Package edu.napier.geo.publicTransport.InformationStor

Class Summary

InformationStorage

JourneyInformation

---

edu.napier.geo.publicTransport.InformationStorage

Class InformationStorage

```
java.lang.Object
    |
    +--edu.napier.geo.publicTransport.InformationStorage.InformationStorage
```

All Implemented Interfaces:
      java.io.Serializable

< [Fields](#) > < [Constructors](#) > < [Methods](#) >

---

public class **InformationStorage**
extends java.lang.Object
implements java.io.Serializable

Fields

serialVersionUID

```
private static final long serialVersionUID
```
    2017/02/28

---

storedJourneysInformation

```
private java.util.ArrayList storedJourneysInformation
```

Constructors

InformationStorage

```
public   InformationStorage()
```

Methods

addRouteLocationsOfString

```
private java.util.ArrayList addRouteLocationsOfString(java.util.ArrayList
listToAddLocationsTo,
                                            java.lang.String string)
```

internal method to add the Locations (which are in a string in the path) to the list of Locations of a route.

Parameters:

listToAddLocationsTo - List of Locations, where the Locations of the part should be added to

string - String of coordinates of the Locations which should be added to the ArrayList. Coordinates have to be comma separated as well as locations, "[", "]" and spaces in the string are ignored. Coordinates in format: "lat,lon,lat,lon,..."

Returns:

ArrayList of Location objects that has been given. Contains the objects it contained when given + the Locations from the String

getAverageNumberOfLegs

```
public double getAverageNumberOfLegs(edu.napier.geo.common.Location from,
                                     edu.napier.geo.common.Location to)
```

gives back the average number of Legs of a Journey from and to a Location.

Parameters:

from - Location object

to - Location object

Returns:

double of the average number of Legs. Returns -1, if no JourneyInformation object from and to the given Locations in the InformationStorage.

getAverageTimeMSForJourney

```
public double getAverageTimeMSForJourney(edu.napier.geo.common.Location from,
                                         edu.napier.geo.common.Location to)
```

Gives back the average time for a Journey (in MS) from and to a Location

Parameters:

from - Location object

to - Location object

Returns:

double of the average time in MS for the Journey. Returns -1, if no JourneyInformation object from and to the given Locations in the InformationStorage.

---

getAverageWalkingDistanceKMForJourney

```
public double
getAverageWalkingDistanceKMForJourney(edu.napier.geo.common.Location from,
edu.napier.geo.common.Location to)
```

>Gives back the average Walking distance in KM for a Journey from and to a Location

>**Parameters:**

>>from - Location object
>>to - Location object

>**Returns:**

>>double of the average walking distance in KM. returns-1, if no JourneyInformation for the given Locations in the InformationStorage.

---

getDistanceOfTflJourney

```
private int getDistanceOfTflJourney(TflJourney tflJourney)
```

>Gives back the distance of a given TflJourney

>**Parameters:**

>>tflJourney - TflJourney of which the method should give the distance back

>**Returns:**

>>Integer of the distance of a TflJourney in m

---

getJourneyInformation

```
public JourneyInformation getJourneyInformation(edu.napier.geo.common.Location
from,
                                                edu.napier.geo.common.Location
to)
```

>Gives back the JourneyInformation object for a journey from and to a Location

>**Parameters:**

>>from - Location object
>>to - Location object

>**Returns:**

>>the JourneyInformation object to a Journey from and to a Location. Returns null, if there is no Journey from and to the given Locations in the InformationStorage.

---

getRouteLocationsOfJourney

```
public java.util.ArrayList
getRouteLocationsOfJourney(edu.napier.geo.common.Location from,
edu.napier.geo.common.Location to)
```

> Gives back the Route of a Journey from and to a Location as an ArrayList of Locations
>
> **Parameters:**
>
>> from - Location object
>> to - Location object
>
> **Returns:**
>
>> ArrayListy of Location objects of the Route of the Journey. Returns null, if no JourneyInformation object from and to the given Locations in the InformationStorage.

---

getRouteLocationsOfJourney

```
public java.util.ArrayList getRouteLocationsOfJourney(TflJourney journey)
```

> gives back an ArrayList of Locations. Uses Legs (departure and arrival point) and the list of coordinates of the path of the legs.
>
> **Parameters:**
>
>> journey - TflJourney
>
> **Returns:**
>
>> ArrayList of Locations objects of all Locations of this route incl. Locations in the path.

---

getStoredJourneyInformation

```
public java.util.ArrayList getStoredJourneyInformation()
```

> Gives back all stored JourneyInformation of this InformationStorage as an ArrayList
>
> **Returns:**
>
>> ArrayList of JourneyInformation of all JourneyInformation of this InformationStorage

---

getTflJourneys

```
public java.util.ArrayList getTflJourneys(edu.napier.geo.common.Location from,
                                          edu.napier.geo.common.Location to)
```

Gives back a ArrayList of TflJourneys of a Journey from and to a Location.

Parameters:

from - Location object
to - Location object

Returns:

ArrayList of TflJourney objects of the Journey. Returns null, if no JourneyInformation object from and to the given Locations in the InformationStorage.

---

storeInformation

```
public void storeInformation(ResponseTfl responseTfl)
```

Gets all information of a JourneyInformation out of this object for each journey of the given responseTfl object

Parameters:

responseTfl - a responseTfl Object that should be stored in the informationStorage

---

storeJourney

```
private void storeJourney(TflJourney tflJourney)
```

gets the information from the journey and stores it in the information Storage. If a journey from and to the start and end Locations exists, it adds the information, that are stored in ArrayLists, otherwise it creates a new JourneyInformation object and stores the information in it. RouteLocations are only stored for the first time by calling the constructor. To get the RouteLocations for other journeys, please use the getJourney method and seperate the locations out of it.

Parameters:

tflJourney - TflJourney to store

---

storeJourneys

```
private void
storeJourneys(edu.napier.geo.publicTransport.Response.TflJourney[]
tflJourneys)
```

Gets all information of a JourneyInformation out of this objets for each journey of the given Array

Parameters:

tflJourneys - Array of TflJourneys to store

---

toString

```
public java.lang.String toString()
```

Returns:

String of information about this object incl. toString of all the JourneyInformation stored in this object.

Overrides:

toString in class java.lang.Object

---

edu.napier.geo.publicTransport.InformationStorage

Class JourneyInformation

```
java.lang.Object
    |
    +--edu.napier.geo.common.Journey
         |
         +--edu.napier.geo.publicTransport.InformationStorage.JourneyInformation
```

All Implemented Interfaces:
java.io.Serializable

< [Fields](#) > < [Constructors](#) > < [Methods](#) >

---

public class **JourneyInformation**
extends edu.napier.geo.common.Journey
implements java.io.Serializable

Fields

averageNumberOfLegs

```
private double averageNumberOfLegs
```

---

distancesMeter

```
private java.util.ArrayList distancesMeter
```

---

legs

```
private java.util.ArrayList legs
```

---

routeLocations

```
private java.util.ArrayList routeLocations
```

---

serialVersionUID

```
private static final long serialVersionUID
```

---

tflJourneys

```
private java.util.ArrayList tflJourneys
```

---

timesMS

```
private java.util.ArrayList timesMS
```

Constructors

JourneyInformation

```
public   JourneyInformation(edu.napier.geo.common.Location from,
                            edu.napier.geo.common.Location to,
                            int timeMinutes,
                            int numberOfLegs,
                            int distanceMeter,
                            TflJourney tflJourney,
                            java.util.ArrayList routeLocations)
```

Constructor of a JourneyInformation. Used for ccreating a new JourneyInformation. If there is a Journey from and to the same Location, this Location should be used and the information added. A new JourneyInformation should only be created, if there is no Journey from and to the same Location.

Parameters:

from - Location object
to - Location object
timeMinutes - Integer of the duration in Minutes.
numberOfLegs - Integer of the number of legs of this Journey.
distanceMeter - Integer of the distance in Meter
tflJourney - TflJourney object of this Journey.
routeLocations - ArrayList of Locations between the Departure and Arrival Location

Methods

addDistance

`public void **addDistance**(int distanceMeter)`

> Method to add a distance in meter to the list of distances. Uses the Walking distance of a Journey, because the user needs only the time for using public transport, not the distance a vehicle of public transport goes. Average distance is calculated and updated automatically.
>
> **Parameters:**
>> distanceMeter - Integer of the walking distance of this Journey in Meter.

---

addLeg

`public void **addLeg**(int numberOfLegs)`

> Method to add a number of legs to the list of number of legs. Average number of legs is calculated and updated automatically.
>
> **Parameters:**
>> numberOfLegs - int of number of Legs that should be added to the list of all number of legs to create the average

---

addTime

`public void **addTime**(int timeInMinutes)`

> Method to add a duration time to the List of duration times. Average duration is calculated and updated automatically.
>
> **Parameters:**
>> timeInMinutes - Integer of duration time in minutes

---

calcAverage

`private double **calcAverage**(java.util.ArrayList list)`

> Method to calculate the average of a ArrayList of Integer.
>
> **Parameters:**
>> list - ArrayList of Integers to calculate its average
>
> **Returns:**
>> double of the average value of the Integers in the given ArrayList.

---

getAllNumbersOfLegs

```
public java.util.ArrayList getAllNumbersOfLegs()
```

---

getAverageNumberOfLegs

```
public double getAverageNumberOfLegs()
```

---

getAverageTimeMS

```
public double getAverageTimeMS()
```

---

getDistancesMeter

```
public java.util.ArrayList getDistancesMeter()
```

---

getFrom

```
public edu.napier.geo.common.Location getFrom()
```

---

getRouteLocations

```
public java.util.ArrayList getRouteLocations()
```

---

getSerialversionuid

```
public static long getSerialversionuid()
```

---

getTflJourneys

```
public java.util.ArrayList getTflJourneys()
```

getTime

```
public java.util.ArrayList getTime()
```

getTimesMS

```
public java.util.ArrayList getTimesMS()
```

getTo

```
public edu.napier.geo.common.Location getTo()
```

setAverageNumberOfLegs

```
private void setAverageNumberOfLegs(double averageNumberOfLegs)
```

setAverageTimeMS

```
private void setAverageTimeMS(double averageTime)
```

setFrom

```
public void setFrom(edu.napier.geo.common.Location from)
```

setTime

```
public void setTime(java.util.ArrayList time)
```

setTo

```
public void setTo(edu.napier.geo.common.Location to)
```

---

toString

```
public java.lang.String toString()
```

> ToString(), includes the following information: from, to, average time, list of all times, average number of legs, list of all number of legs, average distance, all distances, number of TflJourney Objects
>
> **Overrides:**
>
> > toString in class edu.napier.geo.common.Journey

Package edu.napier.geo.publicTransport.Response

Class Summary

AdditionalProperty

AffectedRoute

AffectedStop

Children

Crowding

CycleHireDockingStationData

Disruption

Elevation

Instruction

Leg

Line

LineGroup

LineIdentifier

LineModeGroup

LineSmallVersionOfClass

LineStatuse

Mode

Obstacle

PassengerFlow

Path

PathAttribute

---

edu.napier.geo.publicTransport.Response

Class AdditionalProperty

```
java.lang.Object
    |
    +--edu.napier.geo.publicTransport.Response.AdditionalProperty
```

All Implemented Interfaces:
> java.io.Serializable

< [Fields](#) > < [Constructors](#) > < [Methods](#) >

---

public class **AdditionalProperty**
extends java.lang.Object
implements java.io.Serializable

Fields

category

`private java.lang.String` **`category`**

---

key

`private java.lang.String` **`key`**

---

modified

`private java.lang.String` **`modified`**

---

serialVersionUID

`private static final long` **`serialVersionUID`**

> Created with https://timboudreau.com/blog/json/read under Creative Commons CC BY-NC-SA 3.0 license. Author of the used software: Tim Boudreau. Changes: Jan-Niklas Keiner 2017/03/02 Changes: separation of inner classes, adding getter methods and making objects compatible to objects of the public transport project. License: https://creativecommons.org/licenses/by-nc-sa/3.0/legalcode Class based on JSON Response of the TfL API format with a few changes (like storing lon and lat in Locations). See empty example response in documentation.

---

sourceSystemKey

`private java.lang.String` **`sourceSystemKey`**

---

value

`private java.lang.String` **`value`**

Constructors

AdditionalProperty

```
public  AdditionalProperty(java.lang.String category,
                           java.lang.String key,
                           java.lang.String sourceSystemKey,
                           java.lang.String value,
                           java.lang.String modified)
```

Methods

getCategory

```
public java.lang.String getCategory()
```

getKey

```
public java.lang.String getKey()
```

getModified

```
public java.lang.String getModified()
```

getSourceSystemKey

```
public java.lang.String getSourceSystemKey()
```

getValue

```
public java.lang.String getValue()
```

edu.napier.geo.publicTransport.Response

Class AffectedRoute

```
java.lang.Object
    |
    +--edu.napier.geo.publicTransport.Response.AffectedRoute
```

All Implemented Interfaces:
> java.io.Serializable

< [Fields](#) > < [Constructors](#) > < [Methods](#) >

public class **AffectedRoute**
extends java.lang.Object
implements java.io.Serializable

Fields

destinationName

```
private java.lang.String destinationName
```

direction

```
private java.lang.String direction
```

id

```
private java.lang.String id
```

lineId

```
private java.lang.String lineId
```

lineString

```
private java.lang.String lineString
```

name

```
private java.lang.String name
```

---

originationName

```
private java.lang.String originationName
```

---

routeCode

```
private java.lang.String routeCode
```

---

routeSectionNaptanEntrySequence

```
private
edu.napier.geo.publicTransport.Response.RouteSectionNaptanEntrySequence[]
routeSectionNaptanEntrySequence
```

---

serialVersionUID

```
private static final long serialVersionUID
```
> Created with https://timboudreau.com/blog/json/read under Creative Commons CC BY-NC-SA 3.0 license. Author of the used software: Tim Boudreau. Changes: Jan-Niklas Keiner 2017/03/02 Changes: separation of inner classes, adding getter methods and making objects compatible to objects of the public transport project. License: https://creativecommons.org/licenses/by-nc-sa/3.0/legalcode Class based on JSON Response of the TfL API format with a few changes (like storing lon and lat in Locations). See empty example response in documentation.

Constructors

AffectedRoute

```
public   AffectedRoute(java.lang.String id,
                       java.lang.String lineId,
                       java.lang.String routeCode,
                       java.lang.String name,
                       java.lang.String direction,
                       java.lang.String lineString,
                       java.lang.String originationName,
                       java.lang.String destinationName,
edu.napier.geo.publicTransport.Response.RouteSectionNaptanEntrySequence[]
routeSectionNaptanEntrySequence)
```

Methods

getDestinationName

`public java.lang.String` **`getDestinationName`**`()`

---

getDirection

`public java.lang.String` **`getDirection`**`()`

---

getId

`public java.lang.String` **`getId`**`()`

---

getLineId

`public java.lang.String` **`getLineId`**`()`

---

getLineString

`public java.lang.String` **`getLineString`**`()`

---

getName

`public java.lang.String` **`getName`**`()`

---

getOriginationName

`public java.lang.String` **`getOriginationName`**`()`

---

getRouteCode

`public java.lang.String` **`getRouteCode`**`()`

getRouteSectionNaptanEntrySequence

```
public
edu.napier.geo.publicTransport.Response.RouteSectionNaptanEntrySequence[]
getRouteSectionNaptanEntrySequence()
```

edu.napier.geo.publicTransport.Response

Class AffectedStop

```
java.lang.Object
    |
    +--edu.napier.geo.common.Location
        |
        +--edu.napier.geo.publicTransport.Response.AffectedStop
```

All Implemented Interfaces:
        java.io.Serializable

< Fields > < Constructors > < Methods >

public class **AffectedStop**
extends edu.napier.geo.common.Location
implements java.io.Serializable

Fields

accessibilitySummary

```
private java.lang.String accessibilitySummary
```

additionalProperties

```
private edu.napier.geo.publicTransport.Response.AdditionalProperty[]
additionalProperties
```

children

```
private edu.napier.geo.publicTransport.Response.Children[] children
```

childrenUrls

```
private java.lang.String[] childrenUrls
```

commonName

`private java.lang.String` **`commonName`**

distance

`private long` **`distance`**

fullName

`private java.lang.String` **`fullName`**

hubNaptanCode

`private java.lang.String` **`hubNaptanCode`**

icsCode

`private java.lang.String` **`icsCode`**

id

`private java.lang.String` **`id`**

indicator

`private java.lang.String` **`indicator`**

lineGroup

`private edu.napier.geo.publicTransport.Response.LineGroup[]` **`lineGroup`**

lineModeGroups

`private edu.napier.geo.publicTransport.Response.LineModeGroup[]` **`lineModeGroups`**

lines

```
private edu.napier.geo.publicTransport.Response.Line[] lines
```

---

modes

```
private java.lang.String[] modes
```

---

naptanId

```
private java.lang.String naptanId
```

---

naptanMode

```
private java.lang.String naptanMode
```

---

placeType

```
private java.lang.String placeType
```

---

platformName

```
private java.lang.String platformName
```

---

serialVersionUID

```
private static final long serialVersionUID
```
> Created with https://timboudreau.com/blog/json/read under Creative Commons CC BY-NC-SA 3.0 license. Author of the used software: Tim Boudreau. Changes: Jan-Niklas Keiner 2017/03/02 Changes: separation of inner classes, adding getter methods and making objects compatible to objects of the public transport project. License: https://creativecommons.org/licenses/by-nc-sa/3.0/legalcode Class based on JSON Response of the TfL API format with a few changes (like storing lon and lat in Locations). See empty example response in documentation.

---

smsCode

```
private java.lang.String smsCode
```

---

stationNaptan

```
private java.lang.String stationNaptan
```

---

status

```
private boolean status
```

---

stopLetter

```
private java.lang.String stopLetter
```

---

stopType

```
private java.lang.String stopType
```

---

url

```
private java.lang.String url
```

Constructors

AffectedStop

```
public  AffectedStop(java.lang.String naptanId,
                     java.lang.String platformName,
                     java.lang.String indicator,
                     java.lang.String stopLetter,
                     java.lang.String[] modes,
                     java.lang.String icsCode,
                     java.lang.String smsCode,
                     java.lang.String stopType,
                     java.lang.String stationNaptan,
                     java.lang.String accessibilitySummary,
                     java.lang.String hubNaptanCode,
                     edu.napier.geo.publicTransport.Response.Line[] lines,
                     edu.napier.geo.publicTransport.Response.LineGroup[]
lineGroup,
                     edu.napier.geo.publicTransport.Response.LineModeGroup[]
lineModeGroups,
                     java.lang.String fullName,
                     java.lang.String naptanMode,
                     boolean status,
                     java.lang.String id,
                     java.lang.String url,
                     java.lang.String commonName,
                     long distance,
                     java.lang.String placeType,
edu.napier.geo.publicTransport.Response.AdditionalProperty[]
additionalProperties,
                     edu.napier.geo.publicTransport.Response.Children[]
children,
                     java.lang.String[] childrenUrls,
                     double lat,
                     double lon)
```

Methods

getAccessibilitySummary

```
public java.lang.String getAccessibilitySummary()
```

getAdditionalProperties

```
public edu.napier.geo.publicTransport.Response.AdditionalProperty[]
getAdditionalProperties()
```

getChildren

public edu.napier.geo.publicTransport.Response.Children[] **getChildren**()

---

getChildrenUrls

public java.lang.String[] **getChildrenUrls**()

---

getCommonName

public java.lang.String **getCommonName**()

---

getDistance

public long **getDistance**()

---

getFullName

public java.lang.String **getFullName**()

---

getHubNaptanCode

public java.lang.String **getHubNaptanCode**()

---

getIcsCode

public java.lang.String **getIcsCode**()

---

getId

public java.lang.String **getId**()

getIndicator

```
public java.lang.String getIndicator()
```

getLineGroup

```
public edu.napier.geo.publicTransport.Response.LineGroup[] getLineGroup()
```

getLineModeGroups

```
public edu.napier.geo.publicTransport.Response.LineModeGroup[]
getLineModeGroups()
```

getLines

```
public edu.napier.geo.publicTransport.Response.Line[] getLines()
```

getModes

```
public java.lang.String[] getModes()
```

getNaptanId

```
public java.lang.String getNaptanId()
```

getNaptanMode

```
public java.lang.String getNaptanMode()
```

getPlaceType

```
public java.lang.String getPlaceType()
```

getPlatformName

```
public java.lang.String getPlatformName()
```

getSmsCode

```
public java.lang.String getSmsCode()
```

getStationNaptan

```
public java.lang.String getStationNaptan()
```

getStopLetter

```
public java.lang.String getStopLetter()
```

getStopType

```
public java.lang.String getStopType()
```

getUrl

```
public java.lang.String getUrl()
```

isStatus

```
public boolean isStatus()
```

edu.napier.geo.publicTransport.Response

Class Children

```
java.lang.Object
    |
    +--edu.napier.geo.common.Location
        |
        +--edu.napier.geo.publicTransport.Response.Children
```

All Implemented Interfaces:
> java.io.Serializable

< [Fields](#) > < [Constructors](#) > < [Methods](#) >

---

public class **Children**
extends edu.napier.geo.common.Location
implements java.io.Serializable

Fields

additionalProperties

```
private edu.napier.geo.publicTransport.Response.AdditionalProperty[]
additionalProperties
```

---

children

```
private edu.napier.geo.publicTransport.Response.Children[] children
```

---

childrenUrls

```
private java.lang.String[] childrenUrls
```

---

commonName

```
private java.lang.String commonName
```

---

distance

```
private long distance
```

---

id

```
private java.lang.String id
```

---

placeType

```
private java.lang.String placeType
```

---

serialVersionUID

```
private static final long serialVersionUID
```
Created with https://timboudreau.com/blog/json/read under Creative Commons CC BY-NC-SA 3.0 license. Author of the used software: Tim Boudreau. Changes: Jan-Niklas Keiner 2017/03/02 Changes: separation of inner classes, adding getter methods and making objects compatible to objects of the public transport project. License: https://creativecommons.org/licenses/by-nc-sa/3.0/legalcode Class based on JSON Response of the TfL API format with a few changes (like storing lon and lat in Locations). See empty example response in documentation.

---

url

```
private java.lang.String url
```

Constructors

Children

```
public   Children(java.lang.String id,
                  java.lang.String url,
                  java.lang.String commonName,
                  long distance,
                  java.lang.String placeType,
                  edu.napier.geo.publicTransport.Response.AdditionalProperty[]
additionalProperties,
                  edu.napier.geo.publicTransport.Response.Children[] children,
                  java.lang.String[] childrenUrls,
                  double lat,
                  double lon)
```

Methods

getAdditionalProperties

```
public edu.napier.geo.publicTransport.Response.AdditionalProperty[]
getAdditionalProperties()
```

---

getChildren

```
public edu.napier.geo.publicTransport.Response.Children[] getChildren()
```

---

getChildrenUrls

```
public java.lang.String[] getChildrenUrls()
```

---

getCommonName

```
public java.lang.String getCommonName()
```

---

getDistance

```
public long getDistance()
```

---

getId

```
public java.lang.String getId()
```

---

getPlaceType

```
public java.lang.String getPlaceType()
```

---

getUrl

```
public java.lang.String getUrl()
```

---

edu.napier.geo.publicTransport.Response

Class Crowding

```
java.lang.Object
      |
      +--edu.napier.geo.publicTransport.Response.Crowding
```

All Implemented Interfaces:
> java.io.Serializable

< [Fields](#) > < [Constructors](#) > < [Methods](#) >

---

public class **Crowding**
extends java.lang.Object
implements java.io.Serializable

Fields

passengerFlows

```
private edu.napier.geo.publicTransport.Response.PassengerFlow[] passengerFlows
```

---

serialVersionUID

```
private static final long serialVersionUID
```
> Created with https://timboudreau.com/blog/json/read under Creative Commons CC BY-NC-SA 3.0
> license. Author of the used software: Tim Boudreau. Changes: Jan-Niklas Keiner 2017/03/02
> Changes: separation of inner classes, adding getter methods and making objects compatible to
> objects of the public transport project. License:
> https://creativecommons.org/licenses/by-nc-sa/3.0/legalcode Class based on JSON Response of
> the TfL API format with a few changes (like storing lon and lat in Locations). See empty example
> response in documentation.

---

trainLoadings

```
private edu.napier.geo.publicTransport.Response.TrainLoading[] trainLoadings
```

Constructors

Crowding

```
public   Crowding(edu.napier.geo.publicTransport.Response.PassengerFlow[]
passengerFlows,
               edu.napier.geo.publicTransport.Response.TrainLoading[]
trainLoadings)
```

Methods

getPassengerFlows

```
public edu.napier.geo.publicTransport.Response.PassengerFlow[]
getPassengerFlows()
```

getTrainLoadings

```
public edu.napier.geo.publicTransport.Response.TrainLoading[]
getTrainLoadings()
```

edu.napier.geo.publicTransport.Response

Class CycleHireDockingStationData

```
java.lang.Object
    |
    +--edu.napier.geo.publicTransport.Response.CycleHireDockingStationData
```

All Implemented Interfaces:
    java.io.Serializable

< Fields > < Constructors > < Methods >

public class **CycleHireDockingStationData**
extends java.lang.Object
implements java.io.Serializable

Fields

destinationId

```
private java.lang.String destinationId
```

destinationNumberOfBikes

```
private long destinationNumberOfBikes
```

---

destinationNumberOfEmptySlots

```
private long destinationNumberOfEmptySlots
```

---

originId

```
private java.lang.String originId
```

---

originNumberOfBikes

```
private long originNumberOfBikes
```

---

originNumberOfEmptySlots

```
private long originNumberOfEmptySlots
```

---

serialVersionUID

```
private static final long serialVersionUID
```
> Created with https://timboudreau.com/blog/json/read under Creative Commons CC BY-NC-SA 3.0 license. Author of the used software: Tim Boudreau. Changes: Jan-Niklas Keiner 2017/03/02 Changes: separation of inner classes, adding getter methods and making objects compatible to objects of the public transport project. License: https://creativecommons.org/licenses/by-nc-sa/3.0/legalcode Class based on JSON Response of the TfL API format with a few changes (like storing lon and lat in Locations). See empty example response in documentation.

Constructors

CycleHireDockingStationData

```
public  CycleHireDockingStationData(long originNumberOfBikes,
                                    long destinationNumberOfBikes,
                                    long originNumberOfEmptySlots,
                                    long destinationNumberOfEmptySlots,
                                    java.lang.String originId,
                                    java.lang.String destinationId)
```

Methods

getDestinationId

`public java.lang.String` **`getDestinationId`**`()`

---

getDestinationNumberOfBikes

`public long` **`getDestinationNumberOfBikes`**`()`

---

getDestinationNumberOfEmptySlots

`public long` **`getDestinationNumberOfEmptySlots`**`()`

---

getOriginId

`public java.lang.String` **`getOriginId`**`()`

---

getOriginNumberOfBikes

`public long` **`getOriginNumberOfBikes`**`()`

---

getOriginNumberOfEmptySlots

`public long` **`getOriginNumberOfEmptySlots`**`()`

edu.napier.geo.publicTransport.Response

Class Disruption

```
java.lang.Object
    |
    +--edu.napier.geo.publicTransport.Response.Disruption
```

All Implemented Interfaces:
        java.io.Serializable

< [Fields](#) > < [Constructors](#) > < [Methods](#) >

---

public class **Disruption**
extends java.lang.Object
implements java.io.Serializable

Fields

additionalInfo

```
private java.lang.String additionalInfo
```

---

affectedRoutes

```
private edu.napier.geo.publicTransport.Response.AffectedRoute[] affectedRoutes
```

---

affectedStops

```
private edu.napier.geo.publicTransport.Response.AffectedStop[] affectedStops
```

---

category

```
private java.lang.String category
```

---

categoryDescription

```
private java.lang.String categoryDescription
```

---

closureText

```
private java.lang.String closureText
```

---

created

`private java.lang.String created`

---

description

`private java.lang.String description`

---

isBlocking

`private boolean isBlocking`

---

isWholeLine

`private boolean isWholeLine`

---

lastUpdate

`private java.lang.String lastUpdate`

---

serialVersionUID

`private static final long serialVersionUID`

> Created with https://timboudreau.com/blog/json/read under Creative Commons CC BY-NC-SA 3.0 license. Author of the used software: Tim Boudreau. Changes: Jan-Niklas Keiner 2017/03/02 Changes: separation of inner classes, adding getter methods and making objects compatible to objects of the public transport project. License: https://creativecommons.org/licenses/by-nc-sa/3.0/legalcode Class based on JSON Response of the TfL API format with a few changes (like storing lon and lat in Locations). See empty example response in documentation.

---

type

`private java.lang.String type`

Constructors

Disruption

```
public  Disruption(java.lang.String category,
                   java.lang.String type,
                   java.lang.String categoryDescription,
                   java.lang.String description,
                   java.lang.String additionalInfo,
                   java.lang.String created,
                   java.lang.String lastUpdate,
                   edu.napier.geo.publicTransport.Response.AffectedRoute[]
affectedRoutes,
                   edu.napier.geo.publicTransport.Response.AffectedStop[]
affectedStops,
                   boolean isBlocking,
                   boolean isWholeLine,
                   java.lang.String closureText)
```

Methods

getAdditionalInfo

```
public java.lang.String getAdditionalInfo()
```

getAffectedRoutes

```
public edu.napier.geo.publicTransport.Response.AffectedRoute[]
getAffectedRoutes()
```

getAffectedStops

```
public edu.napier.geo.publicTransport.Response.AffectedStop[]
getAffectedStops()
```

getCategory

```
public java.lang.String getCategory()
```

getCategoryDescription

`public java.lang.String` **`getCategoryDescription`**`()`

---

getClosureText

`public java.lang.String` **`getClosureText`**`()`

---

getCreated

`public java.lang.String` **`getCreated`**`()`

---

getDescription

`public java.lang.String` **`getDescription`**`()`

---

getLastUpdate

`public java.lang.String` **`getLastUpdate`**`()`

---

getType

`public java.lang.String` **`getType`**`()`

---

isBlocking

`public boolean` **`isBlocking`**`()`

---

isWholeLine

`public boolean` **`isWholeLine`**`()`

edu.napier.geo.publicTransport.Response

Class Elevation

```
java.lang.Object
    |
    +--edu.napier.geo.publicTransport.Response.Elevation
```

All Implemented Interfaces:
> java.io.Serializable

< [Fields](#) > < [Constructors](#) > < [Methods](#) >

public class **Elevation**
extends java.lang.Object
implements java.io.Serializable

Fields

distance

```
private long distance
```

endLat

```
private double endLat
```

endLon

```
private double endLon
```

gradient

```
private long gradient
```

heightFromPreviousPoint

```
private long heightFromPreviousPoint
```

serialVersionUID

```
private static final long serialVersionUID
```
> Created with https://timboudreau.com/blog/json/read under Creative Commons CC BY-NC-SA 3.0
> license. Author of the used software: Tim Boudreau. Changes: Jan-Niklas Keiner 2017/03/02
> Changes: separation of inner classes, adding getter methods and making objects compatible to
> objects of the public transport project. License:
> https://creativecommons.org/licenses/by-nc-sa/3.0/legalcode Class based on JSON Response of
> the TfL API format with a few changes (like storing lon and lat in Locations). See empty example
> response in documentation.

startLat

```
private double startLat
```

startLon

```
private double startLon
```

Constructors

Elevation

```
public   Elevation(long distance,
                   double startLat,
                   double startLon,
                   double endLat,
                   double endLon,
                   long heightFromPreviousPoint,
                   long gradient)
```

Methods

getDistance

```
public long getDistance()
```

getEndLat

```
public double getEndLat()
```

getEndLon

```
public double getEndLon()
```

---

getGradient

```
public long getGradient()
```

---

getHeightFromPreviousPoint

```
public long getHeightFromPreviousPoint()
```

---

getStartLat

```
public double getStartLat()
```

---

getStartLon

```
public double getStartLon()
```

---

edu.napier.geo.publicTransport.Response

Class Instruction

```
java.lang.Object
   |
   +--edu.napier.geo.publicTransport.Response.Instruction
```

All Implemented Interfaces:
      java.io.Serializable

< [Fields](#) > < [Constructors](#) > < [Methods](#) >

---

public class **Instruction**
extends java.lang.Object
implements java.io.Serializable

Fields

detailed

`private java.lang.String` **`detailed`**

---

serialVersionUID

`private static final long` **`serialVersionUID`**
> Created with https://timboudreau.com/blog/json/read under Creative Commons CC BY-NC-SA 3.0 license. Author of the used software: Tim Boudreau. Changes: Jan-Niklas Keiner 2017/03/02 Changes: separation of inner classes, adding getter methods and making objects compatible to objects of the public transport project. License: https://creativecommons.org/licenses/by-nc-sa/3.0/legalcode Class based on JSON Response of the TfL API format with a few changes (like storing lon and lat in Locations). See empty example response in documentation.

---

steps

`private edu.napier.geo.publicTransport.Response.Step[]` **`steps`**

---

summary

`private java.lang.String` **`summary`**

Constructors

Instruction

```
public   Instruction(java.lang.String summary,
                     java.lang.String detailed,
                     edu.napier.geo.publicTransport.Response.Step[] steps)
```

Methods

getDetailed

`public java.lang.String` **`getDetailed`**`()`

---

getSteps

```
public edu.napier.geo.publicTransport.Response.Step[] getSteps()
```

---

getSummary

```
public java.lang.String getSummary()
```

---

edu.napier.geo.publicTransport.Response

Class Leg

```
java.lang.Object
     |
     +--edu.napier.geo.publicTransport.Response.Leg
```

All Implemented Interfaces:
> java.io.Serializable

< [Fields](#) > < [Constructors](#) > < [Methods](#) >

---

public class **Leg**
extends java.lang.Object
implements java.io.Serializable

Fields

arrivalPoint

```
private edu.napier.geo.common.Location arrivalPoint
```

---

arrivalTime

```
private java.lang.String arrivalTime
```

---

departurePoint

```
private edu.napier.geo.common.Location departurePoint
```

---

departureTime

private java.lang.String **departureTime**

---

disruptions

private edu.napier.geo.publicTransport.Response.Disruption[] **disruptions**

---

distance

private long **distance**

---

duration

private int **duration**

---

hasFixedLocations

private boolean **hasFixedLocations**

---

instruction

private [Instruction](#) **instruction**

---

isDisrupted

private boolean **isDisrupted**

---

mode

private [Mode](#) **mode**

---

obstacles

private edu.napier.geo.publicTransport.Response.Obstacle[] **obstacles**

---

path

private [Path](#) **path**

---

plannedWorks

```
private edu.napier.geo.publicTransport.Response.PlannedWork[] plannedWorks
```

---

routeOptions

```
private edu.napier.geo.publicTransport.Response.RouteOption[] routeOptions
```

---

serialVersionUID

```
private static final long serialVersionUID
```
Created with https://timboudreau.com/blog/json/read under Creative Commons CC BY-NC-SA 3.0 license. Author of the used software: Tim Boudreau. Changes: Jan-Niklas Keiner 2017/03/02 Changes: separation of inner classes, adding getter methods and making objects compatible to objects of the public transport project. License: https://creativecommons.org/licenses/by-nc-sa/3.0/legalcode Class based on JSON Response of the TfL API format with a few changes (like storing lon and lat in Locations). See empty example response in documentation.

---

speed

```
private java.lang.String speed
```

Constructors

Leg

```
public   Leg(int duration,
          java.lang.String speed,
          Instruction instruction,
          edu.napier.geo.publicTransport.Response.Obstacle[] obstacles,
          java.lang.String departureTime,
          java.lang.String arrivalTime,
          edu.napier.geo.common.Location departurePoint,
          edu.napier.geo.common.Location arrivalPoint,
          Path path,
          edu.napier.geo.publicTransport.Response.RouteOption[]
routeOptions,
          Mode mode,
          edu.napier.geo.publicTransport.Response.Disruption[] disruptions,
          edu.napier.geo.publicTransport.Response.PlannedWork[]
plannedWorks,
          long distance,
          boolean isDisrupted,
          boolean hasFixedLocations)
```

Methods

getArrivalPoint

`public edu.napier.geo.common.Location` **`getArrivalPoint`**`()`

---

getArrivalTime

`public java.lang.String` **`getArrivalTime`**`()`

---

getDeparturePoint

`public edu.napier.geo.common.Location` **`getDeparturePoint`**`()`

---

getDepartureTime

`public java.lang.String` **`getDepartureTime`**`()`

---

getDisruptions

`public edu.napier.geo.publicTransport.Response.Disruption[]` **`getDisruptions`**`()`

---

getDistance

`public long` **`getDistance`**`()`

---

getDuration

`public int` **`getDuration`**`()`

---

getInstruction

`public` [Instruction](#) **`getInstruction`**`()`

getMode

public <u>Mode</u> **getMode**()

getObstacles

public edu.napier.geo.publicTransport.Response.Obstacle[] **getObstacles**()

getPath

public <u>Path</u> **getPath**()

getPlannedWorks

public edu.napier.geo.publicTransport.Response.PlannedWork[] **getPlannedWorks**()

getRouteOptions

public edu.napier.geo.publicTransport.Response.RouteOption[] **getRouteOptions**()

getSpeed

public java.lang.String **getSpeed**()

isDisrupted

public boolean **isDisrupted**()

isHasFixedLocations

```
public boolean isHasFixedLocations()
```

---

edu.napier.geo.publicTransport.Response

Class Line

```
java.lang.Object
    |
    +--edu.napier.geo.publicTransport.Response.Line
```

All Implemented Interfaces:
     java.io.Serializable

< [Fields](#) > < [Constructors](#) > < [Methods](#) >

---

public class **Line**
extends java.lang.Object
implements java.io.Serializable

Fields

created

```
private java.lang.String created
```

---

crowding

```
private Crowding crowding
```

---

disruptions

```
private edu.napier.geo.publicTransport.Response.Disruption[] disruptions
```

---

id

```
private java.lang.String id
```

---

lineStatuses

```
private edu.napier.geo.publicTransport.Response.LineStatuse[] lineStatuses
```

modeName

```
private java.lang.String modeName
```

modified

```
private java.lang.String modified
```

name

```
private java.lang.String name
```

routeSections

```
private edu.napier.geo.publicTransport.Response.RouteSection[] routeSections
```

serialVersionUID

```
private static final long serialVersionUID
```
Created with https://timboudreau.com/blog/json/read under Creative Commons CC BY-NC-SA 3.0 license. Author of the used software: Tim Boudreau. Changes: Jan-Niklas Keiner 2017/03/02 Changes: separation of inner classes, adding getter methods and making objects compatible to objects of the public transport project. License: https://creativecommons.org/licenses/by-nc-sa/3.0/legalcode Class based on JSON Response of the TfL API format with a few changes (like storing lon and lat in Locations). See empty example response in documentation.

serviceTypes

```
private edu.napier.geo.publicTransport.Response.ServiceType[] serviceTypes
```

Constructors

Line

```
public   Line(java.lang.String id,
              java.lang.String name,
              java.lang.String modeName,
              edu.napier.geo.publicTransport.Response.Disruption[] disruptions,
              java.lang.String created,
              java.lang.String modified,
              edu.napier.geo.publicTransport.Response.LineStatuse[]
lineStatuses,
              edu.napier.geo.publicTransport.Response.RouteSection[]
routeSections,
              edu.napier.geo.publicTransport.Response.ServiceType[]
serviceTypes,
              Crowding crowding)
```

Methods

getCreated

```
public java.lang.String getCreated()
```

getCrowding

```
public Crowding getCrowding()
```

getDisruptions

```
public edu.napier.geo.publicTransport.Response.Disruption[] getDisruptions()
```

getId

```
public java.lang.String getId()
```

getLineStatuses

```
public edu.napier.geo.publicTransport.Response.LineStatuse[] getLineStatuses()
```

getModeName

```
public java.lang.String getModeName()
```

---

getModified

```
public java.lang.String getModified()
```

---

getName

```
public java.lang.String getName()
```

---

getRouteSections

```
public edu.napier.geo.publicTransport.Response.RouteSection[]
getRouteSections()
```

---

getServiceTypes

```
public edu.napier.geo.publicTransport.Response.ServiceType[] getServiceTypes()
```

---

edu.napier.geo.publicTransport.Response

Class LineGroup

```
java.lang.Object
    |
    +--edu.napier.geo.publicTransport.Response.LineGroup
```

All Implemented Interfaces:
> java.io.Serializable

< [Fields](#) > < [Constructors](#) > < [Methods](#) >

---

public class **LineGroup**
extends java.lang.Object
implements java.io.Serializable

Fields

lineIdentifier

```
private java.lang.String[] lineIdentifier
```

---

naptanIdReference

```
private java.lang.String naptanIdReference
```

---

serialVersionUID

```
private static final long serialVersionUID
```
Created with https://timboudreau.com/blog/json/read under Creative Commons CC BY-NC-SA 3.0 license. Author of the used software: Tim Boudreau. Changes: Jan-Niklas Keiner 2017/03/02 Changes: separation of inner classes, adding getter methods and making objects compatible to objects of the public transport project. License: https://creativecommons.org/licenses/by-nc-sa/3.0/legalcode Class based on JSON Response of the TfL API format with a few changes (like storing lon and lat in Locations). See empty example response in documentation.

---

stationAtcoCode

```
private java.lang.String stationAtcoCode
```

Constructors

LineGroup

```
public   LineGroup(java.lang.String naptanIdReference,
                   java.lang.String stationAtcoCode,
                   java.lang.String[] lineIdentifier)
```

Methods

getLineIdentifier

```
public java.lang.String[] getLineIdentifier()
```

---

getNaptanIdReference

```
public java.lang.String getNaptanIdReference()
```

---

getStationAtcoCode

```
public java.lang.String getStationAtcoCode()
```

---

edu.napier.geo.publicTransport.Response

Class LineIdentifier

```
java.lang.Object
    |
    +--edu.napier.geo.publicTransport.Response.LineIdentifier
```

All Implemented Interfaces:
        java.io.Serializable

< [Fields](#) > < [Constructors](#) > < [Methods](#) >

---

public class **LineIdentifier**
extends java.lang.Object
implements java.io.Serializable

Fields

crowding

```
private Crowding crowding
```

---

fullName

```
private java.lang.String fullName
```

---

id

```
private java.lang.String id
```

---

name

```
private java.lang.String name
```

---

serialVersionUID

```
private static final long serialVersionUID
```
Created with https://timboudreau.com/blog/json/read under Creative Commons CC BY-NC-SA 3.0 license. Author of the used software: Tim Boudreau. Changes: Jan-Niklas Keiner 2017/03/02 Changes: separation of inner classes, adding getter methods and making objects compatible to objects of the public transport project. License: https://creativecommons.org/licenses/by-nc-sa/3.0/legalcode Class based on JSON Response of the TfL API format with a few changes (like storing lon and lat in Locations). See empty example response in documentation.

---

type

```
private java.lang.String type
```

---

uri

```
private java.lang.String uri
```

Constructors

LineIdentifier

```
public   LineIdentifier(java.lang.String id,
                        java.lang.String name,
                        java.lang.String uri,
                        java.lang.String fullName,
                        java.lang.String type,
                        Crowding crowding)
```

Methods

getCrowding

```
public Crowding getCrowding()
```

---

getFullName

```
public java.lang.String getFullName()
```

getId

```
public java.lang.String getId()
```

getName

```
public java.lang.String getName()
```

getType

```
public java.lang.String getType()
```

getUri

```
public java.lang.String getUri()
```

edu.napier.geo.publicTransport.Response

Class LineModeGroup

```
java.lang.Object
    |
    +--edu.napier.geo.publicTransport.Response.LineModeGroup
```

All Implemented Interfaces:
> java.io.Serializable

< [Fields](#) > < [Constructors](#) > < [Methods](#) >

public class **LineModeGroup**
extends java.lang.Object
implements java.io.Serializable

Fields

lineIdentifier

```
private java.lang.String[] lineIdentifier
```

modeName

```
private java.lang.String modeName
```

serialVersionUID

```
private static final long serialVersionUID
```
Created with https://timboudreau.com/blog/json/read under Creative Commons CC BY-NC-SA 3.0 license. Author of the used software: Tim Boudreau. Changes: Jan-Niklas Keiner 2017/03/02 Changes: separation of inner classes, adding getter methods and making objects compatible to objects of the public transport project. License: https://creativecommons.org/licenses/by-nc-sa/3.0/legalcode Class based on JSON Response of the TfL API format with a few changes (like storing lon and lat in Locations). See empty example response in documentation.

Constructors

LineModeGroup

```
public   LineModeGroup(java.lang.String modeName,
                       java.lang.String[] lineIdentifier)
```

Methods

getLineIdentifier

```
public java.lang.String[] getLineIdentifier()
```

getModeName

```
public java.lang.String getModeName()
```

edu.napier.geo.publicTransport.Response

Class LineSmallVersionOfClass

```
java.lang.Object
    |
    +--edu.napier.geo.publicTransport.Response.LineSmallVersionOfClass
```

All Implemented Interfaces:
> java.io.Serializable

< [Fields](#) > < [Constructors](#) > < [Methods](#) >

---

public class **LineSmallVersionOfClass**
extends java.lang.Object
implements java.io.Serializable

Fields

crowding

private [Crowding](#) **crowding**

---

fullName

private java.lang.String **fullName**

---

id

private java.lang.String **id**

---

name

private java.lang.String **name**

---

serialVersionUID

private static final long **serialVersionUID**
> Created with https://timboudreau.com/blog/json/read under Creative Commons CC BY-NC-SA 3.0 license. Author of the used software: Tim Boudreau. Changes: Jan-Niklas Keiner 2017/03/02 Changes: separation of inner classes, adding getter methods and making objects compatible to objects of the public transport project. License: https://creativecommons.org/licenses/by-nc-sa/3.0/legalcode Class based on JSON Response of the TfL API format with a few changes (like storing lon and lat in Locations). See empty example

response in documentation.

---

type

```
private java.lang.String type
```

---

uri

```
private java.lang.String uri
```

Constructors

LineSmallVersionOfClass

```
public  LineSmallVersionOfClass(java.lang.String id,
                                java.lang.String name,
                                java.lang.String uri,
                                java.lang.String fullName,
                                java.lang.String type,
                                Crowding crowding)
```

Methods

getCrowding

```
public Crowding getCrowding()
```

---

getFullName

```
public java.lang.String getFullName()
```

---

getId

```
public java.lang.String getId()
```

---

getName

```
public java.lang.String getName()
```

---

getType

```
public java.lang.String getType()
```

---

getUri

```
public java.lang.String getUri()
```

---

edu.napier.geo.publicTransport.Response

Class LineStatuse

```
java.lang.Object
    |
    +--edu.napier.geo.publicTransport.Response.LineStatuse
```

All Implemented Interfaces:
  java.io.Serializable

< Fields > < Constructors > < Methods >

---

public class **LineStatuse**
extends java.lang.Object
implements java.io.Serializable

Fields

created

```
private java.lang.String created
```

---

disruption

```
private Disruption disruption
```

---

id

`private long` **`id`**

---

lineId

`private java.lang.String` **`lineId`**

---

modified

`private java.lang.String` **`modified`**

---

reason

`private java.lang.String` **`reason`**

---

serialVersionUID

`private static final long` **`serialVersionUID`**
Created with https://timboudreau.com/blog/json/read under Creative Commons CC BY-NC-SA 3.0 license. Author of the used software: Tim Boudreau. Changes: Jan-Niklas Keiner 2017/03/02 Changes: separation of inner classes, adding getter methods and making objects compatible to objects of the public transport project. License: https://creativecommons.org/licenses/by-nc-sa/3.0/legalcode Class based on JSON Response of the TfL API format with a few changes (like storing lon and lat in Locations). See empty example response in documentation.

---

statusSeverity

`private long` **`statusSeverity`**

---

statusSeverityDescription

`private java.lang.String` **`statusSeverityDescription`**

---

validityPeriods

`private edu.napier.geo.publicTransport.Response.ValidityPeriod[]`
`validityPeriods`

Constructors

LineStatuse

```
public  LineStatuse(long id,
                    java.lang.String lineId,
                    long statusSeverity,
                    java.lang.String statusSeverityDescription,
                    java.lang.String reason,
                    java.lang.String created,
                    java.lang.String modified,
                    edu.napier.geo.publicTransport.Response.ValidityPeriod[]
validityPeriods,
                    Disruption disruption)
```

Methods

getCreated

```
public java.lang.String getCreated()
```

getDisruption

```
public Disruption getDisruption()
```

getId

```
public long getId()
```

getLineId

```
public java.lang.String getLineId()
```

getModified

```
public java.lang.String getModified()
```

getReason

```
public java.lang.String getReason()
```

---

getStatusSeverity

```
public long getStatusSeverity()
```

---

getStatusSeverityDescription

```
public java.lang.String getStatusSeverityDescription()
```

---

getValidityPeriods

```
public edu.napier.geo.publicTransport.Response.ValidityPeriod[]
getValidityPeriods()
```

---

edu.napier.geo.publicTransport.Response

Class Mode

```
java.lang.Object
    |
    +--edu.napier.geo.publicTransport.Response.Mode
```

All Implemented Interfaces:
> java.io.Serializable

< Fields > < Constructors > < Methods >

---

public class **Mode**
extends java.lang.Object
implements java.io.Serializable

Fields

crowding

```
private Crowding crowding
```

---

fullName

```
private java.lang.String fullName
```

---

id

```
private java.lang.String id
```

---

name

```
private java.lang.String name
```

---

serialVersionUID

```
private static final long serialVersionUID
```
> Created with https://timboudreau.com/blog/json/read under Creative Commons CC BY-NC-SA 3.0 license. Author of the used software: Tim Boudreau. Changes: Jan-Niklas Keiner 2017/03/02 Changes: separation of inner classes, adding getter methods and making objects compatible to objects of the public transport project. License: https://creativecommons.org/licenses/by-nc-sa/3.0/legalcode Class based on JSON Response of the TfL API format with a few changes (like storing lon and lat in Locations). See empty example response in documentation.

---

type

```
private java.lang.String type
```

---

uri

```
private java.lang.String uri
```

Constructors

Mode

```
public  Mode(java.lang.String id,
            java.lang.String name,
            java.lang.String uri,
            java.lang.String fullName,
            java.lang.String type,
            Crowding crowding)
```

Methods

getCrowding

public [Crowding](#) **getCrowding**()

---

getFullName

public java.lang.String **getFullName**()

---

getId

public java.lang.String **getId**()

---

getName

public java.lang.String **getName**()

---

getType

public java.lang.String **getType**()

---

getUri

public java.lang.String **getUri**()

edu.napier.geo.publicTransport.Response

Class Obstacle

```
java.lang.Object
    |
    +--edu.napier.geo.publicTransport.Response.Obstacle
```

All Implemented Interfaces:
      java.io.Serializable

< [Fields](#) > < [Constructors](#) > < [Methods](#) >

---

public class **Obstacle**
extends java.lang.Object
implements java.io.Serializable

Fields

incline

```
private java.lang.String incline
```

---

position

```
private java.lang.String position
```

---

serialVersionUID

```
private static final long serialVersionUID
```
> Created with https://timboudreau.com/blog/json/read under Creative Commons CC BY-NC-SA 3.0 license. Author of the used software: Tim Boudreau. Changes: Jan-Niklas Keiner 2017/03/02 Changes: separation of inner classes, adding getter methods and making objects compatible to objects of the public transport project. License: https://creativecommons.org/licenses/by-nc-sa/3.0/legalcode Class based on JSON Response of the TfL API format with a few changes (like storing lon and lat in Locations). See empty example response in documentation.

---

stopId

```
private long stopId
```

---

type

```
private java.lang.String type
```

Constructors

Obstacle

```
public  Obstacle(java.lang.String type,
                 java.lang.String incline,
                 long stopId,
                 java.lang.String position)
```

Methods

getIncline

```
public java.lang.String getIncline()
```

---

getPosition

```
public java.lang.String getPosition()
```

---

getStopId

```
public long getStopId()
```

---

getType

```
public java.lang.String getType()
```

---

edu.napier.geo.publicTransport.Response

Class PassengerFlow

```
java.lang.Object
     |
     +--edu.napier.geo.publicTransport.Response.PassengerFlow
```

All Implemented Interfaces:
> java.io.Serializable

< [Fields](#) > < [Constructors](#) > < [Methods](#) >

---

public class **PassengerFlow**
extends java.lang.Object
implements java.io.Serializable

Fields

serialVersionUID

private static final long **serialVersionUID**
> Created with https://timboudreau.com/blog/json/read under Creative Commons CC BY-NC-SA 3.0 license. Author of the used software: Tim Boudreau. Changes: Jan-Niklas Keiner 2017/03/02 Changes: separation of inner classes, adding getter methods and making objects compatible to objects of the public transport project. License: https://creativecommons.org/licenses/by-nc-sa/3.0/legalcode Class based on JSON Response of the TfL API format with a few changes (like storing lon and lat in Locations). See empty example response in documentation.

---

timeSlice

private java.lang.String **timeSlice**

---

value

private long **value**

Constructors

PassengerFlow

```
public  PassengerFlow(java.lang.String timeSlice,
                      long value)
```

Methods

getTimeSlice

```
public java.lang.String getTimeSlice()
```

---

getValue

```
public long getValue()
```

---

edu.napier.geo.publicTransport.Response

Class Path

```
java.lang.Object
     |
     +--edu.napier.geo.publicTransport.Response.Path
```

All Implemented Interfaces:
> java.io.Serializable

< <u>Fields</u> > < <u>Constructors</u> > < <u>Methods</u> >

---

public class **Path**
extends java.lang.Object
implements java.io.Serializable

Fields

elevation

```
private edu.napier.geo.publicTransport.Response.Elevation[] elevation
```

---

lineString

```
private java.lang.String lineString
```

---

serialVersionUID

```
private static final long serialVersionUID
```

stopPoints

```
private edu.napier.geo.publicTransport.Response.StopPointInPath[] stopPoints
```

Constructors

Path

```
public  Path(java.lang.String lineString,
             edu.napier.geo.publicTransport.Response.StopPointInPath[]
stopPoints,
             edu.napier.geo.publicTransport.Response.Elevation[] elevation)
```

Methods

getElevation

```
public edu.napier.geo.publicTransport.Response.Elevation[] getElevation()
```

getLineString

```
public java.lang.String getLineString()
```

getStopPoints

```
public edu.napier.geo.publicTransport.Response.StopPointInPath[]
getStopPoints()
```

edu.napier.geo.publicTransport.Response

Class PathAttribute

```
java.lang.Object
     |
    +--edu.napier.geo.publicTransport.Response.PathAttribute
```

All Implemented Interfaces:
>   java.io.Serializable

< [Fields](#) > < [Constructors](#) > < [Methods](#) >

---

public class **PathAttribute**
extends java.lang.Object
implements java.io.Serializable

Fields

name

```
private java.lang.String name
```

serialVersionUID

```
private static final long serialVersionUID
```
>   Created with https://timboudreau.com/blog/json/read under Creative Commons CC BY-NC-SA 3.0
>   license. Author of the used software: Tim Boudreau. Changes: Jan-Niklas Keiner 2017/03/02
>   Changes: separation of inner classes, adding getter methods and making objects compatible to
>   objects of the public transport project. License:
>   https://creativecommons.org/licenses/by-nc-sa/3.0/legalcode Class based on JSON Response of
>   the TfL API format with a few changes (like storing lon and lat in Locations). See empty example
>   response in documentation.

value

```
private java.lang.String value
```

Constructors

PathAttribute

```
public   PathAttribute(java.lang.String name,
                       java.lang.String value)
```

Methods

getName

`public java.lang.String `**`getName`**`()`

---

getValue

`public java.lang.String `**`getValue`**`()`

---

edu.napier.geo.publicTransport.Response

Class PlannedWork

```
java.lang.Object
    |
    +--edu.napier.geo.publicTransport.Response.PlannedWork
```

All Implemented Interfaces:
> java.io.Serializable

< Fields > < Constructors > < Methods >

---

public class **PlannedWork**
extends java.lang.Object
implements java.io.Serializable

Fields

createdDateTime

`private java.lang.String `**`createdDateTime`**

---

description

`private java.lang.String `**`description`**

---

id

`private java.lang.String `**`id`**

---

lastUpdateDateTime

```
private java.lang.String lastUpdateDateTime
```

---

serialVersionUID

```
private static final long serialVersionUID
```
> Created with https://timboudreau.com/blog/json/read under Creative Commons CC BY-NC-SA 3.0 license. Author of the used software: Tim Boudreau. Changes: Jan-Niklas Keiner 2017/03/02 Changes: separation of inner classes, adding getter methods and making objects compatible to objects of the public transport project. License: https://creativecommons.org/licenses/by-nc-sa/3.0/legalcode Class based on JSON Response of the TfL API format with a few changes (like storing lon and lat in Locations). See empty example response in documentation.

Constructors

PlannedWork

```
public  PlannedWork(java.lang.String id,
                    java.lang.String description,
                    java.lang.String createdDateTime,
                    java.lang.String lastUpdateDateTime)
```

Methods

getCreatedDateTime

```
public java.lang.String getCreatedDateTime()
```

---

getDescription

```
public java.lang.String getDescription()
```

---

getId

```
public java.lang.String getId()
```

---

getLastUpdateDateTime

```
public java.lang.String getLastUpdateDateTime()
```

---

edu.napier.geo.publicTransport.Response

Class ResponseTfl

```
java.lang.Object
    |
    +--edu.napier.geo.publicTransport.Response.ResponseTfl
```

All Implemented Interfaces:
> java.io.Serializable

< [Fields](#) > < [Constructors](#) > < [Methods](#) >

---

public class **ResponseTfl**
extends java.lang.Object
implements java.io.Serializable

Fields

cycleHireDockingStationData

```
private CycleHireDockingStationData cycleHireDockingStationData
```

---

journeys

```
private edu.napier.geo.publicTransport.Response.TflJourney[] journeys
```

---

lines

```
private edu.napier.geo.publicTransport.Response.Line[] lines
```

---

recommendedMaxAgeMinutes

```
private long recommendedMaxAgeMinutes
```

---

searchCriteria

private [SearchCriteria](#) **searchCriteria**

---

serialVersionUID

private static final long **serialVersionUID**
> Created with https://timboudreau.com/blog/json/read under Creative Commons CC BY-NC-SA 3.0 license. Author of the used software: Tim Boudreau. Changes: Jan-Niklas Keiner 2017/03/02 Changes: separation of inner classes, adding getter methods and making objects compatible to objects of the public transport project. License: https://creativecommons.org/licenses/by-nc-sa/3.0/legalcode Class based on JSON Response of the TfL API format with a few changes (like storing lon and lat in Locations). See empty example response in documentation.

---

stopMessages

private java.lang.String[] **stopMessages**

---

tflJourneyVector

private [TflJourneyVector](#) **tflJourneyVector**

Constructors

ResponseTfl

public **ResponseTfl**(edu.napier.geo.publicTransport.Response.TflJourney[] journeys,
                      edu.napier.geo.publicTransport.Response.Line[] lines,
                      [CycleHireDockingStationData](#) cycleHireDockingStationData,
                      java.lang.String[] stopMessages,
                      long recommendedMaxAgeMinutes,
                      [SearchCriteria](#) searchCriteria,
                      [TflJourneyVector](#) tflJourneyVector)

Methods

getCycleHireDockingStationData

public [CycleHireDockingStationData](#) **getCycleHireDockingStationData**()

getLines

```
public edu.napier.geo.publicTransport.Response.Line[] getLines()
```

---

getRecommendedMaxAgeMinutes

```
public long getRecommendedMaxAgeMinutes()
```

---

getSearchCriteria

```
public SearchCriteria getSearchCriteria()
```

---

getStopMessages

```
public java.lang.String[] getStopMessages()
```

---

getTflJourneyVector

```
public TflJourneyVector getTflJourneyVector()
```

---

getTflJourneys

```
public edu.napier.geo.publicTransport.Response.TflJourney[] getTflJourneys()
```

X

```
public java.lang.String x()
```

edu.napier.geo.publicTransport.Response

Class RouteOption

```
java.lang.Object
     |
     +--edu.napier.geo.publicTransport.Response.RouteOption
```

All Implemented Interfaces:
>   java.io.Serializable

< [Fields](#) > < [Constructors](#) > < [Methods](#) >

---

public class **RouteOption**
extends java.lang.Object
implements java.io.Serializable

Fields

directions

```
private java.lang.String[] directions
```

---

id

```
private java.lang.String id
```

---

lineIdentifier

```
private LineIdentifier lineIdentifier
```

---

name

```
private java.lang.String name
```

---

serialVersionUID

```
private static final long serialVersionUID
```
>   Created with https://timboudreau.com/blog/json/read under Creative Commons CC BY-NC-SA 3.0
>   license. Author of the used software: Tim Boudreau. Changes: Jan-Niklas Keiner 2017/03/02
>   Changes: separation of inner classes, adding getter methods and making objects compatible to
>   objects of the public transport project. License:
>   https://creativecommons.org/licenses/by-nc-sa/3.0/legalcode Class based on JSON Response of
>   the TfL API format with a few changes (like storing lon and lat in Locations). See empty example

response in documentation.

Constructors

RouteOption

```
public  RouteOption(java.lang.String id,
                    java.lang.String name,
                    java.lang.String[] directions,
                    LineIdentifier lineIdentifier)
```

Methods

getDirections

```
public java.lang.String[] getDirections()
```

getId

```
public java.lang.String getId()
```

getLineIdentifier

```
public LineIdentifier getLineIdentifier()
```

getName

```
public java.lang.String getName()
```

edu.napier.geo.publicTransport.Response

Class RouteSection

```
java.lang.Object
     |
    +--edu.napier.geo.publicTransport.Response.RouteSection
```

All Implemented Interfaces:
    java.io.Serializable

< [Fields](#) > < [Constructors](#) > < [Methods](#) >

---

public class **RouteSection**
extends java.lang.Object
implements java.io.Serializable

Fields

destination

```
private java.lang.String destination
```

---

destinationName

```
private java.lang.String destinationName
```

---

direction

```
private java.lang.String direction
```

---

name

```
private java.lang.String name
```

---

originationName

```
private java.lang.String originationName
```

---

originator

```
private java.lang.String originator
```

routeCode

```
private java.lang.String routeCode
```

serialVersionUID

```
private static final long serialVersionUID
```
Created with https://timboudreau.com/blog/json/read under Creative Commons CC BY-NC-SA 3.0 license. Author of the used software: Tim Boudreau. Changes: Jan-Niklas Keiner 2017/03/02 Changes: separation of inner classes, adding getter methods and making objects compatible to objects of the public transport project. License: https://creativecommons.org/licenses/by-nc-sa/3.0/legalcode Class based on JSON Response of the TfL API format with a few changes (like storing lon and lat in Locations). See empty example response in documentation.

serviceType

```
private java.lang.String serviceType
```

Constructors

RouteSection

```
public   RouteSection(java.lang.String routeCode,
                      java.lang.String name,
                      java.lang.String direction,
                      java.lang.String originationName,
                      java.lang.String destinationName,
                      java.lang.String originator,
                      java.lang.String destination,
                      java.lang.String serviceType)
```

Methods

getDestination

```
public java.lang.String getDestination()
```

getDestinationName

`public java.lang.String` **`getDestinationName`**`()`

---

getDirection

`public java.lang.String` **`getDirection`**`()`

---

getName

`public java.lang.String` **`getName`**`()`

---

getOriginationName

`public java.lang.String` **`getOriginationName`**`()`

---

getOriginator

`public java.lang.String` **`getOriginator`**`()`

---

getRouteCode

`public java.lang.String` **`getRouteCode`**`()`

---

getServiceType

`public java.lang.String` **`getServiceType`**`()`

edu.napier.geo.publicTransport.Response

Class RouteSectionNaptanEntrySequence

```
java.lang.Object
      |
      +--edu.napier.geo.publicTransport.Response.RouteSectionNaptanEntrySequence
```

All Implemented Interfaces:
> java.io.Serializable

< [Fields](#) > < [Constructors](#) > < [Methods](#) >

---

public class **RouteSectionNaptanEntrySequence**
extends java.lang.Object
implements java.io.Serializable

Fields

ordinal

```
private long ordinal
```

---

serialVersionUID

```
private static final long serialVersionUID
```
> Created with https://timboudreau.com/blog/json/read under Creative Commons CC BY-NC-SA 3.0 license. Author of the used software: Tim Boudreau. Changes: Jan-Niklas Keiner 2017/03/02 Changes: separation of inner classes, adding getter methods and making objects compatible to objects of the public transport project. License: https://creativecommons.org/licenses/by-nc-sa/3.0/legalcode Class based on JSON Response of the TfL API format with a few changes (like storing lon and lat in Locations). See empty example response in documentation.

---

stopPoint

```
private StopPoint stopPoint
```

Constructors

RouteSectionNaptanEntrySequence

```
public  RouteSectionNaptanEntrySequence(long ordinal,
                                        StopPoint stopPoint)
```

Methods

getOrdinal

```
public long getOrdinal()
```

---

getStopPoint

```
public StopPoint getStopPoint()
```

---

edu.napier.geo.publicTransport.Response

Class SearchCriteria

```
java.lang.Object
     |
     +--edu.napier.geo.publicTransport.Response.SearchCriteria
```

All Implemented Interfaces:
    java.io.Serializable

< Fields > < Constructors > < Methods >

---

public class **SearchCriteria**
extends java.lang.Object
implements java.io.Serializable

Fields

dateTime

```
private java.lang.String dateTime
```

---

dateTimeType

```
private java.lang.String dateTimeType
```

---

serialVersionUID

```
private static final long serialVersionUID
```

license. Author of the used software: Tim Boudreau. Changes: Jan-Niklas Keiner 2017/03/02 Changes: separation of inner classes, adding getter methods and making objects compatible to objects of the public transport project. License: https://creativecommons.org/licenses/by-nc-sa/3.0/legalcode Class based on JSON Response of the TfL API format with a few changes (like storing lon and lat in Locations). See empty example response in documentation.

---

timeAdjustments

private [TimeAdjustments](#) **timeAdjustments**

Constructors

SearchCriteria

public   **SearchCriteria**(java.lang.String dateTime,
                           java.lang.String dateTimeType,
                           [TimeAdjustments](#) timeAdjustments)

Methods

getDateTime

public java.lang.String **getDateTime**()

---

getDateTimeType

public java.lang.String **getDateTimeType**()

---

getTimeAdjustments

public [TimeAdjustments](#) **getTimeAdjustments**()

---

edu.napier.geo.publicTransport.Response

Class ServiceType

```
java.lang.Object
      |
      +--edu.napier.geo.publicTransport.Response.ServiceType
```

All Implemented Interfaces:
> java.io.Serializable

< [Fields](#) > < [Constructors](#) > < [Methods](#) >

---

public class **ServiceType**
extends java.lang.Object
implements java.io.Serializable

Fields

name

```
private java.lang.String name
```

---

serialVersionUID

```
private static final long serialVersionUID
```
> Created with https://timboudreau.com/blog/json/read under Creative Commons CC BY-NC-SA 3.0 license. Author of the used software: Tim Boudreau. Changes: Jan-Niklas Keiner 2017/03/02 Changes: separation of inner classes, adding getter methods and making objects compatible to objects of the public transport project. License: https://creativecommons.org/licenses/by-nc-sa/3.0/legalcode Class based on JSON Response of the TfL API format with a few changes (like storing lon and lat in Locations). See empty example response in documentation.

---

uri

```
private java.lang.String uri
```

Constructors

ServiceType

```
public   ServiceType(java.lang.String name,
                     java.lang.String uri)
```

Methods

getName

```
public java.lang.String getName()
```

---

getUri

```
public java.lang.String getUri()
```

---

edu.napier.geo.publicTransport.Response

Class Step

```
java.lang.Object
    |
    +--edu.napier.geo.common.Location
          |
          +--edu.napier.geo.publicTransport.Response.Step
```

All Implemented Interfaces:
> java.io.Serializable

< [Fields](#) > < [Constructors](#) > < [Methods](#) >

---

public class **Step**
extends edu.napier.geo.common.Location
implements java.io.Serializable

Fields

cumulativeDistance

```
private long cumulativeDistance
```

---

cumulativeTravelTime

```
private long cumulativeTravelTime
```

---

descriptionHeading

```
private java.lang.String descriptionHeading
```

---

distance

```
private long distance
```

---

location

```
private edu.napier.geo.common.Location location
```

---

pathAttribute

```
private PathAttribute pathAttribute
```

---

serialVersionUID

```
private static final long serialVersionUID
```
Created with https://timboudreau.com/blog/json/read under Creative Commons CC BY-NC-SA 3.0 license. Author of the used software: Tim Boudreau. Changes: Jan-Niklas Keiner 2017/03/02 Changes: separation of inner classes, adding getter methods and making objects compatible to objects of the public transport project. License: https://creativecommons.org/licenses/by-nc-sa/3.0/legalcode Class based on JSON Response of the TfL API format with a few changes (like storing lon and lat in Locations). See empty example response in documentation.

---

skyDirection

```
private long skyDirection
```

---

skyDirectionDescription

```
private java.lang.String skyDirectionDescription
```

---

streetName

```
private java.lang.String streetName
```

---

trackType

```
private java.lang.String trackType
```

turnDirection

```
private java.lang.String turnDirection
```

Constructors

Step

```
public   Step(java.lang.String description,
            java.lang.String turnDirection,
            java.lang.String streetName,
            long distance,
            long cumulativeDistance,
            long skyDirection,
            java.lang.String skyDirectionDescription,
            long cumulativeTravelTime,
            double lat,
            double lon,
            PathAttribute pathAttribute,
            java.lang.String descriptionHeading,
            java.lang.String trackType)
```

Methods

getCumulativeDistance

```
public long getCumulativeDistance()
```

getCumulativeTravelTime

```
public long getCumulativeTravelTime()
```

getDescription

```
public java.lang.String getDescription()
```

> **Overrides:**
>
> getDescription in class edu.napier.geo.common.Location

getDescriptionHeading

public java.lang.String **getDescriptionHeading**()

---

getDistance

public long **getDistance**()

---

getLocation

public edu.napier.geo.common.Location **getLocation**()

---

getPathAttribute

public [PathAttribute](#) **getPathAttribute**()

---

getSkyDirection

public long **getSkyDirection**()

---

getSkyDirectionDescription

public java.lang.String **getSkyDirectionDescription**()

---

getStreetName

public java.lang.String **getStreetName**()

---

getTrackType

public java.lang.String **getTrackType**()

---

getTurnDirection

```
public java.lang.String getTurnDirection()
```

---

edu.napier.geo.publicTransport.Response

Class StopPoint

```
java.lang.Object
    |
    +--edu.napier.geo.common.Location
        |
        +--edu.napier.geo.publicTransport.Response.StopPoint
```

All Implemented Interfaces:
> java.io.Serializable

< [Fields](#) > < [Constructors](#) > < [Methods](#) >

---

public class **StopPoint**
extends edu.napier.geo.common.Location
implements java.io.Serializable

Fields

accessibilitySummary

```
private java.lang.String accessibilitySummary
```

---

additionalProperties

```
private edu.napier.geo.publicTransport.Response.AdditionalProperty[]
additionalProperties
```

---

children

```
private edu.napier.geo.publicTransport.Response.Children[] children
```

---

childrenUrls

```
private java.lang.String[] childrenUrls
```

---

commonName

`private java.lang.String `**`commonName`**

---

distance

`private long `**`distance`**

---

fullName

`private java.lang.String `**`fullName`**

---

hubNaptanCode

`private java.lang.String `**`hubNaptanCode`**

---

icsCode

`private java.lang.String `**`icsCode`**

---

id

`private java.lang.String `**`id`**

---

indicator

`private java.lang.String `**`indicator`**

---

lineGroup

`private edu.napier.geo.publicTransport.Response.LineGroup[] `**`lineGroup`**

---

lineModeGroups

`private edu.napier.geo.publicTransport.Response.LineModeGroup[] `**`lineModeGroups`**

---

lines

```
private edu.napier.geo.publicTransport.Response.Line[] lines
```

---

modes

```
private java.lang.String[] modes
```

---

naptanId

```
private java.lang.String naptanId
```

---

naptanMode

```
private java.lang.String naptanMode
```

---

placeType

```
private java.lang.String placeType
```

---

platformName

```
private java.lang.String platformName
```

---

serialVersionUID

```
private static final long serialVersionUID
```
> Created with https://timboudreau.com/blog/json/read under Creative Commons CC BY-NC-SA 3.0 license. Author of the used software: Tim Boudreau. Changes: Jan-Niklas Keiner 2017/03/02 Changes: separation of inner classes, adding getter methods and making objects compatible to objects of the public transport project. License: https://creativecommons.org/licenses/by-nc-sa/3.0/legalcode Class based on JSON Response of the TfL API format with a few changes (like storing lon and lat in Locations). See empty example response in documentation.

---

smsCode

```
private java.lang.String smsCode
```

---

stationNaptan

```
private java.lang.String stationNaptan
```

---

status

private boolean **status**

---

stopLetter

private java.lang.String **stopLetter**

---

stopType

private java.lang.String **stopType**

---

url

private java.lang.String **url**

Constructors

StopPoint

```
public  StopPoint(java.lang.String naptanId,
                  java.lang.String platformName,
                  java.lang.String indicator,
                  java.lang.String stopLetter,
                  java.lang.String[] modes,
                  java.lang.String icsCode,
                  java.lang.String smsCode,
                  java.lang.String stopType,
                  java.lang.String stationNaptan,
                  java.lang.String accessibilitySummary,
                  java.lang.String hubNaptanCode,
                  edu.napier.geo.publicTransport.Response.Line[] lines,
                  edu.napier.geo.publicTransport.Response.LineGroup[]
lineGroup,
                  edu.napier.geo.publicTransport.Response.LineModeGroup[]
lineModeGroups,
                  java.lang.String fullName,
                  java.lang.String naptanMode,
                  boolean status,
                  java.lang.String id,
                  java.lang.String url,
                  java.lang.String commonName,
                  long distance,
                  java.lang.String placeType,
                  edu.napier.geo.publicTransport.Response.AdditionalProperty[]
additionalProperties,
                  edu.napier.geo.publicTransport.Response.Children[] children,
                  java.lang.String[] childrenUrls,
                  double lat,
                  double lon)
```

Methods

getAccessibilitySummary

```
public java.lang.String getAccessibilitySummary()
```

getAdditionalProperties

```
public edu.napier.geo.publicTransport.Response.AdditionalProperty[]
getAdditionalProperties()
```

getChildren

```
public edu.napier.geo.publicTransport.Response.Children[] getChildren()
```

getChildrenUrls

```
public java.lang.String[] getChildrenUrls()
```

getCommonName

```
public java.lang.String getCommonName()
```

getDistance

```
public long getDistance()
```

getFullName

```
public java.lang.String getFullName()
```

getHubNaptanCode

```
public java.lang.String getHubNaptanCode()
```

getIcsCode

```
public java.lang.String getIcsCode()
```

getId

```
public java.lang.String getId()
```

getIndicator

```
public java.lang.String getIndicator()
```

---

getLineGroup

```
public edu.napier.geo.publicTransport.Response.LineGroup[] getLineGroup()
```

---

getLineModeGroups

```
public edu.napier.geo.publicTransport.Response.LineModeGroup[]
getLineModeGroups()
```

---

getLines

```
public edu.napier.geo.publicTransport.Response.Line[] getLines()
```

---

getModes

```
public java.lang.String[] getModes()
```

---

getNaptanId

```
public java.lang.String getNaptanId()
```

---

getNaptanMode

```
public java.lang.String getNaptanMode()
```

---

getPlaceType

```
public java.lang.String getPlaceType()
```

getPlatformName

```
public java.lang.String getPlatformName()
```

getSmsCode

```
public java.lang.String getSmsCode()
```

getStationNaptan

```
public java.lang.String getStationNaptan()
```

getStopLetter

```
public java.lang.String getStopLetter()
```

getStopType

```
public java.lang.String getStopType()
```

getUrl

```
public java.lang.String getUrl()
```

isStatus

```
public boolean isStatus()
```

---

edu.napier.geo.publicTransport.Response

Class StopPointInPath

```
java.lang.Object
    |
    +--edu.napier.geo.publicTransport.Response.StopPointInPath
```

All Implemented Interfaces:
> java.io.Serializable

< [Fields](#) > < [Constructors](#) > < [Methods](#) >

---

public class **StopPointInPath**
extends java.lang.Object
implements java.io.Serializable

Fields

crowding

private [Crowding](#) **crowding**

---

fullName

private java.lang.String **fullName**

---

id

private java.lang.String **id**

---

name

private java.lang.String **name**

---

serialVersionUID

private static final long **serialVersionUID**
> Created with https://timboudreau.com/blog/json/read under Creative Commons CC BY-NC-SA 3.0
> license. Author of the used software: Tim Boudreau. Changes: Jan-Niklas Keiner 2017/03/02
> Changes: separation of inner classes, adding getter methods and making objects compatible to
> objects of the public transport project. License:
> https://creativecommons.org/licenses/by-nc-sa/3.0/legalcode Class based on JSON Response of

the TfL API format with a few changes (like storing lon and lat in Locations). See empty example response in documentation.

type

```
private java.lang.String type
```

uri

```
private java.lang.String uri
```

Constructors

StopPointInPath

```
public   StopPointInPath(java.lang.String id,
                         java.lang.String name,
                         java.lang.String uri,
                         java.lang.String fullName,
                         java.lang.String type,
                         Crowding crowding)
```

Methods

getCrowding

```
public Crowding getCrowding()
```

getFullName

```
public java.lang.String getFullName()
```

getId

```
public java.lang.String getId()
```

getName

`public java.lang.String` **`getName`**`()`

---

getType

`public java.lang.String` **`getType`**`()`

---

getUri

`public java.lang.String` **`getUri`**`()`

---

toString

`public java.lang.String` **`toString`**`()`

Overrides:

toString in class java.lang.Object

---

edu.napier.geo.publicTransport.Response

Class TflJourney

```
java.lang.Object
     |
     +--edu.napier.geo.publicTransport.Response.TflJourney
```

All Implemented Interfaces:
        java.io.Serializable

< [Fields](#) > < [Constructors](#) > < [Methods](#) >

---

public class **TflJourney**
extends java.lang.Object
implements java.io.Serializable

Fields

arrivalDateTime

```
private java.lang.String arrivalDateTime
```

duration

```
private int duration
```

legs

```
private edu.napier.geo.publicTransport.Response.Leg[] legs
```

serialVersionUID

```
private static final long serialVersionUID
```
Created with https://timboudreau.com/blog/json/read under Creative Commons CC BY-NC-SA 3.0 license. Author of the used software: Tim Boudreau. Changes: Jan-Niklas Keiner 2017/03/02 Changes: separation of inner classes, adding getter methods and making objects compatible to objects of the public transport project. License: https://creativecommons.org/licenses/by-nc-sa/3.0/legalcode Class based on JSON Response of the TfL API format with a few changes (like storing lon and lat in Locations). See empty example response in documentation.

startDateTime

```
private java.lang.String startDateTime
```

Constructors

TflJourney

```
public   TflJourney(java.lang.String startDateTime,
                    int duration,
                    java.lang.String arrivalDateTime,
                    edu.napier.geo.publicTransport.Response.Leg[] legs)
```

Methods

getArrivalDateTime

```
public java.lang.String getArrivalDateTime()
```

getDurationMinutes

```
public int getDurationMinutes()
```

---

getLegs

```
public edu.napier.geo.publicTransport.Response.Leg[] getLegs()
```

---

getStartDateTime

```
public java.lang.String getStartDateTime()
```

---

edu.napier.geo.publicTransport.Response

Class TflJourneyVector

```
java.lang.Object
    |
    +--edu.napier.geo.publicTransport.Response.TflJourneyVector
```

All Implemented Interfaces:
        java.io.Serializable

< Fields > < Constructors > < Methods >

---

public class **TflJourneyVector**
extends java.lang.Object
implements java.io.Serializable

Fields

from

```
private java.lang.String from
```

---

serialVersionUID

```
private static final long serialVersionUID
```
        Created with https://timboudreau.com/blog/json/read under Creative Commons CC BY-NC-SA 3.0
        license. Author of the used software: Tim Boudreau. Changes: Jan-Niklas Keiner 2017/03/02
        Changes: separation of inner classes, adding getter methods and making objects compatible to

objects of the public transport project. License:
https://creativecommons.org/licenses/by-nc-sa/3.0/legalcode Class based on JSON Response of
the TfL API format with a few changes (like storing lon and lat in Locations). See empty example
response in documentation.

---

to

```
private java.lang.String to
```

---

uri

```
private java.lang.String uri
```

---

via

```
private java.lang.String via
```

Constructors

TflJourneyVector

```
public   TflJourneyVector(java.lang.String from,
                          java.lang.String to,
                          java.lang.String via,
                          java.lang.String uri)
```

Methods

getFrom

```
public java.lang.String getFrom()
```

---

getTo

```
public java.lang.String getTo()
```

---

getUri

```
public java.lang.String getUri()
```

---

getVia

```
public java.lang.String getVia()
```

---

edu.napier.geo.publicTransport.Response

Class Time

```
java.lang.Object
     |
     +--edu.napier.geo.publicTransport.Response.Time
```

All Implemented Interfaces:
> java.io.Serializable

< [Fields](#) > < [Constructors](#) > < [Methods](#) >

---

public class **Time**
extends java.lang.Object
implements java.io.Serializable

Fields

date

```
private java.lang.String date
```

---

serialVersionUID

```
private static final long serialVersionUID
```
> Created with https://timboudreau.com/blog/json/read under Creative Commons CC BY-NC-SA 3.0
> license. Author of the used software: Tim Boudreau. Changes: Jan-Niklas Keiner 2017/03/02
> Changes: separation of inner classes, adding getter methods and making objects compatible to
> objects of the public transport project. License:
> https://creativecommons.org/licenses/by-nc-sa/3.0/legalcode Class based on JSON Response of
> the TfL API format with a few changes (like storing lon and lat in Locations). See empty example
> response in documentation.

---

time

```
private java.lang.String time
```

timeIs

```
private java.lang.String timeIs
```

uri

```
private java.lang.String uri
```

Constructors

Time

```
public   Time(java.lang.String date,
           java.lang.String time,
           java.lang.String timeIs,
           java.lang.String uri)
```

Methods

getDate

```
public java.lang.String getDate()
```

getTime

```
public java.lang.String getTime()
```

getTimeIs

```
public java.lang.String getTimeIs()
```

getUri

`public java.lang.String` **`getUri`**`()`

---

print

`public void` **`print`**`()`

---

edu.napier.geo.publicTransport.Response

Class TimeAdjustments

```
java.lang.Object
    |
    +--edu.napier.geo.publicTransport.Response.TimeAdjustments
```

All Implemented Interfaces:
> java.io.Serializable

< [Fields](#) > < [Constructors](#) > < [Methods](#) >

---

public class **TimeAdjustments**
extends java.lang.Object
implements java.io.Serializable

Fields

earlier

`private` [Time](#) **`earlier`**

---

earliest

`private` [Time](#) **`earliest`**

---

later

`private` [Time](#) **`later`**

---

latest

```
private Time latest
```

---

serialVersionUID

```
private static final long serialVersionUID
```
>   Created with https://timboudreau.com/blog/json/read under Creative Commons CC BY-NC-SA 3.0
>   license. Author of the used software: Tim Boudreau. Changes: Jan-Niklas Keiner 2017/03/02
>   Changes: separation of inner classes, adding getter methods and making objects compatible to
>   objects of the public transport project. License:
>   https://creativecommons.org/licenses/by-nc-sa/3.0/legalcode Class based on JSON Response of
>   the TfL API format with a few changes (like storing lon and lat in Locations). See empty example
>   response in documentation.

Constructors

TimeAdjustments

```
public   TimeAdjustments(Time earliest,
                         Time earlier,
                         Time later,
                         Time latest)
```

Methods

getEarlier

```
public Time getEarlier()
```

---

getEarliest

```
public Time getEarliest()
```

---

getLater

```
public Time getLater()
```

---

getLatest

```
public Time getLatest()
```

---

edu.napier.geo.publicTransport.Response

Class TrainLoading

```
java.lang.Object
    |
    +--edu.napier.geo.publicTransport.Response.TrainLoading
```

All Implemented Interfaces:
java.io.Serializable

< [Fields](#) > < [Constructors](#) > < [Methods](#) >

---

public class **TrainLoading**
extends java.lang.Object
implements java.io.Serializable

Fields

direction

```
private java.lang.String direction
```

---

line

```
private java.lang.String line
```

---

lineDirection

```
private java.lang.String lineDirection
```

---

naptanTo

```
private java.lang.String naptanTo
```

---

platformDirection

```
private java.lang.String platformDirection
```

---

serialVersionUID

```
private static final long serialVersionUID
```
> Created with https://timboudreau.com/blog/json/read under Creative Commons CC BY-NC-SA 3.0 license. Author of the used software: Tim Boudreau. Changes: Jan-Niklas Keiner 2017/03/02 Changes: separation of inner classes, adding getter methods and making objects compatible to objects of the public transport project. License: https://creativecommons.org/licenses/by-nc-sa/3.0/legalcode Class based on JSON Response of the TfL API format with a few changes (like storing lon and lat in Locations). See empty example response in documentation.

---

timeSlice

```
private java.lang.String timeSlice
```

---

value

```
private long value
```

Constructors

TrainLoading

```
public   TrainLoading(java.lang.String line,
                      java.lang.String lineDirection,
                      java.lang.String platformDirection,
                      java.lang.String direction,
                      java.lang.String naptanTo,
                      java.lang.String timeSlice,
                      long value)
```

Methods

getDirection

```
public java.lang.String getDirection()
```

---

getLine

```
public java.lang.String getLine()
```

getLineDirection

```
public java.lang.String getLineDirection()
```

getNaptanTo

```
public java.lang.String getNaptanTo()
```

getPlatformDirection

```
public java.lang.String getPlatformDirection()
```

getTimeSlice

```
public java.lang.String getTimeSlice()
```

getValue

```
public long getValue()
```

edu.napier.geo.publicTransport.Response

Class ValidityPeriod

```
java.lang.Object
    |
    +--edu.napier.geo.publicTransport.Response.ValidityPeriod
```

All Implemented Interfaces:
    java.io.Serializable

< [Fields](#) > < [Constructors](#) > < [Methods](#) >

public class **ValidityPeriod**
extends java.lang.Object
implements java.io.Serializable

Fields

fromDate

`private java.lang.String **fromDate**`

---

isNow

`private boolean **isNow**`

---

serialVersionUID

`private static final long **serialVersionUID**`
> Created with https://timboudreau.com/blog/json/read under Creative Commons CC BY-NC-SA 3.0 license. Author of the used software: Tim Boudreau. Changes: Jan-Niklas Keiner 2017/03/02 Changes: separation of inner classes, adding getter methods and making objects compatible to objects of the public transport project. License: https://creativecommons.org/licenses/by-nc-sa/3.0/legalcode Class based on JSON Response of the TfL API format with a few changes (like storing lon and lat in Locations). See empty example response in documentation.

---

toDate

`private java.lang.String **toDate**`

Constructors

ValidityPeriod

```
public   ValidityPeriod(java.lang.String fromDate,
                        java.lang.String toDate,
                        boolean isNow)
```

Methods

getFromDate

```
public java.lang.String getFromDate()
```

---

getToDate

```
public java.lang.String getToDate()
```

---

isNow

```
public boolean isNow()
```

Package edu.napier.geo.publicTransport.facade

Class Summary

[PublicTransportFacade](#)

---

edu.napier.geo.publicTransport.facade

Class PublicTransportFacade

```
java.lang.Object
    |
    +--edu.napier.geo.publicTransport.facade.PublicTransportFacade
```

< [Fields](#) > < [Constructors](#) > < [Methods](#) >

---

public class **PublicTransportFacade**
extends java.lang.Object

Author:

Jan-Niklas Keiner 2017/03/10 Fascade Class for the Public Transport API

Fields

publicTransport

private [PublicTransport](#) **publicTransport**

Constructors

PublicTransportFacade

public **PublicTransportFacade**()

Constructor to create an object of this class

Methods

createNewPublicTransport

```
public void createNewPublicTransport(boolean resetInformationStorage)
```

> Method to create a new Object of PublicTransport, which is set as publicTransport object in this class. Uses the default InformationStorage Filepath of the PublicTransport class.
>
> **Parameters:**
>
> > resetInformationStorage - boolean, if old the InformationStorage should be loaded or a new empty one should be created. true=reset and create new one

---

createNewPublicTransport

```
public void createNewPublicTransport(boolean resetInformationStorage,
                                     java.lang.String
informationStorageFilePath)
```

> Method to create a new Object of PublicTransport, which is set as publicTransport object in this class
>
> **Parameters:**
>
> > resetInformationStorage - boolean, if old the InformationStorage should be loaded or a new empty one should be created. true=reset and create new one
> > informationStorageFilePath - Filepath of the InformtionStorage object, which should be loaded and where the new one should be stored.

---

createResponseJavaObject

```
public void createResponseJavaObject(double fromLat,
                                     double fromLon,
                                     double toLat,
                                     double toLon)
              throws java.lang.Exception
```

> creates the POJO response Object for a Journey from and to the given coordinates. Then it sets the response object of this object to the new given response object from TfL.
>
> **Parameters:**
>
> > fromLat - decimal
> > fromLon - decimal
> > toLat - decimal
> > toLon - decimal
>
> **Throws:**
>
> > java.lang.Exception - Exception of setResponseJavaObject()

---

createResponseJavaObject

```
public void createResponseJavaObject(double fromLat,
                                     double fromLon,
                                     double toLat,
                                     double toLon,
                                     java.util.ArrayList userPreferences)
        throws java.lang.Exception
```

creates the POJO response Object for a Journey from and to the given coordinates and with an ArrayList of Strings with the user preferences (must be in the format, that TfL requires: "variable=value". All Variables that TfL provides can be used. Then it sets the response object of this object to the new given response object from TfL.

Parameters:

> fromLat - decimal
> fromLon - decimal
> toLat - decimal
> toLon - decimal
> userPreferences - ArrayList of Strings in the format that the TfL API requires. One String per parameter

Throws:

> java.lang.Exception - Exception of setResponseJavaObject()

---

createResponseJavaObject

```
public void createResponseJavaObject(edu.napier.geo.common.Location from,
                                     edu.napier.geo.common.Location to)
        throws java.lang.Exception
```

creates the POJO (plain old Java object) response object for a Journey from and to a given Location. Then it sets the response object of this object to the new given response object from TfL.

Parameters:

> from - Location object
> to - Location object

Throws:

> java.lang.Exception - Exception of setResponseJavaOBject()

---

createResponseJavaObject

```
public void createResponseJavaObject(edu.napier.geo.common.Location from,
                                     edu.napier.geo.common.Location to,
                                     java.util.ArrayList userPreferences)
            throws java.lang.Exception
```

This method creates a POJO (Plain old java object) ResponseTfl for Journeys from and to a Location and with an ArrayList of Strings with the user preferences (must be in the format, that TfL requires: "variable=value" for most variables. All Variables that TfL provides can be used. Then it sets the response object of this object to the new given response object from TfL.

Parameters:

>from - Location object
>to - Location object
>userPreferences - Strings must be in the format that the TfL API requires ("variable=value" for most of the variables).

Throws:

>java.lang.Exception - Exception of setResponseJavaObject()

---

getAllJourneys

```
public edu.napier.geo.publicTransport.Response.TflJourney[] getAllJourneys()
```

Gives back an Array of all TfLJourneys of the actual ResponseTfL Object

Returns:

>an Array of TfLJourney Objects of all TfLJourneys of the actual ResponseTfL Object

---

getArrivalPointOfFirstJourney

```
public edu.napier.geo.common.Location getArrivalPointOfFirstJourney()
```

This method gives back the Arrival Point of the first Journey of the actual ResponseTfL Object

Returns:

>Location Object of the Arrival Point of the first Journey of the actual ResponseTfL Object

---

getArrivalPointOfJourney

```
public edu.napier.geo.common.Location getArrivalPointOfJourney(TflJourney
tflJourney)
```

Gives back the Arrival Point of a given TfLJourney Object

Parameters:

tflJourney - TflJourney object

Returns:

Location Object of the Arrival Point of a given TfLJourney Object

---

getArrivalPointOfJourney

```
public edu.napier.geo.common.Location getArrivalPointOfJourney(int
journeyNumber)
```

Gives back the Arrival Point of the Journey with the given index.

Parameters:

journeyNumber - index of the Journey in the response Object

Returns:

Location Object of the Arrival Point of the Journey with the given index.

---

getArrivalTimeOfFirstJourney

```
public java.lang.String getArrivalTimeOfFirstJourney()
```

Method to get the Arrival Time of the First Journey of the actual response object

Returns:

String ArrivalTime

---

getArrivalTimeOfJourney

```
public java.lang.String getArrivalTimeOfJourney(TflJourney tflJourney)
```

Gives back the Arrival Time of a given TflJourney object

Parameters:

tflJourney - TflJourney object

Returns:

String of Arrival Time

---

getArrivalTimeOfJourney

```
public java.lang.String getArrivalTimeOfJourney(int journeyNumber)
```

> Gives back the Arrival Time of a Journey with a given index.
>
> **Parameters:**
>
>> journeyNumber - index of the Journey in the Response Object
>
> **Returns:**
>
>> String of Arrival Time

---

getAverageDistanceWalkingKM

```
public double getAverageDistanceWalkingKM(edu.napier.geo.common.Location from,
                                          edu.napier.geo.common.Location to)
```

> Gives back the Average walking distance of all in the persistent InformationStorage stored Journeys from and to Locations in KM Uses the data of the persistent InformationStorage
>
> **Parameters:**
>
>> from - Location object
>> to - Location object
>
> **Returns:**
>
>> double of the Average walking distance of all in the persistent InformationStorage stored Journeys from and to Locations in KM

---

getAverageDurationMSForJourney

```
public double getAverageDurationMSForJourney(edu.napier.geo.common.Location from,
                                             edu.napier.geo.common.Location to)
```

> Gives back the average duration of a Journey in ms Uses the data of the persistent InformationStorage
>
> **Parameters:**
>
>> from - Location (Lon + Lat is compared)
>> to - Location (Lon + Lat is compared)
>
> **Returns:**
>
>> double of the average walking time for a Journey from and to a given Location (Lat+Lon) in ms

---

getAverageNumberOfLegs

```
public double getAverageNumberOfLegs(edu.napier.geo.common.Location from,
                                     edu.napier.geo.common.Location to)
```

Gives back the average number of Legs of all stored Journeys from and to given Locations Uses the data of the persistent InformationStorage

Parameters:

from - Location
to - Location

Returns:

double of the average number of Legs of a Journey from and to a Location

---

getDeparturePointOfFirstJourney

```
public edu.napier.geo.common.Location getDeparturePointOfFirstJourney()
```

gives back a publicTransport-Location of the departure Point of the first Journey (Data of the Response Object). returns null, if response Object is null.

Returns:

Location of Departure of the first Journey

---

getDeparturePointOfJourney

```
public edu.napier.geo.common.Location getDeparturePointOfJourney(TflJourney
tflJourney)
```

Gives back the Departure Point of a given TfLJourney Object

Parameters:

tflJourney - TflJourney object

Returns:

Location Object of the Departure Point of a given TfLJourney Object

---

getDeparturePointOfJourney

```
public edu.napier.geo.common.Location getDeparturePointOfJourney(int
journeyNumber)
```

Gives back the Departure Point of a Journey with a given index.

Parameters:

journeyNumber - index of the Journey in the response Object

Returns:

Location Object of the Departure Point of a Journey with a given index.

getDepartureTimeOfFirstJourney

```
public java.lang.String getDepartureTimeOfFirstJourney()
```

> Method to get the Departure Time of the First Journey of the actual response object
>
> **Returns:**
>> String DepartureTime

---

getDepartureTimeOfJourney

```
public java.lang.String getDepartureTimeOfJourney(TflJourney tflJourney)
```

> Gives back the Departure Time of a given TflJourney object
>
> **Parameters:**
>> tflJourney - TflJourney object
>
> **Returns:**
>> String of Departure Time

---

getDepartureTimeOfJourney

```
public java.lang.String getDepartureTimeOfJourney(int journeyNumber)
```

> Gives back the Departure Time of a Journey with a given index.
>
> **Parameters:**
>> journeyNumber - index of the Journey in the Response Object
>
> **Returns:**
>> String of Departure Time

---

getDurationMinutesOfFirstJourney

```
public int getDurationMinutesOfFirstJourney()
```

> This method gives back the duration of the first Journey of the actual ResponseTfl Object in minutes. returns -1, if Response Object is null.
>
> **Returns:**
>> Duration of the first Journey of the actual ResponseTfL Object in minutes

---

getDurationMinutesOfJourney

`public int` **`getDurationMinutesOfJourney`**(<u>TflJourney</u> `tflJourney`)

> Gives back the duration of a TfLJourney
>
> **Parameters:**
>
> > tflJourney - TflJourney object
>
> **Returns:**
>
> > Integer of the duration of the given TfLJourney Object

---

getDurationMinutsOfJourney

`public int` **`getDurationMinutsOfJourney`**(`int journeyNumber`)

> Gives back the duration of a given Journey in minutes
>
> **Parameters:**
>
> > journeyNumber - index of the Journey in the Response Object
>
> **Returns:**
>
> > Integer of the duration of the given Journey in minutes

---

getFirstJourney

`public` <u>TflJourney</u> **`getFirstJourney`**()

> Gives back the first Journey of the actual Response Object
>
> **Returns:**
>
> > TfLJourney Object of the first Journey of the actual Response Object

---

getInformationStorage

`public` <u>InformationStorage</u> **`getInformationStorage`**()

> gives back the informationStorage object of this class
>
> **Returns:**
>
> > InformationStorage object of this class

---

getJSON

```
public static java.lang.String getJSON(double fromLat,
                                       double fromLon,
                                       double toLat,
                                       double toLon)
                                throws java.io.IOException
```

this method gives back a string of the JSON response from TfL for request for a Journey from and to coordinates (decimal) without further user Preferences

Parameters:

fromLat - decimal
fromLon - decimal
toLat - decimal
toLon - decimal

Returns:

String of the TfL Response (in JSON format)

Throws:

java.io.IOException - IOException of getJSON(lat, lon, lat, lon, preferences)

---

getJSON

```
public static java.lang.String getJSON(double fromLat,
                                       double fromLon,
                                       double toLat,
                                       double toLong,
                                       java.lang.String preferences)
                                throws java.net.MalformedURLException,
                                       java.net.ProtocolException,
                                       java.io.IOException
```

this method gives back a String of the JSON response from TfL for a request for a Journey from and to coordinates and with all preferences in one String (separated by the and symbol).

Parameters:

fromLat - decimal
fromLon - decimal
toLat - decimal
toLong - decimal
preferences - ArrayList of Strings with the user preferences (must be in the format, that TfL requires: "variable=value". All Variables that TfL provides can be used.

Returns:

String of the TfL Response (in JSON format)

Throws:

java.net.MalformedURLException - MalformedURLException of URL
java.net.ProtocolException - ProtocolException of HttpURLConnection connection.setRequestMethod(GET)
java.io.IOException - IOException of url.openConnection

getJSON

```
public static java.lang.String getJSON(double fromLat,
                                       double fromLong,
                                       double toLat,
                                       double toLong,
                                       java.util.ArrayList preferences)
                        throws java.io.IOException
```

this method gives back a string of the JSON response from TfL for request for a Journey from and to coordinates (decimal) with user Preferences

Parameters:

fromLat - decimal
fromLong - decimal
toLat - decimal
toLong - decimal
preferences - ArrayList of Strings with the user preferences (must be in the format, that TfL requires: "variable=value". All Variables that TfL provides can be used.

Returns:

String of the TfL Response (in JSON format)

Throws:

java.io.IOException - IOException of getJSON(lat, lon, lat, lon, preferences)

---

getJSON

```
public static java.lang.String getJSON(edu.napier.geo.common.Location from,
                                       edu.napier.geo.common.Location to)
                        throws java.io.IOException
```

this method gives back a string of the JSON response from TfL for request for a Journey from and to a Location

Parameters:

from - Location object
to - Location object

Returns:

String of the TfL Response (in JSON format)

Throws:

java.io.IOException - IOException of getJSON(lat, lon, lat, lon, userPreferences)

---

getJSON

```
public static java.lang.String getJSON(edu.napier.geo.common.Location from,
                                        edu.napier.geo.common.Location to,
                                        java.util.ArrayList preferences)
                          throws java.io.IOException
```

this method gives back a string of the JSON response from TfL for request for a Journey from and to a Location with user Preferences

Parameters:

from - Location object

to - Location object

preferences - ArrayList of Strings with the user Preferences in the format that the TfL API requires

Returns:

String of the TfL Response (in JSON format)

Throws:

java.io.IOException - IOException of getJSON(lat, lon, lat, lon, userPreferences)

---

getJourney

```
public TflJourney getJourney(int journeyNumber)
```

Gives back a TfLJourney of the response object with a given index.

Parameters:

journeyNumber - index of the Journey in the response Object

Returns:

a TfLJourney Object of the response object with a given index.

---

getNumberOfLegsOfFirstJourney

```
public int getNumberOfLegsOfFirstJourney()
```

Gives back the number of Legs of the first Journey of the actual ResponseTfL Object returns -1, if response Object is null.

Returns:

Integer of the number of Legs of the first Journey of the actual ResponseTfL Object

---

getNumberOfLegsOfJourney

`public int` **`getNumberOfLegsOfJourney`**`(`<u>TflJourney</u>` tflJourney)`

> Gives back the number of Legs of a given TfLJourney Object
>
> **Parameters:**
>> tflJourney - TflJourney object
>
> **Returns:**
>> Integer of the number of Legs of a given TfLJourney Object

---

getNumberOfLegsOfJourney

`public int` **`getNumberOfLegsOfJourney`**`(int journeyNumber)`

> Gives back the number of Legs of a Journey with a given index.
>
> **Parameters:**
>> journeyNumber - index of the Journey in the response Object
>
> **Returns:**
>> Integer of the number of Legs of a Journey with a given index.

---

getPublicTransport

`public` <u>PublicTransport</u> **`getPublicTransport`**`()`

> Method to get back the PublicTransport Object
>
> **Returns:**
>> PublicTansport Object

---

getResponseJavaObject

`public` <u>ResponseTfl</u> **`getResponseJavaObject`**`()`

---

getRouteLocationsOfJourney

```
public java.util.ArrayList
getRouteLocationsOfJourney(edu.napier.geo.common.Location from,
edu.napier.geo.common.Location to)
```

> Gives back an ArrayList of all Locations on the way of the Journey Uses the data of the persistent InformationStorage
>
> **Parameters:**
>> from - Location object
>> to - Location object
>
> **Returns:**
>> ArrayList of all Locations on the way of the Journey

---

getSource

```
public java.lang.String getSource()
```

> Gives back the Source String, which is used to identify this API as source for Objects like Location
>
> **Returns:**
>> String with this API name

---

getTflJourneys

```
public java.util.ArrayList getTflJourneys(edu.napier.geo.common.Location from,
                                          edu.napier.geo.common.Location to)
```

> Gives back an ArrayList of TflJourneys Objects of a Journey from and to a Location. Uses the data of the persistent InformationStorage
>
> **Parameters:**
>> from - Location object
>> to - Location object
>
> **Returns:**
>> ArrayList of TflJourney Objects of a Journey from and to a Location

---

resetInformationStorage

```
public void resetInformationStorage()
```

> This method could be used to replace the InformationStorage Object of this Object with a new empty InformationStorage Object

setPublicTransport

`public void ` **`setPublicTransport`**`(`[`PublicTransport`](#)` publicTransport)`

> Method to set the PublicTransport Object
>
> **Parameters:**
>
> > publicTransport - Object of PublicTransport

---

setResponseJavaObject

`public void ` **`setResponseJavaObject`**`(`[`ResponseTfl`](#)` responseJavaObject)`

> sets the ResponseJavaObject of this object to the given ResponseTfl Object
>
> **Parameters:**
>
> > responseJavaObject - Object of ResponseTfl type (Response from TfL (JSON) converted to POJO object)

---

storeInformationStoragePersistent

`public void ` **`storeInformationStoragePersistent`**`()`
`          throws java.io.IOException,`
`                                    java.io.FileNotFoundException`

> updates the local persistent file of the stored Information (InformationStorage). Is automatically called, when a new Response object is set as response object in an object of this class after automatically updating the InformationStorage. Not necessary for normal usage, but public provided for possible special use of a User.
>
> **Throws:**
>
> > java.io.IOException - of ObjectOutputStream
> > java.io.FileNotFoundException - of FileOutputStream

Package edu.napier.geo.publicTransport.main

Class Summary

[PublicTransport](#)

This API uses only Latitude and Longitude for Locations and no Altitude.

[RequestAndGetJsonFromServer](#)

---

edu.napier.geo.publicTransport.main

Class PublicTransport

```
java.lang.Object
     |
     +--edu.napier.geo.publicTransport.main.PublicTransport
```

< [Fields](#) > < [Constructors](#) > < [Methods](#) >

---

public class **PublicTransport**
extends java.lang.Object

This API uses only Latitude and Longitude for Locations and no Altitude.

Fields

gson

private com.google.gson.Gson **gson**

---

informationStorage

private [InformationStorage](#) **informationStorage**

---

informationStorageFilePath

java.lang.String **informationStorageFilePath**

---

informationStorageFilePathDefault

public static java.lang.String **informationStorageFilePathDefault**

responseJavaObject

private [ResponseTfl]() **responseJavaObject**

source

private java.lang.String **source**

Constructors

PublicTransport

public **PublicTransport**(boolean resetInformationStorage)

PublicTransport

public **PublicTransport**(boolean resetInformationStorage,
                           java.lang.String informationStorageFilePath)

> * Constructor for an Object of PublicTransport. This object will be necessary to use all functions of the PublicTransport API.

> **Parameters:**

>> resetInformationStorage - if true, the persistent stored InformationStorage is not loaded and the new generated object of this class generates a new empty InformationStorage object, which will be written to the file of the old one, when the first responseObject of a response from a public transport provider API is set.
>> informationStorageFilePath - path of the file of the InformationStorage object to import

Methods

createResponseJavaObject

```
public void createResponseJavaObject(double fromLat,
                                     double fromLon,
                                     double toLat,
                                     double toLon)
              throws java.lang.Exception
```

creates the POJO response Object for a Journey from and to the given coordinates. Then it sets the response object of this object to the new given response object from TfL.

Parameters:

fromLat - decimal
fromLon - decimal
toLat - decimal
toLon - decimal

Throws:

java.lang.Exception - Exception of setResponseJavaObject()

---

createResponseJavaObject

```
public void createResponseJavaObject(double fromLat,
                                     double fromLon,
                                     double toLat,
                                     double toLon,
                                     java.util.ArrayList userPreferences)
              throws java.lang.Exception
```

creates the POJO response Object for a Journey from and to the given coordinates and with an ArrayList of Strings with the user preferences (must be in the format, that TfL requires: "variable=value". All Variables that TfL provides can be used. Then it sets the response object of this object to the new given response object from TfL.

Parameters:

fromLat - decimal
fromLon - decimal
toLat - decimal
toLon - decimal
userPreferences - ArrayList of Strings in the format that the TfL API requires. One String per parameter

Throws:

java.lang.Exception - Exception of setResponseJavaObject()

createResponseJavaObject

```
public void createResponseJavaObject(edu.napier.geo.common.Location from,
                                     edu.napier.geo.common.Location to)
          throws java.lang.Exception
```

creates the POJO (plain old Java object) response object for a Journey from and to a given Location. Then it sets the response object of this object to the new given response object from TfL.

Parameters:

from - Location object
to - Location object

Throws:

java.lang.Exception - Exception of setResponseJavaOBject()

---

createResponseJavaObject

```
public void createResponseJavaObject(edu.napier.geo.common.Location from,
                                     edu.napier.geo.common.Location to,
                                     java.util.ArrayList userPreferences)
          throws java.lang.Exception
```

This method creates a POJO (Plain old java object) ResponseTfl for Journeys from and to a Location and with an ArrayList of Strings with the user preferences (must be in the format, that TfL requires: "variable=value" for most variables. All Variables that TfL provides can be used. Then it sets the response object of this object to the new given response object from TfL.

Parameters:

from - Location object
to - Location object
userPreferences - Strings must be in the format that the TfL API requires ("variable=value" for most of the variables).

Throws:

java.lang.Exception - Exception of setResponseJavaObject()

---

getAllJourneys

```
public edu.napier.geo.publicTransport.Response.TflJourney[] getAllJourneys()
```

Gives back an Array of all TfLJourneys of the actual ResponseTfL Object

Returns:

an Array of TfLJourney Objects of all TfLJourneys of the actual ResponseTfL Object

---

getArrivalPointOfFirstJourney

`public edu.napier.geo.common.Location` **`getArrivalPointOfFirstJourney`**`()`

This method gives back the Arrival Point of the first Journey of the actual ResponseTfL Object

Returns:

Location Object of the Arrival Point of the first Journey of the actual ResponseTfL Object

---

getArrivalPointOfJourney

`public edu.napier.geo.common.Location` **`getArrivalPointOfJourney`**`(`[TflJourney](#) `tflJourney)`

Gives back the Arrival Point of a given TfLJourney Object

Parameters:

tflJourney - TflJourney object

Returns:

Location Object of the Arrival Point of a given TfLJourney Object

---

getArrivalPointOfJourney

`public edu.napier.geo.common.Location` **`getArrivalPointOfJourney`**`(int journeyNumber)`

Gives back the Arrival Point of the Journey with the given index.

Parameters:

journeyNumber - index of the Journey in the response Object

Returns:

Location Object of the Arrival Point of the Journey with the given index.

---

getArrivalTimeOfFirstJourney

`public java.lang.String` **`getArrivalTimeOfFirstJourney`**`()`

Method to get the Arrival Time of the First Journey of the actual response object

Returns:

String ArrivalTime

---

getArrivalTimeOfJourney

```
public java.lang.String getArrivalTimeOfJourney(TflJourney tflJourney)
```

Gives back the Arrival Time of a given TflJourney object

Parameters:

tflJourney - TflJourney object

Returns:

String of Arrival Time

---

getArrivalTimeOfJourney

```
public java.lang.String getArrivalTimeOfJourney(int journeyNumber)
```

Gives back the Arrival Time of a Journey with a given index.

Parameters:

journeyNumber - index of the Journey in the Response Object

Returns:

String of Arrival Time

---

getAverageDistanceWalkingKM

```
public double getAverageDistanceWalkingKM(edu.napier.geo.common.Location from,
                                          edu.napier.geo.common.Location to)
```

Gives back the Average walking distance of all in the persistent InformationStorage stored Journeys from and to Locations in KM Uses the data of the persistent InformationStorage

Parameters:

from - Location object
to - Location object

Returns:

double of the Average walking distance of all in the persistent InformationStorage stored Journeys from and to Locations in KM

---

getAverageDurationMSForJourney

```
public double getAverageDurationMSForJourney(edu.napier.geo.common.Location
from,
                                             edu.napier.geo.common.Location
to)
```

Gives back the average duration of a Journey in ms Uses the data of the persistent InformationStorage

Parameters:

from - Location (Lon + Lat is compared)
to - Location (Lon + Lat is compared)

Returns:

double of the average walking time for a Journey from and to a given Location (Lat+Lon) in ms

---

getAverageNumberOfLegs

```
public double getAverageNumberOfLegs(edu.napier.geo.common.Location from,
                                     edu.napier.geo.common.Location to)
```

Gives back the average number of Legs of all stored Journeys from and to given Locations Uses the data of the persistent InformationStorage

Parameters:

from - Location
to - Location

Returns:

double of the average number of Legs of a Journey from and to a Location

---

getDeparturePointOfFirstJourney

```
public edu.napier.geo.common.Location getDeparturePointOfFirstJourney()
```

gives back a publicTransport-Location of the departure Point of the first Journey (Data of the Response Object). returns null, if response Object is null.

Returns:

Location of Departure of the first Journey

---

getDeparturePointOfJourney

```
public edu.napier.geo.common.Location getDeparturePointOfJourney(TflJourney
tflJourney)
```

Gives back the Departure Point of a given TfLJourney Object

Parameters:

tflJourney - TflJourney object

Returns:

Location Object of the Departure Point of a given TfLJourney Object

getDeparturePointOfJourney

```
public edu.napier.geo.common.Location getDeparturePointOfJourney(int
journeyNumber)
```

Gives back the Departure Point of a Journey with a given index.

Parameters:

journeyNumber - index of the Journey in the response Object

Returns:

Location Object of the Departure Point of a Journey with a given index.

getDepartureTimeOfFirstJourney

```
public java.lang.String getDepartureTimeOfFirstJourney()
```

Method to get the Departure Time of the First Journey of the actual response object

Returns:

String DepartureTime

getDepartureTimeOfJourney

```
public java.lang.String getDepartureTimeOfJourney(TflJourney tflJourney)
```

Gives back the Departure Time of a given TflJourney object

Parameters:

tflJourney - TflJourney object

Returns:

String of Departure Time

getDepartureTimeOfJourney

```
public java.lang.String getDepartureTimeOfJourney(int journeyNumber)
```

Gives back the Departure Time of a Journey with a given index.

Parameters:

journeyNumber - index of the Journey in the Response Object

Returns:

String of Departure Time

---

getDurationMinutesOfFirstJourney

```
public int getDurationMinutesOfFirstJourney()
```

This method gives back the duration of the first Journey of the actual ResponseTfl Object in minutes. returns -1, if Response Object is null.

Returns:

Duration of the first Journey of the actual ResponseTfL Object in minutes

---

getDurationMinutesOfJourney

```
public int getDurationMinutesOfJourney(TflJourney tflJourney)
```

Gives back the duration of a TfLJourney

Parameters:

tflJourney - TflJourney object

Returns:

Integer of the duration of the given TfLJourney Object

---

getDurationMinutsOfJourney

```
public int getDurationMinutsOfJourney(int journeyNumber)
```

Gives back the duration of a given Journey in minutes

Parameters:

journeyNumber - index of the Journey in the Response Object

Returns:

Integer of the duration of the given Journey in minutes

---

getFirstJourney

public [TflJourney](#) **getFirstJourney**()

>Gives back the first Journey of the actual Response Object
>
>**Returns:**
>
>>TfLJourney Object of the first Journey of the actual Response Object

---

getInformationStorage

public [InformationStorage](#) **getInformationStorage**()

>gives back the informationStorage object of this class
>
>**Returns:**
>
>>InformationStorage object of this class

---

getInformationStorageFilePath

public java.lang.String **getInformationStorageFilePath**()

>Gives back the File Path of the informationStorage
>
>**Returns:**
>
>>File path as String

---

getJourney

public [TflJourney](#) **getJourney**(int journeyNumber)

>Gives back a TfLJourney of the response object with a given index.
>
>**Parameters:**
>
>>journeyNumber - index of the Journey in the response Object
>
>**Returns:**
>
>>a TfLJourney Object of the response object with a given index.

---

getNumberOfLegsOfFirstJourney

public int **getNumberOfLegsOfFirstJourney**()

>Gives back the number of Legs of the first Journey of the actual ResponseTfL Object returns -1, if response Object is null.
>
>**Returns:**
>
>>Integer of the number of Legs of the first Journey of the actual ResponseTfL Object

getNumberOfLegsOfJourney

`public int **getNumberOfLegsOfJourney**(`[TflJourney](#)` tflJourney)`

> Gives back the number of Legs of a given TfLJourney Object
>
> **Parameters:**
>
> > tflJourney - TflJourney object
>
> **Returns:**
>
> > Integer of the number of Legs of a given TfLJourney Object

---

getNumberOfLegsOfJourney

`public int **getNumberOfLegsOfJourney**(int journeyNumber)`

> Gives back the number of Legs of a Journey with a given index.
>
> **Parameters:**
>
> > journeyNumber - index of the Journey in the response Object
>
> **Returns:**
>
> > Integer of the number of Legs of a Journey with a given index.

---

getResponseJavaObject

`public `[ResponseTfl](#)` **getResponseJavaObject**()`

---

getResponseObjectFromJSONString

`private `[ResponseTfl](#)` **getResponseObjectFromJSONString**(java.lang.String string)`
`                                                                    throws`
`java.io.IOException,`
`java.io.FileNotFoundException,`
`com.google.gson.JsonSyntaxException`

> /**
>
> **Parameters:**
>
> > string - of the JSON response from the API of the TfL public Transport API
>
> **Returns:**
>
> > ResponseTfL object of all information in the JSON creates Response object out of JSON String and gives the new object to the informationStorage to update it.
>
> **Throws:**
>
> > java.io.IOException -
> > java.io.FileNotFoundException -
> > com.google.gson.JsonSyntaxException -

getRouteLocationsOfJourney

```
public java.util.ArrayList
getRouteLocationsOfJourney(edu.napier.geo.common.Location from,
edu.napier.geo.common.Location to)
```

Gives back an ArrayList of all Locations on the way of the Journey Uses the data of the persistent InformationStorage

Parameters:

from - Location object
to - Location object

Returns:

ArrayList of all Locations on the way of the Journey

getSource

```
public java.lang.String getSource()
```

Gives back the Source String, which is used to identify this API as source for Objects like Location

Returns:

String with this API name

getTflJourneys

```
public java.util.ArrayList getTflJourneys(edu.napier.geo.common.Location from,
                                          edu.napier.geo.common.Location to)
```

Gives back an ArrayList of TflJourneys Objects of a Journey from and to a Location. Uses the data of the persistent InformationStorage

Parameters:

from - Location object
to - Location object

Returns:

ArrayList of TflJourney Objects of a Journey from and to a Location

printAllJourneyInformation

```
public void printAllJourneyInformation()
```

Method for demonstration only This method prints out all Journeys of the InformationStorage object.

resetInformationStorage

```
public void resetInformationStorage()
```

> This method could be used to replace the InformationStorage Object of this Object with a new empty InformationStorage Object

---

setInformationStorageFilePath

```
public void setInformationStorageFilePath(java.lang.String
informationStorageFilePath)
```

> Sets the informationStorage File path
>
> **Parameters:**
>
>> informationStorageFilePath - File Path as String

---

setResponseJavaObject

```
public void setResponseJavaObject(ResponseTfl responseJavaObject)
```

> sets the ResponseJavaObject of this object to the given ResponseTfl Object
>
> **Parameters:**
>
>> responseJavaObject - Object of ResponseTfl type (Response from TfL (JSON) converted to POJO object)

---

setSource

```
public void setSource(java.lang.String source)
```

> Sets the Source String
>
> **Parameters:**
>
>> source - String which describes the object of this class, when a new Location objet is created.

---

storeInformationStoragePersistent

```
public void storeInformationStoragePersistent()
            throws java.io.IOException,
                                java.io.FileNotFoundException
```

updates the local persistent file of the stored Information (InformationStorage). Is automatically called, when a new Response object is set as response object in an object of this class after automatically updating the InformationStorage. Not necessary for normal usage, but public provided for possible special use of a User.

Throws:

java.io.IOException - of ObjectOutputStream
java.io.FileNotFoundException - of FileOutputStream

---

edu.napier.geo.publicTransport.main

Class RequestAndGetJsonFromServer

```
java.lang.Object
    |
    +--edu.napier.geo.publicTransport.main.RequestAndGetJsonFromServer
```

< [Constructors](#) > < [Methods](#) >

public class **RequestAndGetJsonFromServer**
extends java.lang.Object

Author:

Jan-Niklas Keiner 2017/02/28 This class has static methods for giving back JSON Strings from TfL for requests with the different static methods

Constructors

RequestAndGetJsonFromServer

```
public  RequestAndGetJsonFromServer()
```

Methods

getJSON

```
public static java.lang.String getJSON(double fromLat,
                                       double fromLon,
                                       double toLat,
                                       double toLon)
                                throws java.io.IOException
```

this method gives back a string of the JSON response from TfL for request for a Journey from and to coordinates (decimal) without further user Preferences

Parameters:

fromLat - decimal
fromLon - decimal
toLat - decimal
toLon - decimal

Returns:

String of the TfL Response (in JSON format)

Throws:

java.io.IOException - IOException of getJSON(lat, lon, lat, lon, preferences)

---

getJSON

```
public static java.lang.String getJSON(double fromLat,
                                       double fromLon,
                                       double toLat,
                                       double toLong,
                                       java.lang.String preferences)
                                throws java.net.MalformedURLException,
                                       java.net.ProtocolException,
                                       java.io.IOException
```

this method gives back a String of the JSON response from TfL for a request for a Journey from and to coordinates and with all preferences in one String (separated by the and symbol).

Parameters:

fromLat - decimal
fromLon - decimal
toLat - decimal
toLong - decimal
preferences - ArrayList of Strings with the user preferences (must be in the format, that TfL requires: "variable=value". All Variables that TfL provides can be used.

Returns:

String of the TfL Response (in JSON format)

Throws:

java.net.MalformedURLException - MalformedURLException of URL
java.net.ProtocolException - ProtocolException of HttpURLConnection
connection.setRequestMethod(GET)
java.io.IOException - IOException of url.openConnection

getJSON

```
public static java.lang.String getJSON(double fromLat,
                                        double fromLong,
                                        double toLat,
                                        double toLong,
                                        java.util.ArrayList preferences)
                                 throws java.io.IOException
```

this method gives back a string of the JSON response from TfL for request for a Journey from and to coordinates (decimal) with user Preferences

Parameters:

fromLat - decimal
fromLong - decimal
toLat - decimal
toLong - decimal
preferences - ArrayList of Strings with the user preferences (must be in the format, that TfL requires: "variable=value". All Variables that TfL provides can be used.

Returns:

String of the TfL Response (in JSON format)

Throws:

java.io.IOException - IOException of getJSON(lat, lon, lat, lon, preferences)

---

getJSON

```
public static java.lang.String getJSON(edu.napier.geo.common.Location from,
                                        edu.napier.geo.common.Location to)
                                 throws java.io.IOException
```

this method gives back a string of the JSON response from TfL for request for a Journey from and to a Location

Parameters:

from - Location object
to - Location object

Returns:

String of the TfL Response (in JSON format)

Throws:

java.io.IOException - IOException of getJSON(lat, lon, lat, lon, userPreferences)

getJSON

```
public static java.lang.String getJSON(edu.napier.geo.common.Location from,
                                        edu.napier.geo.common.Location to,
                                        java.util.ArrayList preferences)
                               throws java.io.IOException
```

this method gives back a string of the JSON response from TfL for request for a Journey from and to a Location with user Preferences

Parameters:

from - Location object
to - Location object
preferences - ArrayList of Strings with the user Preferences in the format that the TfL API requires

Returns:

String of the TfL Response (in JSON format)

Throws:

java.io.IOException - IOException of getJSON(lat, lon, lat, lon, userPreferences)

---

locationLonAndLatNotNull

```
private static boolean locationLonAndLatNotNull(edu.napier.geo.common.Location
location)
```

Method to check, if Longitude and Latitude of a Location are not null

Parameters:

location - Location object

Returns:

Boolean. true, if both values are not 0.0, else false

---

userPreferencesToString

```
private static java.lang.String userPreferencesToString(java.util.ArrayList
preferences)
```

This method is used for converting the ArrayList of Strings with the user preferences to one long String, separated by and symbol

Parameters:

preferences - UserPreferences in the Format that TfL API requires

Returns:

String in URL format