PM9 Tracking Server

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1 Namespace Index

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pm9.trackingserver 5

pm9.trackingserver.config 5

pm9.trackingserver.constants 6

pm9.trackingserver.controller 6

pm9.trackingserver.dao 6

pm9.trackingserver.dao.impl 6

pm9.trackingserver.entities 6

pm9.trackingserver.rest 6

pm9.trackingserver.rest.request 7

pm9.trackingserver.rest.response 7

pm9.trackingserver.service 7

pm9.trackingserver.service.impl 7

pm9.trackingserver.validator 7

2 Hierarchical Index

2.1 Class Hierarchy

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

pm9.trackingserver.controller.AuthController 8

pm9.trackingserver.dao.BaseDao 10

pm9.trackingserver.dao.impl.BaseDaoImpl 12

pm9.trackingserver.rest.request.DeviceLocationSubmissionRequest 19

pm9.trackingserver.rest.request.DeviceRegisterRequest 21

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pm9.trackingserver.constants.EnumResponse 23

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pm9.trackingserver.controller.MainController 28

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CrudRepository

pm9.trackingserver.dao.DeviceDao 16

pm9.trackingserver.dao.OrganizationDao 39

Serializable

pm9.trackingserver.entities.Device 14

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pm9.trackingserver.rest.response.DeviceLocationResponse 17

SpringBootServletInitializer

pm9.trackingserver.TrackingserverApplication 64

UserDetailsService

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Validator

pm9.trackingserver.validator.UserValidator 68

WebSecurityConfigurerAdapter

pm9.trackingserver.config.SecurityConfig 58

3 Class Index

3.1 Class List

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

pm9.trackingserver.controller.AuthController
It a controller which processes all security related things 8

pm9.trackingserver.dao.BaseDao 10

pm9.trackingserver.dao.impl.BaseDaoImpl
Implementation of BaseDao 12

pm9.trackingserver.entities.Device
Device entity object 14

pm9.trackingserver.dao.DeviceDao 16

pm9.trackingserver.rest.response.DeviceLocationResponse 17

pm9.trackingserver.rest.request.DeviceLocationSubmissionRequest 19

pm9.trackingserver.rest.request.DeviceRegisterRequest 21

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pm9.trackingserver.constants.EnumResponse
Enum of common responses returned by the API 23

pm9.trackingserver.rest.response.GenericResponse 26

pm9.trackingserver.rest.request.GetDeviceLocationsRequest 27

pm9.trackingserver.controller.MainController
Contains all methods to process requests at /api/∗ 28

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pm9.trackingserver.dao.OrganizationDao 39

pm9.trackingserver.service.OrganizationService 40

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pm9.trackingserver.config.RedisConfig
Contains all connection configuration related to Redis server 43

pm9.trackingserver.dao.RedisRepository 45

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Implementation of RedisRepository 47

pm9.trackingserver.service.RedisService 52

pm9.trackingserver.service.impl.RedisServiceImpl
Implementation of RedisService 54

pm9.trackingserver.config.SecurityConfig
Contains all configuration related to security and authority 58

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pm9.trackingserver.service.impl.UserDetailsServiceImpl 66

pm9.trackingserver.validator.UserValidator
Used to validate user when they register 68

4 Namespace Documentation

4.1 Package pm9

Packages

- package trackingserver

4.2 Package pm9.trackingserver

Packages

- package config
- package constants
- package controller
- package dao
- package entities
- package rest
- package service
- package validator

Classes

- class TrackingserverApplication
- class **TrackingserverApplicationTests**

4.3 Package pm9.trackingserver.config

Classes

- class RedisConfig
- class SecurityConfig

4.4 Package pm9.trackingserver.constants

Classes

- enum EnumResponse

4.5 Package pm9.trackingserver.controller

Classes

- class AuthController
- class MainController

4.6 Package pm9.trackingserver.dao

Packages

- package impl

Classes

- interface BaseDao
- interface DeviceDao
- interface OrganizationDao
- interface RedisRepository

4.7 Package pm9.trackingserver.dao.impl

Classes

- class BaseDaoImpl
- class RedisRepositoryImpl

4.8 Package pm9.trackingserver.entities

Classes

- class Device
- class Organization

4.9 Package pm9.trackingserver.rest

Packages

- package request
- package response

4.10 Package pm9.trackingserver.rest.request

Classes

- class DeviceLocationSubmissionRequest
- class DeviceRegisterRequest
- class DeviceUnregisterRequest
- class GetDeviceLocationsRequest

4.11 Package pm9.trackingserver.rest.response

Classes

- class DeviceLocationResponse
- class GenericResponse

4.12 Package pm9.trackingserver.service

Packages

- package impl

Classes

- interface MainControllerService
- interface OrganizationService
- interface RedisService
- interface SecurityService

4.13 Package pm9.trackingserver.service.impl

Classes

- class MainControllerServiceImpl
- class OrganizationServiceImpl
- class RedisServiceImpl
- class SecurityServiceImpl
- class UserDetailsServiceImpl

4.14 Package pm9.trackingserver.validator

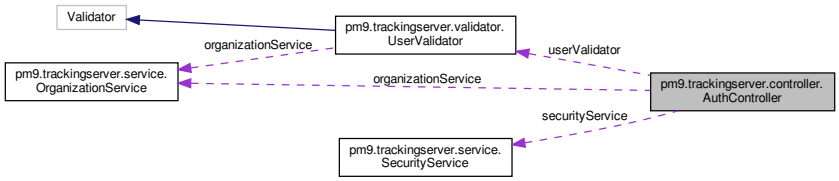
Classes

- class UserValidator

5 Class Documentation

5.1 pm9.trackingserver.controller.AuthController Class Reference

Collaboration diagram for pm9.trackingserver.controller.AuthController:



Public Member Functions

- String registration (Model model)
- String registration (@ModelAttribute("userForm") Organization userForm, BindingResult bindingResult)
- String login (Model model, String error, String logout)
- String welcome (Model model)

Private Attributes

- UserValidator userValidator
- OrganizationService organizationService
- SecurityService securityService

5.1.1 Detailed Description

It a controller which processes all security related things.

It contains all methods related to logging in and signing up.

5.1.2 Member Function Documentation

5.1.2.1 login()

```
String pm9.trackingserver.controller.AuthController.login (
            Model model,
            String error,
            String logout )
```

Processes model when you sign in.

Parameters

model	which needs to be passed to the page.
error	Contains error message.
logout	Option to logout.

Returns

model when you sign in.

5.1.2.2 registration() [1/2]

```
String pm9.trackingserver.controller.AuthController.registration (
            Model model )
```

Processes model before signing up.

Parameters

model	which needs to be passed to the page.

Returns

registration page

5.1.2.3 registration() [2/2]

```
String pm9.trackingserver.controller.AuthController.registration (
            @ModelAttribute("userForm") Organization userForm,
            BindingResult bindingResult )
```

Processes model after sign up form has been field.

Parameters

userForm	Details submitted during registration.
bindingResult	Contains results from previous mapping.

Returns

'welcome' page if registration is successful, else 'registration' page is returned.

5.1.2.4 welcome()

```
String pm9.trackingserver.controller.AuthController.welcome (
            Model model )
```

Returns welcome page when you log in or when you come to the website.

Parameters

model	which needs to be passed to the page.

Returns

'welcome' page

5.1.3 Member Data Documentation

5.1.3.1 organizationService

```
OrganizationService pm9.trackingserver.controller.AuthController.organizationService  [private]
```

5.1.3.2 securityService

```
SecurityService pm9.trackingserver.controller.AuthController.securityService  [private]
```

5.1.3.3 userValidator

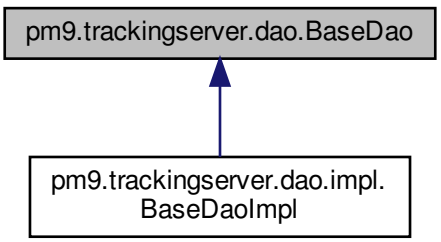
```
UserValidator pm9.trackingserver.controller.AuthController.userValidator  [private]
```

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

- src/main/java/pm9/trackingserver/controller/AuthController.java

5.2 pm9.trackingserver.dao.BaseDao Interface Reference

Inheritance diagram for pm9.trackingserver.dao.BaseDao:



Public Member Functions

- Session getSession ()
- Object save (Object entity)
- void saveOrUpdate (Object entity)
- void delete (Object object)
- < T > List< T > getAll (Class< T > class_)

5.2.1 Member Function Documentation

5.2.1.1 delete()

```
void pm9.trackingserver.dao.BaseDao.delete (
            Object object )
```

Implemented in pm9.trackingserver.dao.impl.BaseDaoImpl.

5.2.1.2 getAll()

```
<T> List<T> pm9.trackingserver.dao.BaseDao.getAll (
            Class< T > class_ )
```

5.2.1.3 getSession()

```
Session pm9.trackingserver.dao.BaseDao.getSession ( )
```

Implemented in pm9.trackingserver.dao.impl.BaseDaoImpl.

5.2.1.4 save()

```
Object pm9.trackingserver.dao.BaseDao.save (
            Object entity )
```

Implemented in pm9.trackingserver.dao.impl.BaseDaoImpl.

5.2.1.5 saveOrUpdate()

```
void pm9.trackingserver.dao.BaseDao.saveOrUpdate (
            Object entity )
```

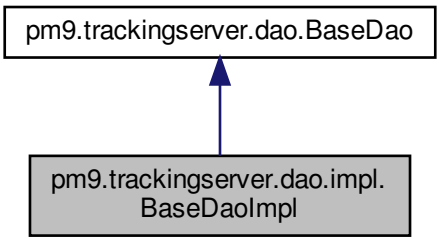
Implemented in pm9.trackingserver.dao.impl.BaseDaoImpl.

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

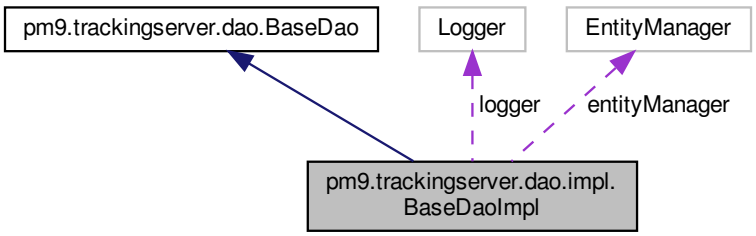
- src/main/java/pm9/trackingserver/dao/BaseDao.java

5.3 pm9.trackingserver.dao.impl.BaseDaoImpl Class Reference

Inheritance diagram for pm9.trackingserver.dao.impl.BaseDaoImpl:



Collaboration diagram for pm9.trackingserver.dao.impl.BaseDaoImpl:



Public Member Functions

- Session getSession ()
- Object save (Object entity)
- void saveOrUpdate (Object entity)
- void delete (Object object)

Private Attributes

- final Logger logger = LoggerFactory.getLogger(getClass())

5.3.1 Detailed Description

Implementation of BaseDao.

It provides common methods to interact with the MySQL database. There is currently no need for this. We are using CRUDRepository to perform database operations, and not this class.

5.3.2 Member Function Documentation

5.3.2.1 delete()

```
void pm9.trackingserver.dao.impl.BaseDaoImpl.delete (
            Object object )
```

Implements pm9.trackingserver.dao.BaseDao.

5.3.2.2 getSession()

```
Session pm9.trackingserver.dao.impl.BaseDaoImpl.getSession ( )
```

Implements pm9.trackingserver.dao.BaseDao.

5.3.2.3 save()

```
Object pm9.trackingserver.dao.impl.BaseDaoImpl.save (
            Object entity )
```

Implements pm9.trackingserver.dao.BaseDao.

5.3.2.4 saveOrUpdate()

```
void pm9.trackingserver.dao.impl.BaseDaoImpl.saveOrUpdate (
            Object entity )
```

Implements pm9.trackingserver.dao.BaseDao.

5.3.3 Member Data Documentation

5.3.3.1 logger

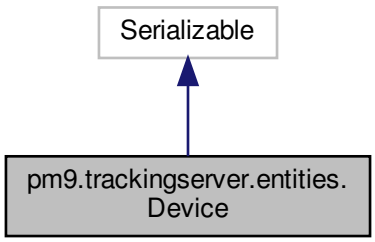
```
final Logger pm9.trackingserver.dao.impl.BaseDaoImpl.logger = LoggerFactory.getLogger(get↩
Class())  [private]
```

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

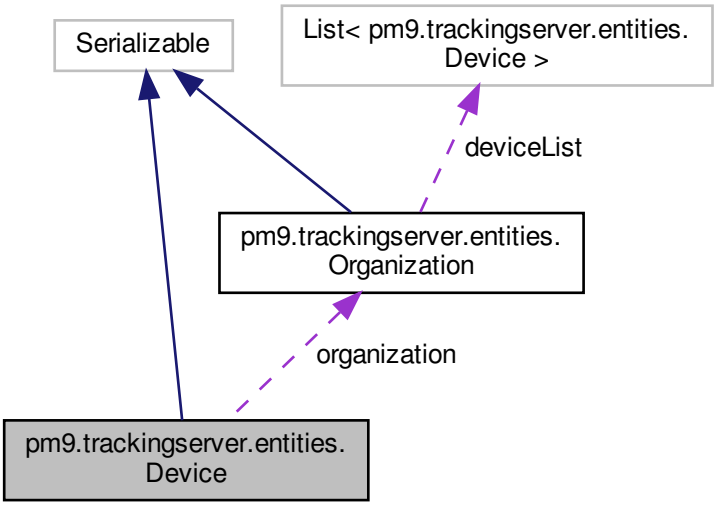
- src/main/java/pm9/trackingserver/dao/impl/BaseDaoImpl.java

5.4 pm9.trackingserver.entities.Device Class Reference

Inheritance diagram for pm9.trackingserver.entities.Device:



Collaboration diagram for pm9.trackingserver.entities.Device:



Public Member Functions

- Long getId ()
- void setId (Long id)
- String getDeviceId ()
- void setDeviceId (String deviceId)
- Organization getOrganization ()
- void setOrganization (Organization organization)

Private Attributes

- Long id
- String deviceId
- Organization organization

5.4.1 Detailed Description

Device entity object.

This file is used for ORM.

5.4.2 Member Function Documentation

5.4.2.1 getDeviceId()

```
String pm9.trackingserver.entities.Device.getDeviceId ( )
```

5.4.2.2 getId()

```
Long pm9.trackingserver.entities.Device.getId ( )
```

5.4.2.3 getOrganization()

```
Organization pm9.trackingserver.entities.Device.getOrganization ( )
```

5.4.2.4 setDeviceId()

```
void pm9.trackingserver.entities.Device.setDeviceId (
            String deviceId )
```

5.4.2.5 setId()

```
void pm9.trackingserver.entities.Device.setId (
            Long id )
```

5.4.2.6 setOrganization()

```
void pm9.trackingserver.entities.Device.setOrganization (
            Organization organization )
```

5.4.3 Member Data Documentation

5.4.3.1 deviceId

```
String pm9.trackingserver.entities.Device.deviceId  [private]
```

5.4.3.2 id

```
Long pm9.trackingserver.entities.Device.id  [private]
```

5.4.3.3 organization

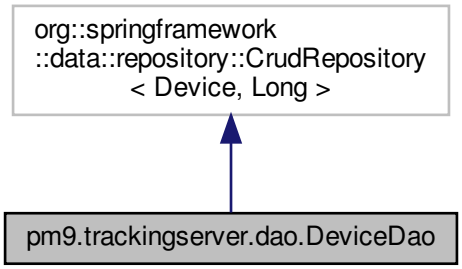
```
Organization pm9.trackingserver.entities.Device.organization  [private]
```

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

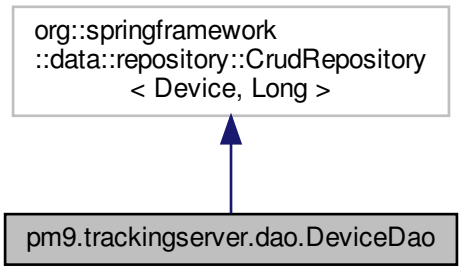
- src/main/java/pm9/trackingserver/entities/Device.java

5.5 pm9.trackingserver.dao.DeviceDao Interface Reference

Inheritance diagram for pm9.trackingserver.dao.DeviceDao:



Collaboration diagram for pm9.trackingserver.dao.DeviceDao:



Public Member Functions

- Device findByDeviceId (String deviceId)

5.5.1 Member Function Documentation

5.5.1.1 findByDeviceId()

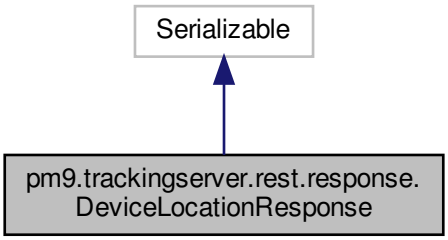
```
Device pm9.trackingserver.dao.DeviceDao.findByDeviceId (
            String deviceId )
```

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

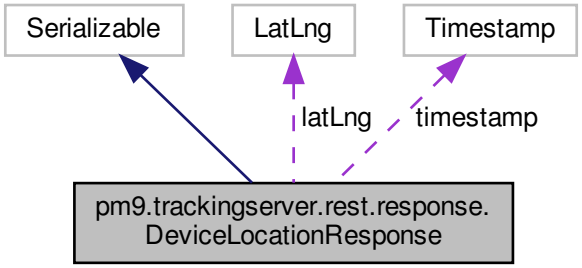
- src/main/java/pm9/trackingserver/dao/DeviceDao.java

5.6 pm9.trackingserver.rest.response.DeviceLocationResponse Class Reference

Inheritance diagram for pm9.trackingserver.rest.response.DeviceLocationResponse:



Collaboration diagram for pm9.trackingserver.rest.response.DeviceLocationResponse:



Public Member Functions

- LatLng getLatLng ()
- void setLatLng (LatLng latLng)
- Timestamp getTimestamp ()
- void setTimestamp (Timestamp timestamp)

Private Attributes

- LatLng latLng
- Timestamp timestamp

5.6.1 Member Function Documentation

5.6.1.1 getLatLng()

```
LatLng pm9.trackingserver.rest.response.DeviceLocationResponse.getLatLng ( )
```

5.6.1.2 getTimestamp()

```
Timestamp pm9.trackingserver.rest.response.DeviceLocationResponse.getTimestamp ( )
```

5.6.1.3 setLatLng()

```
void pm9.trackingserver.rest.response.DeviceLocationResponse.setLatLng (
            LatLng latLng )
```

5.6.1.4 setTimestamp()

```
void pm9.trackingserver.rest.response.DeviceLocationResponse.setTimestamp (
            Timestamp timestamp )
```

5.6.2 Member Data Documentation

5.6.2.1 latLng

```
LatLng pm9.trackingserver.rest.response.DeviceLocationResponse.latLng  [private]
```

5.6.2.2 timestamp

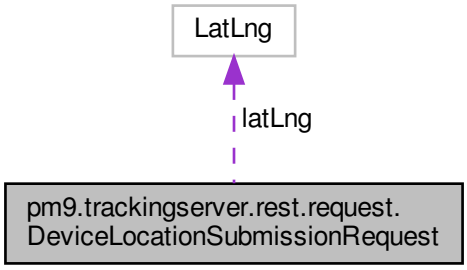
```
Timestamp pm9.trackingserver.rest.response.DeviceLocationResponse.timestamp  [private]
```

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

- src/main/java/pm9/trackingserver/rest/response/DeviceLocationResponse.java

5.7 pm9.trackingserver.rest.request.DeviceLocationSubmissionRequest Class Reference

Collaboration diagram for pm9.trackingserver.rest.request.DeviceLocationSubmissionRequest:



Public Member Functions

- String getApiKey ()
- void setApiKey (String apiKey)
- LatLng getLatLng ()
- void setLatLng (LatLng latLng)
- String getDeviceId ()
- void setDeviceId (String deviceId)

Private Attributes

- String apiKey
- String deviceId
- LatLng latLng

5.7.1 Member Function Documentation

5.7.1.1 getApiKey()

```
String pm9.trackingserver.rest.request.DeviceLocationSubmissionRequest.getApiKey ( )
```

5.7.1.2 getDeviceId()

```
String pm9.trackingserver.rest.request.DeviceLocationSubmissionRequest.getDeviceId ( )
```

5.7.1.3 getLatLng()

```
LatLng pm9.trackingserver.rest.request.DeviceLocationSubmissionRequest.getLatLng ( )
```

5.7.1.4 setApiKey()

```
void pm9.trackingserver.rest.request.DeviceLocationSubmissionRequest.setApiKey (
            String apiKey )
```

5.7.1.5 setDeviceId()

```
void pm9.trackingserver.rest.request.DeviceLocationSubmissionRequest.setDeviceId (
            String deviceId )
```

5.7.1.6 setLatLng()

```
void pm9.trackingserver.rest.request.DeviceLocationSubmissionRequest.setLatLng (
            LatLng latLng )
```

5.7.2 Member Data Documentation

5.7.2.1 apiKey

```
String pm9.trackingserver.rest.request.DeviceLocationSubmissionRequest.apiKey  [private]
```

5.7.2.2 deviceId

```
String pm9.trackingserver.rest.request.DeviceLocationSubmissionRequest.deviceId  [private]
```

5.7.2.3 latLng

```
LatLng pm9.trackingserver.rest.request.DeviceLocationSubmissionRequest.latLng  [private]
```

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

- src/main/java/pm9/trackingserver/rest/request/DeviceLocationSubmissionRequest.java

5.8 pm9.trackingserver.rest.request.DeviceRegisterRequest Class Reference

Public Member Functions

- String getApiKey ()
- void setApiKey (String apiKey)
- String getDeviceId ()
- void setDeviceId (String deviceId)

Private Attributes

- String apiKey
- String deviceId

5.8.1 Member Function Documentation

5.8.1.1 getApiKey()

```
String pm9.trackingserver.rest.request.DeviceRegisterRequest.getApiKey ( )
```

5.8.1.2 getDeviceId()

```
String pm9.trackingserver.rest.request.DeviceRegisterRequest.getDeviceId ( )
```

5.8.1.3 setApiKey()

```
void pm9.trackingserver.rest.request.DeviceRegisterRequest.setApiKey (
            String apiKey )
```

5.8.1.4 setDeviceId()

```
void pm9.trackingserver.rest.request.DeviceRegisterRequest.setDeviceId (
            String deviceId )
```

5.8.2 Member Data Documentation

5.8.2.1 apiKey

```
String pm9.trackingserver.rest.request.DeviceRegisterRequest.apiKey  [private]
```

5.8.2.2 deviceId

```
String pm9.trackingserver.rest.request.DeviceRegisterRequest.deviceId  [private]
```

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

- src/main/java/pm9/trackingserver/rest/request/DeviceRegisterRequest.java

5.9 pm9.trackingserver.rest.request.DeviceUnregisterRequest Class Reference

Public Member Functions

- String getDeviceId ()
- void setDeviceId (String deviceId)

Private Attributes

- String deviceId

5.9.1 Member Function Documentation

5.9.1.1 getDeviceId()

```
String pm9.trackingserver.rest.request.DeviceUnregisterRequest.getDeviceId ( )
```

5.9.1.2 setDeviceId()

```
void pm9.trackingserver.rest.request.DeviceUnregisterRequest.setDeviceId (
            String deviceId )
```

5.9.2 Member Data Documentation

5.9.2.1 deviceId

```
String pm9.trackingserver.rest.request.DeviceUnregisterRequest.deviceId  [private]
```

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

- src/main/java/pm9/trackingserver/rest/request/DeviceUnregisterRequest.java

5.10 pm9.trackingserver.constants.EnumResponse Enum Reference

Public Member Functions

- EnumResponse (Long id, String message)
- Long getId ()
- void setId (Long id)
- String getMessage ()
- void setMessage (String message)

Static Public Member Functions

- static GenericResponse getGenericResponse (EnumResponse enumResponse)

Public Attributes

- WORKING =(100l, "Working")
- SUCCESS =(200l, "Success")
- WRONG_API_KEY =(500l, "Wrong API KEY")
- DEVICE_REGISTER_FAILURE =(510l, "Device not registered")
- DEVICE_NOT_FOUND =(520l, "Device not found")
- DEVICE_UNREGISTER_FAILURE =(530l, "Device not unregistered")
- DEVICE_ALREADY_REGISTERED =(540l, "Device already registered")

Private Attributes

- Long id
- String message

5.10.1 Detailed Description

Enum of common responses returned by the API.

5.10.2 Constructor & Destructor Documentation

5.10.2.1 EnumResponse()

```
pm9.trackingserver.constants.EnumResponse.EnumResponse (
            Long id,
            String message )
```

5.10.3 Member Function Documentation

5.10.3.1 getGenericResponse()

```
static GenericResponse pm9.trackingserver.constants.EnumResponse.getGenericResponse (
            EnumResponse enumResponse )  [static]
```

This function returns a GenericResponse which contains the information of EnumResponse object.

Parameters

enumResponse	EnumResponse which needs to returned.

Returns

Packs EnumResponse as GenericResponse.

5.10.3.2 getId()

```
Long pm9.trackingserver.constants.EnumResponse.getId ( )
```

5.10.3.3 getMessage()

```
String pm9.trackingserver.constants.EnumResponse.getMessage ( )
```

5.10.3.4 setId()

```
void pm9.trackingserver.constants.EnumResponse.setId (
            Long id )
```

5.10.3.5 setMessage()

```
void pm9.trackingserver.constants.EnumResponse.setMessage (
            String message )
```

5.10.4 Member Data Documentation

5.10.4.1 DEVICE_ALREADY_REGISTERED

```
pm9.trackingserver.constants.EnumResponse.DEVICE_ALREADY_REGISTERED =(540l, "Device already
registered")
```

5.10.4.2 DEVICE_NOT_FOUND

```
pm9.trackingserver.constants.EnumResponse.DEVICE_NOT_FOUND =(520l, "Device not found")
```

5.10.4.3 DEVICE_REGISTER_FAILURE

```
pm9.trackingserver.constants.EnumResponse.DEVICE_REGISTER_FAILURE =(510l, "Device not registered")
```

5.10.4.4 DEVICE_UNREGISTER_FAILURE

```
pm9.trackingserver.constants.EnumResponse.DEVICE_UNREGISTER_FAILURE =(530l, "Device not unregistered")
```

5.10.4.5 id

```
Long pm9.trackingserver.constants.EnumResponse.id  [private]
```

Used to identify the response.

5.10.4.6 message

```
String pm9.trackingserver.constants.EnumResponse.message  [private]
```

Contains details of the response.

5.10.4.7 SUCCESS

```
pm9.trackingserver.constants.EnumResponse.SUCCESS =(200l, "Success")
```

5.10.4.8 WORKING

```
pm9.trackingserver.constants.EnumResponse.WORKING =(100l, "Working")
```

5.10.4.9 WRONG_API_KEY

```
pm9.trackingserver.constants.EnumResponse.WRONG_API_KEY =(500l, "Wrong API KEY")
```

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

- src/main/java/pm9/trackingserver/constants/EnumResponse.java

5.11 pm9.trackingserver.rest.response.GenericResponse Class Reference

Public Member Functions

- Long getStatus ()
- void setStatus (Long status)
- String getMessage ()
- void setMessage (String message)

Private Attributes

- Long status
- String message

5.11.1 Member Function Documentation

5.11.1.1 getMessage()

```
String pm9.trackingserver.rest.response.GenericResponse.getMessage ( )
```

5.11.1.2 getStatus()

```
Long pm9.trackingserver.rest.response.GenericResponse.getStatus ( )
```

5.11.1.3 setMessage()

```
void pm9.trackingserver.rest.response.GenericResponse.setMessage (
            String message )
```

5.11.1.4 setStatus()

```
void pm9.trackingserver.rest.response.GenericResponse.setStatus (
            Long status )
```

5.11.2 Member Data Documentation

5.11.2.1 message

```
String pm9.trackingserver.rest.response.GenericResponse.message  [private]
```

5.11.2.2 status

```
Long pm9.trackingserver.rest.response.GenericResponse.status  [private]
```

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

- src/main/java/pm9/trackingserver/rest/response/GenericResponse.java

5.12 pm9.trackingserver.rest.request.GetDeviceLocationsRequest Class Reference

Public Member Functions

- String getApiKey ()
- void setApiKey (String apiKey)

Private Attributes

- String apiKey

5.12.1 Member Function Documentation

5.12.1.1 getApiKey()

```
String pm9.trackingserver.rest.request.GetDeviceLocationsRequest.getApiKey ( )
```

5.12.1.2 setApiKey()

```
void pm9.trackingserver.rest.request.GetDeviceLocationsRequest.setApiKey (
            String apiKey )
```

5.12.2 Member Data Documentation

5.12.2.1 apiKey

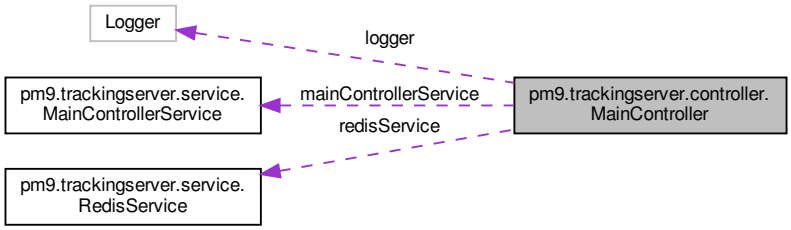
```
String pm9.trackingserver.rest.request.GetDeviceLocationsRequest.apiKey  [private]
```

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

- src/main/java/pm9/trackingserver/rest/request/GetDeviceLocationsRequest.java

5.13 pm9.trackingserver.controller.MainController Class Reference

Collaboration diagram for pm9.trackingserver.controller.MainController:



Public Member Functions

- GenericResponse submitLocation (@RequestBody DeviceLocationSubmissionRequest deviceLocation↩ SubmissionRequest)
- Map< String, DeviceLocationResponse > getDeviceLocations (@RequestBody GetDeviceLocations↩ Request getDeviceLocationsRequest)
- GenericResponse registerDevice (@RequestBody DeviceRegisterRequest deviceRegisterRequest)
- GenericResponse unregisterDevice (@RequestBody DeviceUnregisterRequest deviceUnregisterRequest)
- GenericResponse status ()

Private Attributes

- RedisService redisService
- MainControllerService mainControllerService

Static Private Attributes

- static final Logger logger = LoggerFactory.getLogger(MainController.class)

5.13.1 Detailed Description

Contains all methods to process requests at /api/∗.

It is a rest controller. It get JSON requests and returns JSON responses.

5.13.2 Member Function Documentation

5.13.2.1 getDeviceLocations()

```
Map<String, DeviceLocationResponse> pm9.trackingserver.controller.MainController.getDevice↩
Locations (
            @RequestBody GetDeviceLocationsRequest getDeviceLocationsRequest )
```

Processes POST requests at /getDeviceLocations.

Parameters

getDeviceLocationsRequest	Request packet to get device locations.

Returns

map of devices and their locations along with their timestamps.

5.13.2.2 registerDevice()

```
GenericResponse pm9.trackingserver.controller.MainController.registerDevice (
            @RequestBody DeviceRegisterRequest deviceRegisterRequest )
```

Processes POST requests at /registerDevice.

Parameters

deviceRegisterRequest	Request packet to register device.

Returns

'Success' if the device was unregistered successfully else return the error message.

5.13.2.3 status()

```
GenericResponse pm9.trackingserver.controller.MainController.status ( )
```

Returns status of the API, whether it is working or not.

Returns

'Working' if the API is online.

5.13.2.4 submitLocation()

```
GenericResponse pm9.trackingserver.controller.MainController.submitLocation (
            @RequestBody DeviceLocationSubmissionRequest deviceLocationSubmissionRequest )
```

Processes POST requests at /submitLocation.

Parameters

deviceLocationSubmissionRequest	Request packet to submit device location.

Returns

5.13.2.5 unregisterDevice()

```
GenericResponse pm9.trackingserver.controller.MainController.unregisterDevice (
            @RequestBody DeviceUnregisterRequest deviceUnregisterRequest )
```

Processes POST requests at /unregisterDevice.

Parameters

deviceUnregisterRequest	Request packet to unregister device.

Returns

'Success' if the device was unregistered successfully else return the error message.

5.13.3 Member Data Documentation

5.13.3.1 logger

```
final Logger pm9.trackingserver.controller.MainController.logger = LoggerFactory.getLogger(Main↩
Controller.class)  [static], [private]
```

5.13.3.2 mainControllerService

```
MainControllerService pm9.trackingserver.controller.MainController.mainControllerService  [private]
```

5.13.3.3 redisService

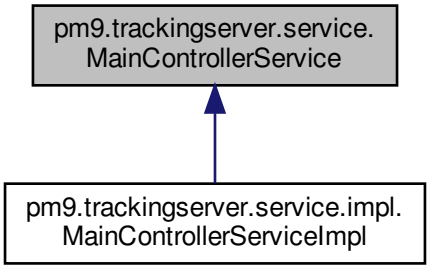
```
RedisService pm9.trackingserver.controller.MainController.redisService  [private]
```

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

- src/main/java/pm9/trackingserver/controller/MainController.java

5.14 pm9.trackingserver.service.MainControllerService Interface Reference

Inheritance diagram for pm9.trackingserver.service.MainControllerService:



Public Member Functions

- GenericResponse registerDevice (DeviceRegisterRequest deviceRegisterRequest)
- GenericResponse unregisterDevice (DeviceUnregisterRequest deviceUnregisterRequest)
- GenericResponse submitLocation (DeviceLocationSubmissionRequest deviceLocationSubmissionRequest)

5.14.1 Member Function Documentation

5.14.1.1 registerDevice()

```
GenericResponse pm9.trackingserver.service.MainControllerService.registerDevice (
            DeviceRegisterRequest deviceRegisterRequest )
```

Implemented in pm9.trackingserver.service.impl.MainControllerServiceImpl.

5.14.1.2 submitLocation()

```
GenericResponse pm9.trackingserver.service.MainControllerService.submitLocation (
            DeviceLocationSubmissionRequest deviceLocationSubmissionRequest )
```

Implemented in pm9.trackingserver.service.impl.MainControllerServiceImpl.

5.14.1.3 unregisterDevice()

```
GenericResponse pm9.trackingserver.service.MainControllerService.unregisterDevice (
            DeviceUnregisterRequest deviceUnregisterRequest )
```

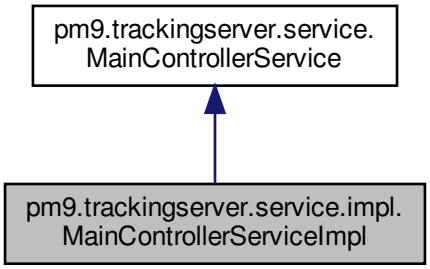
Implemented in pm9.trackingserver.service.impl.MainControllerServiceImpl.

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

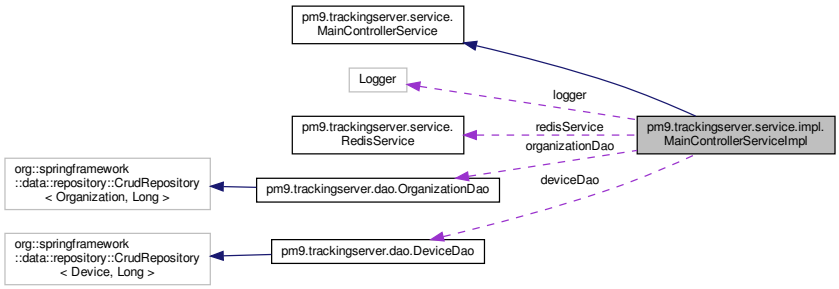
- src/main/java/pm9/trackingserver/service/MainControllerService.java

5.15 pm9.trackingserver.service.impl.MainControllerServiceImpl Class Reference

Inheritance diagram for pm9.trackingserver.service.impl.MainControllerServiceImpl:



Collaboration diagram for pm9.trackingserver.service.impl.MainControllerServiceImpl:



Public Member Functions

- GenericResponse registerDevice (DeviceRegisterRequest deviceRegisterRequest)
- GenericResponse unregisterDevice (DeviceUnregisterRequest deviceUnregisterRequest)
- GenericResponse submitLocation (DeviceLocationSubmissionRequest deviceLocationSubmissionRequest)

Private Attributes

- DeviceDao deviceDao
- OrganizationDao organizationDao
- RedisService redisService

Static Private Attributes

- static final Logger logger = LoggerFactory.getLogger(MainControllerServiceImpl.class)

5.15.1 Detailed Description

Implementation of MainControllerService.

Provides service methods for MainController.

5.15.2 Member Function Documentation

5.15.2.1 registerDevice()

```
GenericResponse pm9.trackingserver.service.impl.MainControllerServiceImpl.registerDevice (
            DeviceRegisterRequest deviceRegisterRequest )
```

Used to register a new device on the tracking server.

Parameters

deviceRegisterRequest	Request packet to register device.

Returns

EnumResponse as GenericResponse.

Implements pm9.trackingserver.service.MainControllerService.

5.15.2.2 submitLocation()

```
GenericResponse pm9.trackingserver.service.impl.MainControllerServiceImpl.submitLocation (
            DeviceLocationSubmissionRequest deviceLocationSubmissionRequest )
```

Used to by a device to submit its location.

Parameters

deviceLocationSubmissionRequest	Request packet to submit device location.

Returns

EnumResponse as GenericResponse.

Implements pm9.trackingserver.service.MainControllerService.

5.15.2.3 unregisterDevice()

```
GenericResponse pm9.trackingserver.service.impl.MainControllerServiceImpl.unregisterDevice (
            DeviceUnregisterRequest deviceUnregisterRequest )
```

Used to unregister a device from the tracking server.

Parameters

deviceUnregisterRequest	Request packet to unregister device.

Returns

EnumResponse as GenericResponse.

Implements pm9.trackingserver.service.MainControllerService.

5.15.3 Member Data Documentation

5.15.3.1 deviceDao

```
DeviceDao pm9.trackingserver.service.impl.MainControllerServiceImpl.deviceDao  [private]
```

5.15.3.2 logger

```
final Logger pm9.trackingserver.service.impl.MainControllerServiceImpl.logger = LoggerFactory.↩
getLogger(MainControllerServiceImpl.class)  [static], [private]
```

5.15.3.3 organizationDao

```
OrganizationDao pm9.trackingserver.service.impl.MainControllerServiceImpl.organizationDao
[private]
```

5.15.3.4 redisService

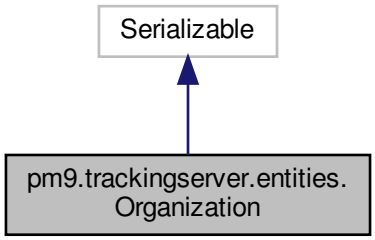
```
RedisService pm9.trackingserver.service.impl.MainControllerServiceImpl.redisService  [private]
```

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

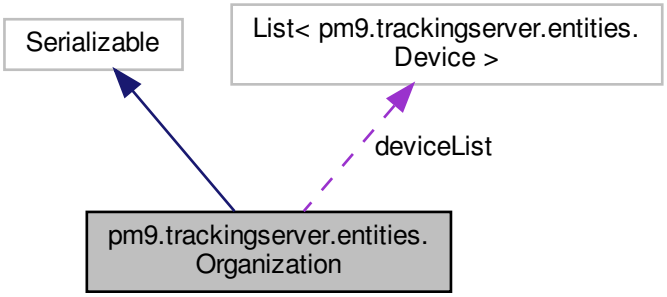
- src/main/java/pm9/trackingserver/service/impl/MainControllerServiceImpl.java

5.16 pm9.trackingserver.entities.Organization Class Reference

Inheritance diagram for pm9.trackingserver.entities.Organization:



Collaboration diagram for pm9.trackingserver.entities.Organization:



Public Member Functions

- Long getId ()
- void setId (Long id)
- String getApiKey ()
- void setApiKey (String apiKey)
- List< Device > getDeviceList ()
- void setDeviceList (List< Device > deviceList)
- String getPassword ()
- void setPassword (String password)
- String getPasswordConfirm ()
- void setPasswordConfirm (String passwordConfirm)
- String getName ()
- void setName (String name)

Private Attributes

- Long id
- String name
- String password
- String passwordConfirm
- String apiKey
- List< Device > deviceList

5.16.1 Detailed Description

Organization entity object.

This file is used for ORM.

5.16.2 Member Function Documentation

5.16.2.1 getApiKey()

```
String pm9.trackingserver.entities.Organization.getApiKey ( )
```

5.16.2.2 getDeviceList()

```
List<Device> pm9.trackingserver.entities.Organization.getDeviceList ( )
```

5.16.2.3 getId()

```
Long pm9.trackingserver.entities.Organization.getId ( )
```

5.16.2.4 getName()

```
String pm9.trackingserver.entities.Organization.getName ( )
```

5.16.2.5 getPassword()

```
String pm9.trackingserver.entities.Organization.getPassword ( )
```

5.16.2.6 getPasswordConfirm()

```
String pm9.trackingserver.entities.Organization.getPasswordConfirm ( )
```

5.16.2.7 setApiKey()

```
void pm9.trackingserver.entities.Organization.setApiKey (
            String apiKey )
```

5.16.2.8 setDeviceList()

```
void pm9.trackingserver.entities.Organization.setDeviceList (
            List< Device > deviceList )
```

5.16.2.9 setId()

```
void pm9.trackingserver.entities.Organization.setId (
            Long id )
```

5.16.2.10 setName()

```
void pm9.trackingserver.entities.Organization.setName (
            String name )
```

5.16.2.11 setPassword()

```
void pm9.trackingserver.entities.Organization.setPassword (
            String password )
```

5.16.2.12 setPasswordConfirm()

```
void pm9.trackingserver.entities.Organization.setPasswordConfirm (
            String passwordConfirm )
```

5.16.3 Member Data Documentation

5.16.3.1 apiKey

```
String pm9.trackingserver.entities.Organization.apiKey  [private]
```

5.16.3.2 deviceList

```
List<Device> pm9.trackingserver.entities.Organization.deviceList  [private]
```

5.16.3.3 id

```
Long pm9.trackingserver.entities.Organization.id  [private]
```

5.16.3.4 name

```
String pm9.trackingserver.entities.Organization.name  [private]
```

5.16.3.5 password

```
String pm9.trackingserver.entities.Organization.password  [private]
```

5.16.3.6 passwordConfirm

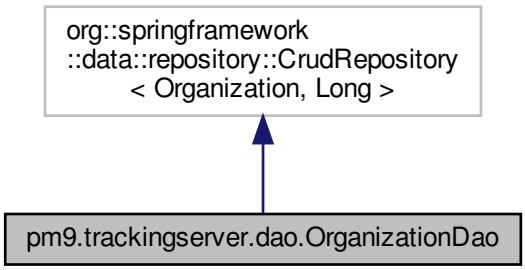
```
String pm9.trackingserver.entities.Organization.passwordConfirm  [private]
```

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

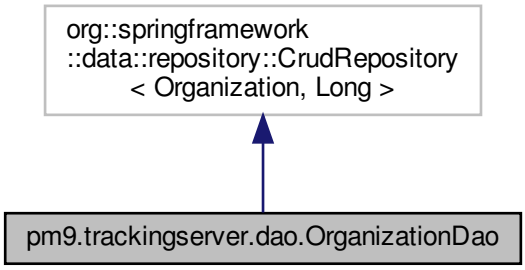
- src/main/java/pm9/trackingserver/entities/Organization.java

5.17 pm9.trackingserver.dao.OrganizationDao Interface Reference

Inheritance diagram for pm9.trackingserver.dao.OrganizationDao:



Collaboration diagram for pm9.trackingserver.dao.OrganizationDao:



Public Member Functions

- Organization findByApiKey (String apiKey)
- Organization findByName (String name)

5.17.1 Member Function Documentation

5.17.1.1 findByApiKey()

```
Organization pm9.trackingserver.dao.OrganizationDao.findByApiKey (
            String apiKey )
```

5.17.1.2 findByName()

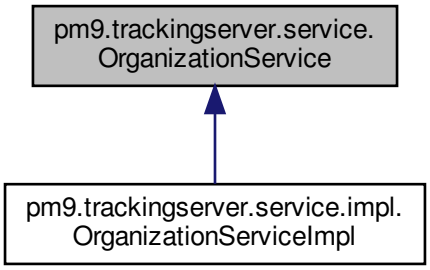
```
Organization pm9.trackingserver.dao.OrganizationDao.findByName (
            String name )
```

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

- src/main/java/pm9/trackingserver/dao/OrganizationDao.java

5.18 pm9.trackingserver.service.OrganizationService Interface Reference

Inheritance diagram for pm9.trackingserver.service.OrganizationService:



Public Member Functions

- Organization findByName (String name)
- void createOrganization (Organization organization)
- Organization findByApiKey (String apiKey)

5.18.1 Member Function Documentation

5.18.1.1 createOrganization()

```
void pm9.trackingserver.service.OrganizationService.createOrganization (
            Organization organization )
```

Implemented in pm9.trackingserver.service.impl.OrganizationServiceImpl.

5.18.1.2 findByApiKey()

```
Organization pm9.trackingserver.service.OrganizationService.findByApiKey (
            String apiKey )
```

Implemented in pm9.trackingserver.service.impl.OrganizationServiceImpl.

5.18.1.3 findByName()

```
Organization pm9.trackingserver.service.OrganizationService.findByName (
            String name )
```

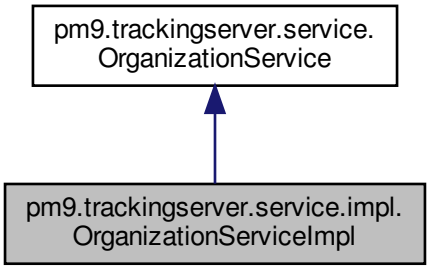
Implemented in pm9.trackingserver.service.impl.OrganizationServiceImpl.

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

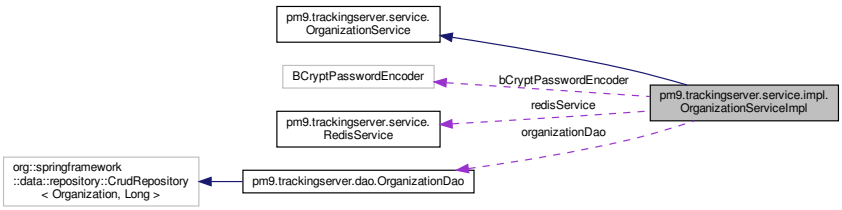
- src/main/java/pm9/trackingserver/service/OrganizationService.java

5.19 pm9.trackingserver.service.impl.OrganizationServiceImpl Class Reference

Inheritance diagram for pm9.trackingserver.service.impl.OrganizationServiceImpl:



Collaboration diagram for pm9.trackingserver.service.impl.OrganizationServiceImpl:



Public Member Functions

- Organization findByName (String name)
- void createOrganization (Organization organization)
- Organization findByApiKey (String apiKey)

Private Attributes

- OrganizationDao organizationDao
- RedisService redisService
- BCryptPasswordEncoder bCryptPasswordEncoder

5.19.1 Detailed Description

Implementation of OrganizationService.

Provides services related to Organization.

5.19.2 Member Function Documentation

5.19.2.1 createOrganization()

```
void pm9.trackingserver.service.impl.OrganizationServiceImpl.createOrganization (
            Organization organization )
```

Implements pm9.trackingserver.service.OrganizationService.

5.19.2.2 findByApiKey()

```
Organization pm9.trackingserver.service.impl.OrganizationServiceImpl.findByApiKey (
            String apiKey )
```

Implements pm9.trackingserver.service.OrganizationService.

5.19.2.3 findByName()

```
Organization pm9.trackingserver.service.impl.OrganizationServiceImpl.findByName (
            String name )
```

Implements pm9.trackingserver.service.OrganizationService.

5.19.3 Member Data Documentation

5.19.3.1 bCryptPasswordEncoder

```
BCryptPasswordEncoder pm9.trackingserver.service.impl.OrganizationServiceImpl.bCryptPassword↩
Encoder  [private]
```

5.19.3.2 organizationDao

```
OrganizationDao pm9.trackingserver.service.impl.OrganizationServiceImpl.organizationDao  [private]
```

5.19.3.3 redisService

```
RedisService pm9.trackingserver.service.impl.OrganizationServiceImpl.redisService  [private]
```

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

- src/main/java/pm9/trackingserver/service/impl/OrganizationServiceImpl.java

5.20 pm9.trackingserver.config.RedisConfig Class Reference

Public Member Functions

- JedisConnectionFactory jedisConnectionFactory ()
- RedisTemplate< String, Object > redisTemplate (JedisConnectionFactory jedisConnectionFactory)

Private Attributes

- String hostName
- String password
- int port

5.20.1 Detailed Description

Contains all connection configuration related to Redis server.

5.20.2 Member Function Documentation

5.20.2.1 jedisConnectionFactory()

```
JedisConnectionFactory pm9.trackingserver.config.RedisConfig.jedisConnectionFactory ( )
```

This connection factory can be used to create an instance of RedisTemplate.

Jedis is a Redis client.

Returns

JedisConnectionFactory bean

5.20.2.2 redisTemplate()

```
RedisTemplate<String, Object> pm9.trackingserver.config.RedisConfig.redisTemplate (
            JedisConnectionFactory jedisConnectionFactory )
```

RedisTemplate bean is used to perform Redis operations.

Parameters

jedisConnectionFactory	It specifies the jedisConnectionFactory.

Returns

RedisTemplate<String, Object> bean

5.20.3 Member Data Documentation

5.20.3.1 hostName

```
String pm9.trackingserver.config.RedisConfig.hostName  [private]
```

5.20.3.2 password

```
String pm9.trackingserver.config.RedisConfig.password  [private]
```

5.20.3.3 port

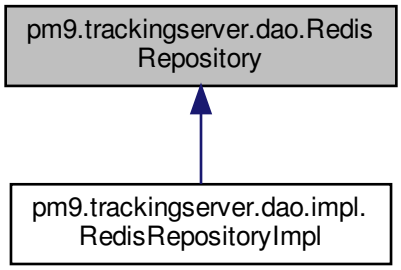
```
int pm9.trackingserver.config.RedisConfig.port  [private]
```

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

- src/main/java/pm9/trackingserver/config/RedisConfig.java

5.21 pm9.trackingserver.dao.RedisRepository Interface Reference

Inheritance diagram for pm9.trackingserver.dao.RedisRepository:



Public Member Functions

- void saveDeviceLocation (String apiKey, String deviceId, LatLng latLng)
- Map< String, DeviceLocationResponse > getAllDeviceLocations (String apiKey)
- void loadOrganizationCache ()
- Organization getOrganizationByApiKey (String apiKey)
- void removeDevice (Device device)
- Organization updateOrganization (Organization organization)
- void insertOrganization (Organization organization)
- void insertDevice (Device device)

5.21.1 Member Function Documentation

5.21.1.1 getAllDeviceLocations()

```
Map<String, DeviceLocationResponse> pm9.trackingserver.dao.RedisRepository.getAllDevice↩
Locations (
            String apiKey )
```

Implemented in pm9.trackingserver.dao.impl.RedisRepositoryImpl.

5.21.1.2 getOrganizationByApiKey()

```
Organization pm9.trackingserver.dao.RedisRepository.getOrganizationByApiKey (
            String apiKey )
```

Implemented in pm9.trackingserver.dao.impl.RedisRepositoryImpl.

5.21.1.3 insertDevice()

```
void pm9.trackingserver.dao.RedisRepository.insertDevice (
            Device device )
```

Implemented in pm9.trackingserver.dao.impl.RedisRepositoryImpl.

5.21.1.4 insertOrganization()

```
void pm9.trackingserver.dao.RedisRepository.insertOrganization (
            Organization organization )
```

Implemented in pm9.trackingserver.dao.impl.RedisRepositoryImpl.

5.21.1.5 loadOrganizationCache()

```
void pm9.trackingserver.dao.RedisRepository.loadOrganizationCache ( )
```

Implemented in pm9.trackingserver.dao.impl.RedisRepositoryImpl.

5.21.1.6 removeDevice()

```
void pm9.trackingserver.dao.RedisRepository.removeDevice (
            Device device )
```

Implemented in pm9.trackingserver.dao.impl.RedisRepositoryImpl.

5.21.1.7 saveDeviceLocation()

```
void pm9.trackingserver.dao.RedisRepository.saveDeviceLocation (
            String apiKey,
            String deviceId,
            LatLng latLng )
```

Implemented in pm9.trackingserver.dao.impl.RedisRepositoryImpl.

5.21.1.8 updateOrganization()

```
Organization pm9.trackingserver.dao.RedisRepository.updateOrganization (
            Organization organization )
```

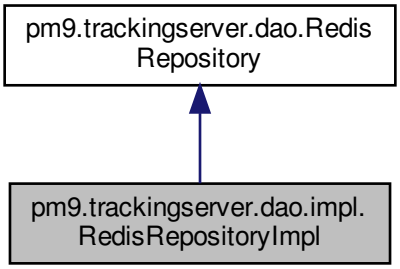
Implemented in pm9.trackingserver.dao.impl.RedisRepositoryImpl.

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

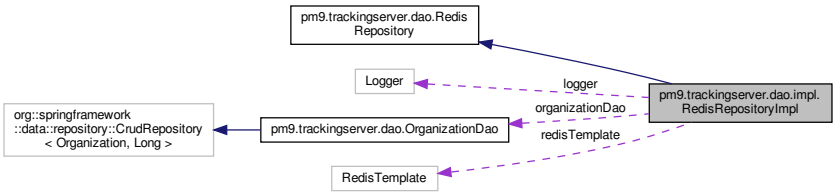
- src/main/java/pm9/trackingserver/dao/RedisRepository.java

5.22 pm9.trackingserver.dao.impl.RedisRepositoryImpl Class Reference

Inheritance diagram for pm9.trackingserver.dao.impl.RedisRepositoryImpl:



Collaboration diagram for pm9.trackingserver.dao.impl.RedisRepositoryImpl:



Public Member Functions

- void saveDeviceLocation (String apiKey, String deviceId, LatLng latLng)
- Map< String, DeviceLocationResponse > getAllDeviceLocations (String apiKey)
- void loadOrganizationCache ()
- Organization getOrganizationByApiKey (String apiKey)
- void removeDevice (Device device)
- Organization updateOrganization (Organization organization)
- void insertOrganization (Organization organization)
- void insertDevice (Device device)

Private Member Functions

- HashOperations getOpsForHash ()

Private Attributes

- int expiry_seconds
- boolean expire
- RedisTemplate redisTemplate
- OrganizationDao organizationDao

Static Private Attributes

- static final Logger logger = LoggerFactory.getLogger(MainControllerServiceImpl.class)

5.22.1 Detailed Description

Implementation of RedisRepository.

This class has all the methods to interact with Redis repository.

5.22.2 Member Function Documentation

5.22.2.1 getAllDeviceLocations()

```
Map<String, DeviceLocationResponse> pm9.trackingserver.dao.impl.RedisRepositoryImpl.getAll↩
DeviceLocations (
            String apiKey )
```

Returns device locations of a particular organization.

Parameters

apiKey	String based on which organization is identified.

Returns

Map<String, DeviceLocationResponse> where key is the device name.

Implements pm9.trackingserver.dao.RedisRepository.

5.22.2.2 getOpsForHash()

```
HashOperations pm9.trackingserver.dao.impl.RedisRepositoryImpl.getOpsForHash ( )  [private]
```

Returns HashOperations object which allows us to put and get objects from different caches.

Returns

HashOperations from the redisTemplate.

5.22.2.3 getOrganizationByApiKey()

```
Organization pm9.trackingserver.dao.impl.RedisRepositoryImpl.getOrganizationByApiKey (
            String apiKey )
```

Gets organization instance from 'organization' cache.

Parameters

apiKey	Used to find Organization instance.

Returns

Organization instance.

Implements pm9.trackingserver.dao.RedisRepository.

5.22.2.4 insertDevice()

```
void pm9.trackingserver.dao.impl.RedisRepositoryImpl.insertDevice (
            Device device )
```

Inserts device into the 'organization' cache using organization's API as key.

Parameters

device	The Device object which needs to be cached.

Implements pm9.trackingserver.dao.RedisRepository.

5.22.2.5 insertOrganization()

```
void pm9.trackingserver.dao.impl.RedisRepositoryImpl.insertOrganization (
            Organization organization )
```

Inserts the organization instance in 'organization' cache.

Parameters

organization	Organization instance which needs to be inserted.

Implements pm9.trackingserver.dao.RedisRepository.

5.22.2.6 loadOrganizationCache()

```
void pm9.trackingserver.dao.impl.RedisRepositoryImpl.loadOrganizationCache ( )
```

Load 'organization' cache when the server is started.

All Organization instances are loaded in the cache.

Implements pm9.trackingserver.dao.RedisRepository.

5.22.2.7 removeDevice()

```
void pm9.trackingserver.dao.impl.RedisRepositoryImpl.removeDevice (
            Device device )
```

Removes the device instance from 'organization' cache.

Parameters

device	Device instance which needs to be deleted.

Implements pm9.trackingserver.dao.RedisRepository.

5.22.2.8 saveDeviceLocation()

```
void pm9.trackingserver.dao.impl.RedisRepositoryImpl.saveDeviceLocation (
            String apiKey,
            String deviceId,
            LatLng latLng )
```

Saves device location.

Parameters

apiKey	
deviceId	
latLng	

Implements pm9.trackingserver.dao.RedisRepository.

5.22.2.9 updateOrganization()

```
Organization pm9.trackingserver.dao.impl.RedisRepositoryImpl.updateOrganization (
            Organization organization )
```

Updates the organization instance in 'organization' cache.

Parameters

organization	Organization instance which needs to be updated.

Returns

Required Organization instance.

Implements pm9.trackingserver.dao.RedisRepository.

5.22.3 Member Data Documentation

5.22.3.1 expire

```
boolean pm9.trackingserver.dao.impl.RedisRepositoryImpl.expire  [private]
```

5.22.3.2 expiry_seconds

```
int pm9.trackingserver.dao.impl.RedisRepositoryImpl.expiry_seconds  [private]
```

5.22.3.3 logger

```
final Logger pm9.trackingserver.dao.impl.RedisRepositoryImpl.logger = LoggerFactory.get↩
Logger(MainControllerServiceImpl.class)  [static], [private]
```

5.22.3.4 organizationDao

```
OrganizationDao pm9.trackingserver.dao.impl.RedisRepositoryImpl.organizationDao  [private]
```

5.22.3.5 redisTemplate

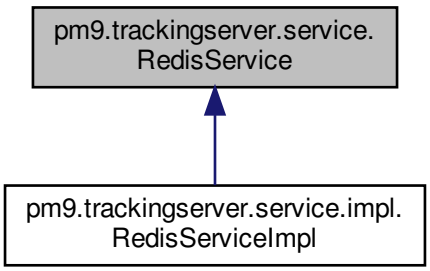
```
RedisTemplate pm9.trackingserver.dao.impl.RedisRepositoryImpl.redisTemplate  [private]
```

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

- src/main/java/pm9/trackingserver/dao/impl/RedisRepositoryImpl.java

5.23 pm9.trackingserver.service.RedisService Interface Reference

Inheritance diagram for pm9.trackingserver.service.RedisService:



Public Member Functions

- Map< String, DeviceLocationResponse > getAllDeviceLocations (String apiKey)
- void saveDeviceLocation (String apiKey, String deviceId, LatLng latLng)
- Organization getOrganizationByApiKey (String apiKey)
- void removeDevice (Device device)
- Organization updateOrganization (Organization organization)
- void insertOrganization (Organization organization)
- void insertDevice (Device device)
- void initCache ()

5.23.1 Member Function Documentation

5.23.1.1 getAllDeviceLocations()

```
Map<String, DeviceLocationResponse> pm9.trackingserver.service.RedisService.getAllDevice↩
Locations (
            String apiKey )
```

Implemented in pm9.trackingserver.service.impl.RedisServiceImpl.

5.23.1.2 getOrganizationByApiKey()

```
Organization pm9.trackingserver.service.RedisService.getOrganizationByApiKey (
            String apiKey )
```

Implemented in pm9.trackingserver.service.impl.RedisServiceImpl.

5.23.1.3 initCache()

```
void pm9.trackingserver.service.RedisService.initCache ( )
```

Implemented in pm9.trackingserver.service.impl.RedisServiceImpl.

5.23.1.4 insertDevice()

```
void pm9.trackingserver.service.RedisService.insertDevice (
            Device device )
```

Implemented in pm9.trackingserver.service.impl.RedisServiceImpl.

5.23.1.5 insertOrganization()

```
void pm9.trackingserver.service.RedisService.insertOrganization (
            Organization organization )
```

Implemented in pm9.trackingserver.service.impl.RedisServiceImpl.

5.23.1.6 removeDevice()

```
void pm9.trackingserver.service.RedisService.removeDevice (
            Device device )
```

Implemented in pm9.trackingserver.service.impl.RedisServiceImpl.

5.23.1.7 saveDeviceLocation()

```
void pm9.trackingserver.service.RedisService.saveDeviceLocation (
            String apiKey,
            String deviceId,
            LatLng latLng )
```

Implemented in pm9.trackingserver.service.impl.RedisServiceImpl.

5.23.1.8 updateOrganization()

```
Organization pm9.trackingserver.service.RedisService.updateOrganization (
            Organization organization )
```

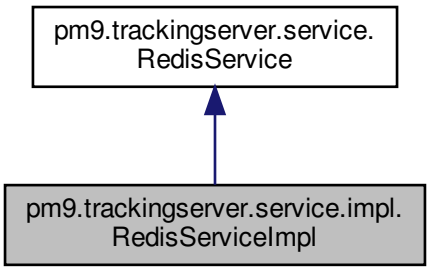
Implemented in pm9.trackingserver.service.impl.RedisServiceImpl.

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

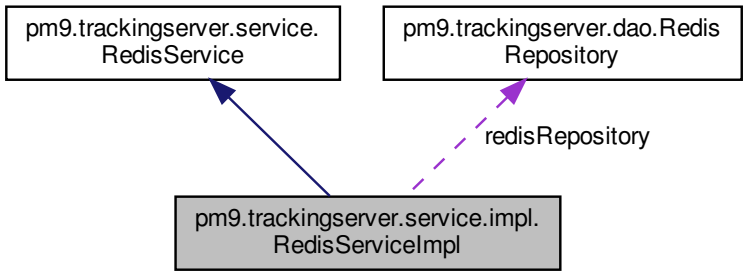
- src/main/java/pm9/trackingserver/service/RedisService.java

5.24 pm9.trackingserver.service.impl.RedisServiceImpl Class Reference

Inheritance diagram for pm9.trackingserver.service.impl.RedisServiceImpl:



Collaboration diagram for pm9.trackingserver.service.impl.RedisServiceImpl:



Public Member Functions

- Map< String, DeviceLocationResponse > getAllDeviceLocations (String apiKey)
- void saveDeviceLocation (String apiKey, String deviceId, LatLng latLng)
- Organization getOrganizationByApiKey (String apiKey)
- void removeDevice (Device device)
- Organization updateOrganization (Organization organization)
- void insertOrganization (Organization organization)
- void insertDevice (Device device)
- void initCache ()

Private Attributes

- RedisRepository redisRepository
- int keyExpirySeconds
- boolean expireFlag

5.24.1 Detailed Description

Implementation of RedisService.

Provides services related to Redis repository.

5.24.2 Member Function Documentation

5.24.2.1 getAllDeviceLocations()

```
Map<String, DeviceLocationResponse> pm9.trackingserver.service.impl.RedisServiceImpl.getAll↩
DeviceLocations (
            String apiKey )
```

Returns device locations of a particular organization.

Parameters

apiKey	String based on which organization is identified.

Returns

Map<String, DeviceLocationResponse> where key is the device name.

Implements pm9.trackingserver.service.RedisService.

5.24.2.2 getOrganizationByApiKey()

```
Organization pm9.trackingserver.service.impl.RedisServiceImpl.getOrganizationByApiKey (
            String apiKey )
```

Finds organization by API key.

Parameters

apiKey	Based on this Organization is identified.

Returns

Required Organization instance.

Implements pm9.trackingserver.service.RedisService.

5.24.2.3 initCache()

```
void pm9.trackingserver.service.impl.RedisServiceImpl.initCache ( )
```

Service method to load 'organization' cache when the server is started.

All Organization instances are loaded in the cache.

Implements pm9.trackingserver.service.RedisService.

5.24.2.4 insertDevice()

```
void pm9.trackingserver.service.impl.RedisServiceImpl.insertDevice (
            Device device )
```

Inserts device into the 'organization' cache using organization's API as key.

Parameters

device	The Device object which needs to be cached.

Implements pm9.trackingserver.service.RedisService.

5.24.2.5 insertOrganization()

```
void pm9.trackingserver.service.impl.RedisServiceImpl.insertOrganization (
            Organization organization )
```

Inserts the organization instance in 'organization' cache.

Parameters

organization	Organization instance which needs to be inserted.

Implements pm9.trackingserver.service.RedisService.

5.24.2.6 removeDevice()

```
void pm9.trackingserver.service.impl.RedisServiceImpl.removeDevice (
            Device device )
```

Removes device from the Redis repository.

Parameters

device	Instance which needs to be removed.

Implements pm9.trackingserver.service.RedisService.

5.24.2.7 saveDeviceLocation()

```
void pm9.trackingserver.service.impl.RedisServiceImpl.saveDeviceLocation (
            String apiKey,
            String deviceId,
            LatLng latLng )
```

Used to save a device location when it is submitted.

Parameters

apiKey	Based on this Organization is identified.
deviceId	Based on this Device is identified.
latLng	Location of the device.

Implements pm9.trackingserver.service.RedisService.

5.24.2.8 updateOrganization()

```
Organization pm9.trackingserver.service.impl.RedisServiceImpl.updateOrganization (
            Organization organization )
```

Updates the organization instance in 'organization' cache.

Parameters

organization	Organization instance which needs to be updated.

Returns

Required Organization instance.

Implements pm9.trackingserver.service.RedisService.

5.24.3 Member Data Documentation

5.24.3.1 expireFlag

```
boolean pm9.trackingserver.service.impl.RedisServiceImpl.expireFlag  [private]
```

5.24.3.2 keyExpirySeconds

```
int pm9.trackingserver.service.impl.RedisServiceImpl.keyExpirySeconds  [private]
```

5.24.3.3 redisRepository

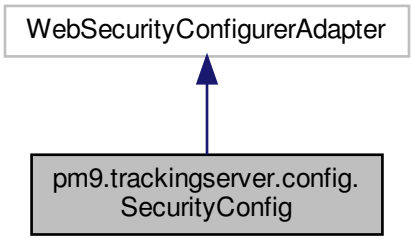
```
RedisRepository pm9.trackingserver.service.impl.RedisServiceImpl.redisRepository  [private]
```

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

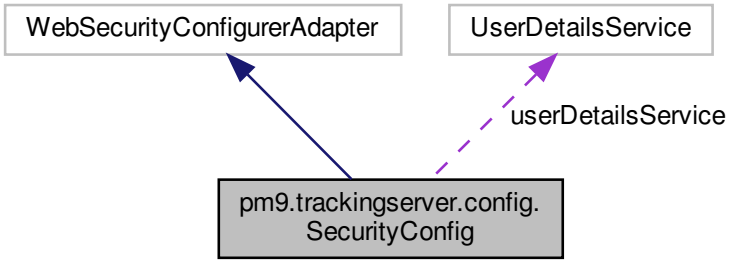
- src/main/java/pm9/trackingserver/service/impl/RedisServiceImpl.java

5.25 pm9.trackingserver.config.SecurityConfig Class Reference

Inheritance diagram for pm9.trackingserver.config.SecurityConfig:



Collaboration diagram for pm9.trackingserver.config.SecurityConfig:



Public Member Functions

- BCryptPasswordEncoder bCryptPasswordEncoder ()
- AuthenticationManager customAuthenticationManager () throws Exception
- void configureGlobal (AuthenticationManagerBuilder auth) throws Exception

Protected Member Functions

- void configure (HttpSecurity http) throws Exception

Private Attributes

- UserDetailsService userDetailsService

5.25.1 Detailed Description

Contains all configuration related to security and authority.

5.25.2 Member Function Documentation

5.25.2.1 bCryptPasswordEncoder()

```
BCryptPasswordEncoder pm9.trackingserver.config.SecurityConfig.bCryptPasswordEncoder ( )
```

It is used to hash passswords.

Returns

BCryptPasswordEncoder java bean.

5.25.2.2 configure()

```
void pm9.trackingserver.config.SecurityConfig.configure (
            HttpSecurity http ) throws Exception  [protected]
```

It filters requests based on the user and url path.

It is called automatically by Spring.

Parameters

http	It allows configuring web based security for specific http requests.

Exceptions

Exception	

5.25.2.3 configureGlobal()

```
void pm9.trackingserver.config.SecurityConfig.configureGlobal (
            AuthenticationManagerBuilder auth ) throws Exception
```

Used to configure global AuthenticationManagerBuilder.

Parameters

auth	allows for easily building in memory authentication, LDAP authentication, JDBC based authentication

Exceptions

Exception	

5.25.2.4 customAuthenticationManager()

```
AuthenticationManager pm9.trackingserver.config.SecurityConfig.customAuthenticationManager ( )
throws Exception
```

This is just the vanilla flavor AuthenticationManager.

You can define a custom AuthenticationManager.

Returns

AuthenticationManager Default Spring authentication manager.

Exceptions

Exception	

5.25.3 Member Data Documentation

5.25.3.1 userDetailsService

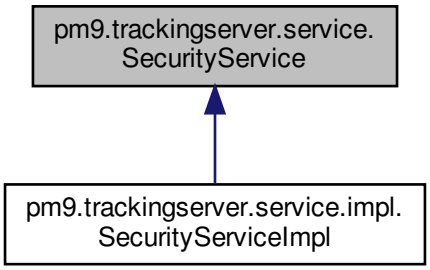
```
UserDetailsService pm9.trackingserver.config.SecurityConfig.userDetailsService  [private]
```

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

- src/main/java/pm9/trackingserver/config/SecurityConfig.java

5.26 pm9.trackingserver.service.SecurityService Interface Reference

Inheritance diagram for pm9.trackingserver.service.SecurityService:



Public Member Functions

- void autoLogin (String username, String password)
- String findLoggedInUsername ()

5.26.1 Member Function Documentation

5.26.1.1 autoLogin()

```
void pm9.trackingserver.service.SecurityService.autoLogin (
            String username,
            String password )
```

Implemented in pm9.trackingserver.service.impl.SecurityServiceImpl.

5.26.1.2 findLoggedInUsername()

```
String pm9.trackingserver.service.SecurityService.findLoggedInUsername ( )
```

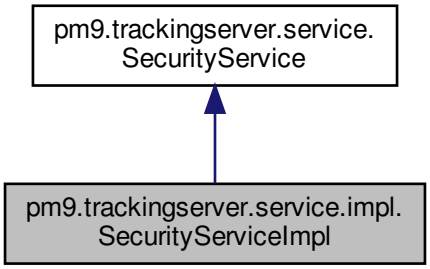
Implemented in pm9.trackingserver.service.impl.SecurityServiceImpl.

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

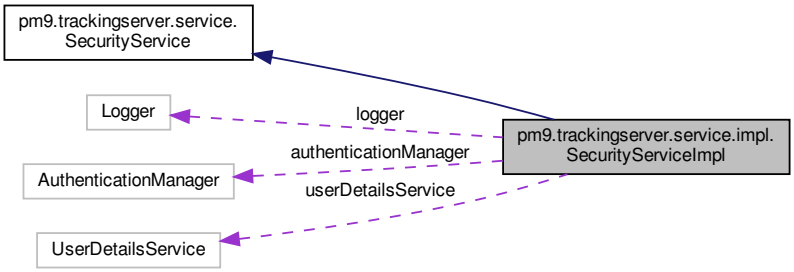
- src/main/java/pm9/trackingserver/service/SecurityService.java

5.27 pm9.trackingserver.service.impl.SecurityServiceImpl Class Reference

Inheritance diagram for pm9.trackingserver.service.impl.SecurityServiceImpl:



Collaboration diagram for pm9.trackingserver.service.impl.SecurityServiceImpl:



Public Member Functions

- void autoLogin (String username, String password)
- String findLoggedInUsername ()

Static Public Attributes

- static final Logger logger = LoggerFactory.getLogger(SecurityServiceImpl.class)

Private Attributes

- AuthenticationManager authenticationManager
- UserDetailsService userDetailsService

5.27.1 Detailed Description

Implementation of SecurityService.

It provide service to current methods for current logged in user.

5.27.2 Member Function Documentation

5.27.2.1 autoLogin()

```
void pm9.trackingserver.service.impl.SecurityServiceImpl.autoLogin (
            String username,
            String password )
```

Method used to auto login user after registration.

Parameters

username	Username for new user.
password	Password for new user.

Implements pm9.trackingserver.service.SecurityService.

5.27.2.2 findLoggedInUsername()

```
String pm9.trackingserver.service.impl.SecurityServiceImpl.findLoggedInUsername ( )
```

Returns username of currently logged in user.

Returns

Username string.

Implements pm9.trackingserver.service.SecurityService.

5.27.3 Member Data Documentation

5.27.3.1 authenticationManager

```
AuthenticationManager pm9.trackingserver.service.impl.SecurityServiceImpl.authentication↩
Manager  [private]
```

5.27.3.2 logger

```
final Logger pm9.trackingserver.service.impl.SecurityServiceImpl.logger = LoggerFactory.get↩
Logger(SecurityServiceImpl.class)  [static]
```

5.27.3.3 userDetailsService

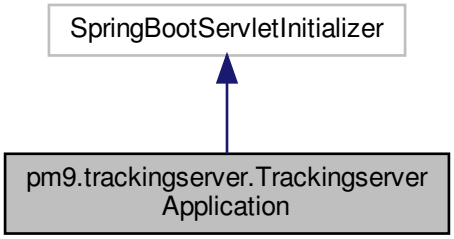
```
UserDetailsService pm9.trackingserver.service.impl.SecurityServiceImpl.userDetailsService
[private]
```

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

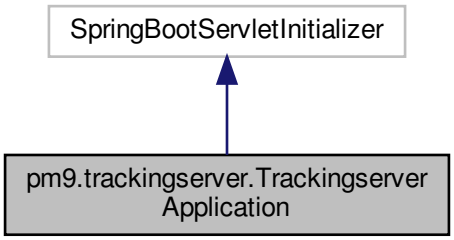
- src/main/java/pm9/trackingserver/service/impl/SecurityServiceImpl.java

5.28 pm9.trackingserver.TrackingserverApplication Class Reference

Inheritance diagram for pm9.trackingserver.TrackingserverApplication:



Collaboration diagram for pm9.trackingserver.TrackingserverApplication:



Static Public Member Functions

- static void main (String[ ] args)

Protected Member Functions

- SpringApplicationBuilder configure (SpringApplicationBuilder application)

5.28.1 Detailed Description

Spring boot application which is run.

This file is the starting point when the application is deployed. It extends SpringBootServletInitializer.

5.28.2 Member Function Documentation

5.28.2.1 configure()

```
SpringApplicationBuilder pm9.trackingserver.TrackingserverApplication.configure (
            SpringApplicationBuilder application )  [protected]
```

Configures the SpringApplicationBuilder.

Parameters

application	SpringApplicationBuilder which needs to be configured

Returns

updated SpringApplicationBuilder

5.28.2.2 main()

```
static void pm9.trackingserver.TrackingserverApplication.main (
            String [] args )  [static]
```

Driver function.

Parameters

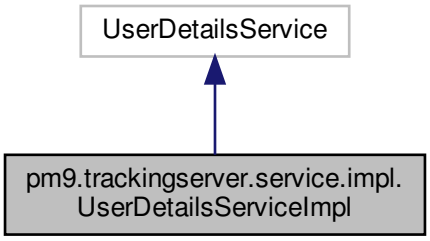
args	Command line arguments.

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

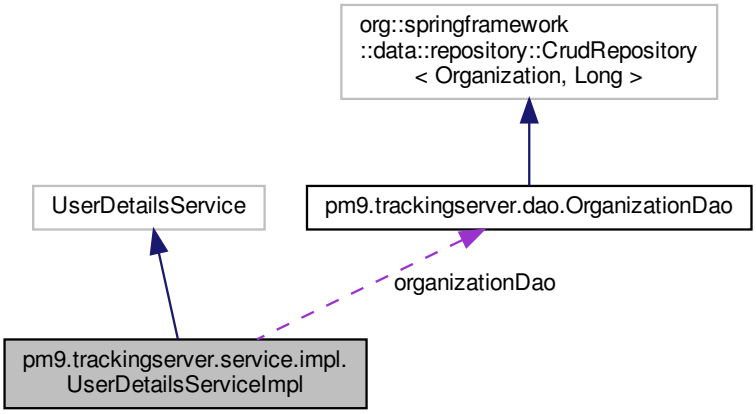
- src/main/java/pm9/trackingserver/TrackingserverApplication.java

5.29 pm9.trackingserver.service.impl.UserDetailsServiceImpl Class Reference

Inheritance diagram for pm9.trackingserver.service.impl.UserDetailsServiceImpl:



Collaboration diagram for pm9.trackingserver.service.impl.UserDetailsServiceImpl:



Public Member Functions

- UserDetails loadUserByUsername (String username)

5.29.1 Member Function Documentation

5.29.1.1 loadUserByUsername()

```
UserDetails pm9.trackingserver.service.impl.UserDetailsServiceImpl.loadUserByUsername (
            String username )
```

Creates and returns org.springframework.security.core.userdetails.UserDetails for given username.

Parameters

username	Identifier for user which needs to be loaded.

Returns

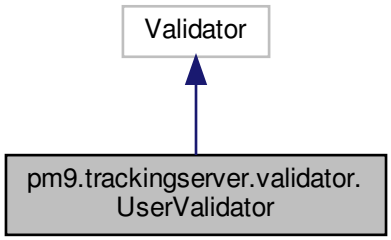
org.springframework.security.core.userdetails.UserDetails for a given user.

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

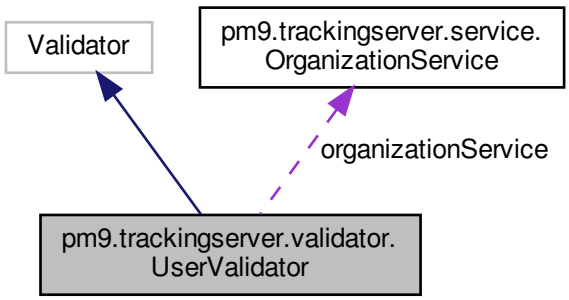
- src/main/java/pm9/trackingserver/service/impl/UserDetailsServiceImpl.java

5.30 pm9.trackingserver.validator.UserValidator Class Reference

Inheritance diagram for pm9.trackingserver.validator.UserValidator:



Collaboration diagram for pm9.trackingserver.validator.UserValidator:



Public Member Functions

- boolean supports (Class<?> aClass)
- void validate (Object object, Errors errors)

Private Attributes

- OrganizationService organizationService

5.30.1 Detailed Description

Used to validate user when they register.

It uses the constants defined in 'validation.properties'.

5.30.2 Member Function Documentation

5.30.2.1 supports()

```
boolean pm9.trackingserver.validator.UserValidator.supports (
            Class<?> aClass )
```

This method specifies which class is being validated.

5.30.2.2 validate()

```
void pm9.trackingserver.validator.UserValidator.validate (
            Object object,
            Errors errors )
```

Method to validate user.

Parameters

object	which needs to be validated.
errors	Object which contains the errors in the object.

5.30.3 Member Data Documentation

5.30.3.1 organizationService

```
OrganizationService pm9.trackingserver.validator.UserValidator.organizationService  [private]
```

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

- src/main/java/pm9/trackingserver/validator/UserValidator.java

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