated from the following file:

- LoginController.java

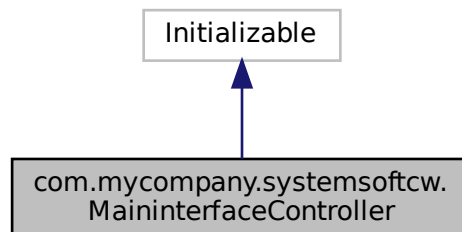
3.6 com.mycompany.systemsoftcw.MaininterfaceController Class Reference

Main Interface Controller Class.

Inheritance diagram for com.mycompany.systemsoftcw.MaininterfaceController:



Collaboration diagram for com.mycompany.systemsoftcw.MaininterfaceController:



Public Member Functions

- void [CreateFolder](#) (String Foldername, String email)
Create Folder function.
- void [CopyFile](#) (String filename, String newfilename, String email)
Copy File function.
- void [moveFile](#) (String currentfilename, String newfilename, String email)
Move File function.
- void [setEmail](#) (String email)
Set email function.
- void [initialize](#) (URL url, ResourceBundle rb)
sets the values for the combo box

3.6.1 Detailed Description

Main Interface Controller Class.

FXML Controller class

Author

N0992216

The main interface is where the user would be able to see there files and interact with them. Furthermore it has the profile button so the user can either change their details or delete there entire account.

3.6.2 Member Function Documentation

3.6.2.1 CopyFile()

```
void com.mycompany.systemsoftcw.MaininterfaceController.CopyFile (
    String filename,
    String newfilename,
    String email ) [inline]
```

Copy File function.

Copies file in the user's account folder. Must specify the new name of copied file.

Parameters

in	<i>Filename</i>	
in	<i>New</i>	Filename
in	<i>Email</i>	

3.6.2.2 CreateFolder()

```
void com.mycompany.systemsoftcw.MaininterfaceController.CreateFolder (
    String Foldername,
    String email ) [inline]
```

Create Folder function.

Creates folder in the user's account folder.

Parameters

in	<i>Filename</i>	
in	<i>Email</i>	

3.6.2.3 initialize()

```
void com.mycompany.systemsoftcw.MaininterfaceController.initialize (
    URL url,
    ResourceBundle rb ) [inline]
```

sets the values for the combo box

Initializes the controller class.

3.6.2.4 moveFile()

```
void com.mycompany.systemsoftcw.MaininterfaceController.moveFile (
    String currentfilename,
    String newfilename,
    String email ) [inline]
```

Move File function.

Moves file from one directory to another.

Parameters

in	<i>Current</i>	Filename
in	<i>New</i>	Filename
in	<i>Email</i>	

3.6.2.5 setEmail()

```
void com.mycompany.systemsoftcw.MaininterfaceController.setEmail (
    String email ) [inline]
```

Set email function.

SEts the email for the label

Parameters

in	<i>user</i>	email
----	-------------	-------

The documentation for this class was generated from the following file:

- MaininterfaceController.java

3.7 com.mycompany.systemsoftcw.PrimaryController Class Reference

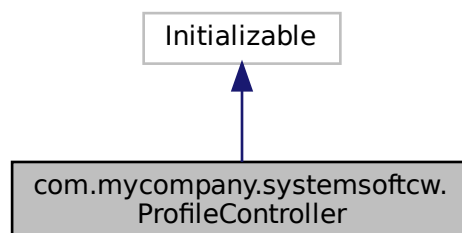
The documentation for this class was generated from the following file:

- PrimaryController.java

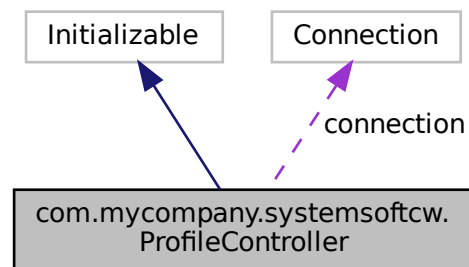
3.8 com.mycompany.systemsoftcw.ProfileController Class Reference

Profile Controller class.

Inheritance diagram for com.mycompany.systemsoftcw.ProfileController:



Collaboration diagram for com.mycompany.systemsoftcw.ProfileController:



Public Member Functions

- void `initialize` (URL `url`, ResourceBundle `rb`)

3.8.1 Detailed Description

Profile Controller class.

FXML Controller class

Author

N0992216

Allows a user to either delete or modify their account.

3.8.2 Member Function Documentation

3.8.2.1 `initialize()`

```
void com.mycompany.systemsoftcw.ProfileController.initialize (
    URL url,
    ResourceBundle rb ) [inline]
```

Initializes the controller class.

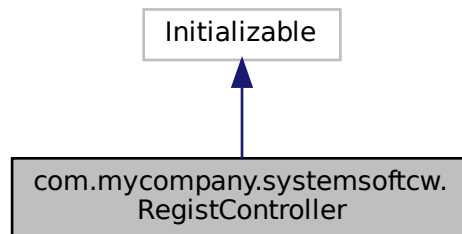
The documentation for this class was generated from the following file:

- `ProfileController.java`

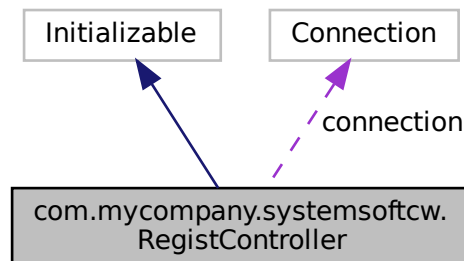
3.9 com.mycompany.systemsoftcw.RegistController Class Reference

Register Controller Class.

Inheritance diagram for com.mycompany.systemsoftcw.RegistController:



Collaboration diagram for com.mycompany.systemsoftcw.RegistController:



Public Member Functions

- void `createTable` (String tableName)
Create Table Procedure.
- void `addUser` (String email, String password)
Add User Function.
- String `generateSecurePass` (String password) throws `InvalidKeySpecException`
Generate Secure Password Function.
- void `generateOrLoadSalt` () throws `IOException`, `InvalidKeySpecException`
Generate or Load Salt.
- boolean `validateEmail` (String email)
Validate email Function.
- void `initialize` (URL url, ResourceBundle rb)

3.9.1 Detailed Description

Register Controller Class.

FXML Controller class

Author

N0992216

The register controller takes in the user input from the controller view. Creates the table if it doesn't exist hashes the password. Then adds both the email and password to the database.

3.9.2 Member Function Documentation

3.9.2.1 addUser()

```
void com.mycompany.systemsoftcw.RegistController.addUser (  
    String email,  
    String password ) [inline]
```

Add User Function.

Takes in the username and password combination. Hashes the password. Then stores the email and hashed password into the database.

Parameters

in	<i>The</i>	email inputted by the user
in	<i>password</i>	input

3.9.2.2 createTable()

```
void com.mycompany.systemsoftcw.RegistController.createTable (  
    String tableName ) [inline]
```

Create Table Procedure.

Takes the table name. If the table doesn't exist. Then creates it.

Parameters

in	<i>The</i>	table name
----	------------	------------

3.9.2.3 generateOrLoadSalt()

```
void com.mycompany.systemsoftcw.RegistController.generateOrLoadSalt ( ) throws IOException,  
InvalidKeySpecException [inline]
```

Generate or Load Salt.

Generates salt file if it doesn't exist or loads it from the .salt file

3.9.2.4 generateSecurePass()

```
String com.mycompany.systemsoftcw.RegistController.generateSecurePass (  
    String password ) throws InvalidKeySpecException [inline]
```

Generate Secure Password Function.

Takes in the password. Uses the hash function to hash the password and create the secure password

Parameters

in	<i>password</i>	input by the user
----	-----------------	-------------------

Returns

The hashed password

3.9.2.5 initialize()

```
void com.mycompany.systemsoftcw.RegistController.initialize (  
    URL url,  
    ResourceBundle rb ) [inline]
```

Initializes the controller class.

3.9.2.6 validateEmail()

```
boolean com.mycompany.systemsoftcw.RegistController.validateEmail (  
    String email ) [inline]
```

Validate email Function.

Checks the syntax of the email

Parameters

in	<i>User's</i>	email
----	---------------	-------

Returns

True if email syntax is correct, false if not.

The documentation for this class was generated from the following file:

- RegistController.java

3.10 com.mycompany.systemsoftcw.SecondaryController Class Reference

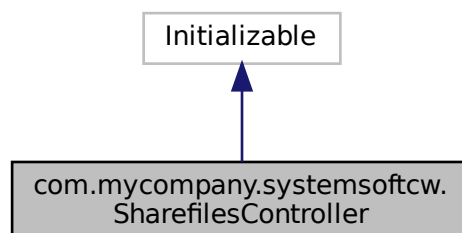
The documentation for this class was generated from the following file:

- SecondaryController.java

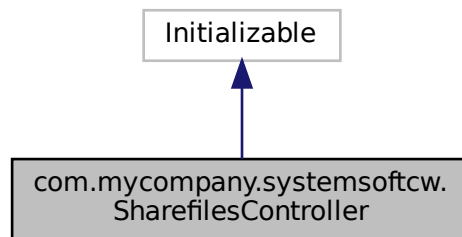
3.11 com.mycompany.systemsoftcw.SharefilesController Class Reference

Share files Controller class.

Inheritance diagram for com.mycompany.systemsoftcw.SharefilesController:



Collaboration diagram for com.mycompany.systemsoftcw.SharefilesController:



Public Member Functions

- void `setEmails` (String email)
Set email function.
- void `initialize` (URL url, ResourceBundle rb)

3.11.1 Detailed Description

Share files Controller class.

FXML Controller class

Author

N0992216

Allows a user to share files with another user. The user can give either read-write or read-only access

3.11.2 Member Function Documentation

3.11.2.1 initialize()

```
void com.mycompany.systemsoftcw.SharefilesController.initialize (
    URL url,
    ResourceBundle rb ) [inline]
```

Initializes the controller class.

3.11.2.2 setEmails()

```
void com.mycompany.systemsoftcw.SharefilesController.setEmails (
    String email ) [inline]
```

Set email function.

SEts the email for the label

Parameters

in	user	email
----	------	-------

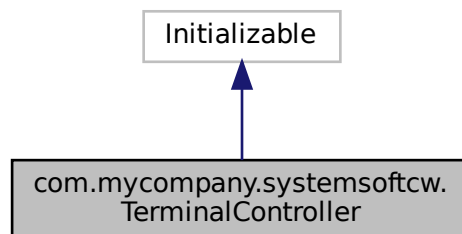
The documentation for this class was generated from the following file:

- SharefilesController.java

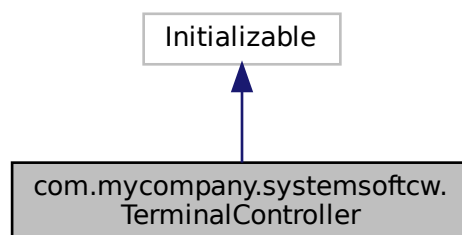
3.12 com.mycompany.systemsoftcw.TerminalController Class Reference

Terminal Controller Class.

Inheritance diagram for com.mycompany.systemsoftcw.TerminalController:



Collaboration diagram for com.mycompany.systemsoftcw.TerminalController:



Public Member Functions

- void `setEmails` (String email)
Set email function.
- void `initialize` (URL url, ResourceBundle rb)

3.12.1 Detailed Description

Terminal Controller Class.

FXML Controller class

Author

N0992216

User should be able to run terminal commands on this page.

3.12.2 Member Function Documentation

3.12.2.1 initialize()

```
void com.mycompany.systemsoftcw.TerminalController.initialize (
    URL url,
    ResourceBundle rb ) [inline]
```

Initializes the controller class.

3.12.2.2 setEmails()

```
void com.mycompany.systemsoftcw.TerminalController.setEmails (
    String email ) [inline]
```

Set email function.

SEts the email for the label

Parameters

in	user	email
----	------	-------

The documentation for this class was generated from the following file:

- TerminalController.java

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