

# API Documentation

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# 1 Module egoTracker

**Author:** Vassilis Lekakis

**Organization:** Institute of Computer Science, F.O.R.T.H

**Contact:** lekakis@ics.forth.gr/lekakis@gmail.com/lex@umd.edu

**See Also:** <http://csr.bu.edu/sns/>, {<http://www.ics.forth.gr/~lekakis>}

## 1.1 Functions

main()
--------

## 1.2 Variables

Name	Description
BOOTSTRAP_PORT	Value: 61223
BOOT_DELAY	Value: 500
ERASE_HASH	Value: 300
HUGE_DELAY	Value: 2147482647
MIL	Value: 1000
NACK	Value: 'NACK'
NBR_CONNECTOR	Value: 'NEIGHBOR_CONNECTOR'
NBR_FACTORY	Value: 'NEIGHBOR_FACTORY'
NBR_IP	Value: 'NEIGHBOR_IP'
NBR_PORT	Value: 'NEIGHBOR_PORT'
NEIGHBOR_DELIMITER	Value: ' '
NET_PACKET	Value: 'NET'
OVERLAY_DELIMITER	Value: '#'
OVERLAY_PACKET	Value: 'OVER'
PACKET_TYPE	Value: 0
PACK_DELIMITER	Value: '@'
PING_FACTORY	Value: 'PING_FACTORY'
PING_PERIOD	Value: 35
PING_RESULTS	Value: 'PING_MEASUREMENTS'
PING_TIMEOUT	Value: 3
PKT_IDS_LIMIT	Value: 5000
PKT_LIMIT	Value: 8190
PORT_DELIMITER	Value: ':'
REGISTER	Value: 'REG'
REMOVE	Value: 'RMV'
REMOVE_PERIOD	Value: 50
REWIRING_PERIOD	Value: 60
SEG	Value: 'SEG'
TEARDOWN	Value: 'TRD'
UPDATE	Value: 'UPT'
UPDATE_HASH	Value: 1
UPDATE_ID	Value: 2
UPDATE_SRC	Value: 3

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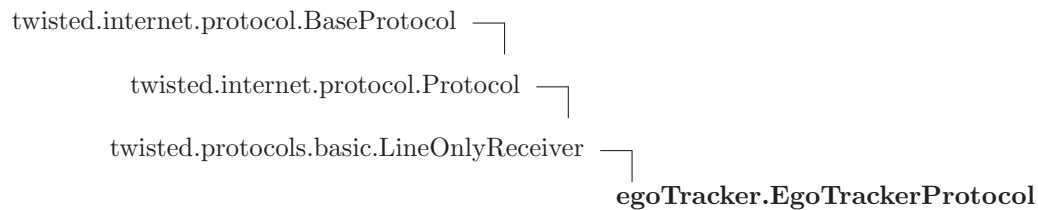
Name	Description
UPDT_DELIMITER	<b>Value:</b> <code>'**'</code>
maxint	<b>Value:</b> 2147483647

### 1.3 Class *EgoTracker*

#### 1.3.1 Methods

<code>__init__(self, ip, port)</code>
<code>getNetwork(self)</code>
<code>getPort(self)</code>
<code>getIP(self)</code>

### 1.4 Class *EgoTrackerProtocol*



**See Also:** <http://twistedmatrix.com/documents/current/api/twisted.protocols.basic.LineOnlyReceiver.html>

#### 1.4.1 Methods

<b>lineReceived</b> ( <i>self</i> , <i>line</i> ) Override this for when each line is received. Overrides: <code>twisted.protocols.basic.LineOnlyReceiver.lineReceived</code> extit(inherited documentation)
<b>__providedBy__</b> (...) <hr/> Object Specification Descriptor
<b>connectionLost</b> ( <i>self</i> , <i>reason</i> =< <code>twisted.python.failure.Failure</code> <class 'twisted.internet....') <hr/> Called when the connection is shut down. Clear any circular references here, and any external references to this Protocol. The connection has been closed. <b>Parameters</b>

**connectionMade**(*self*)

Called when a connection is made.

This may be considered the initializer of the protocol, because it is called when the connection is completed. For clients, this is called once the connection to the server has been established; for servers, this is called after an `accept()` call stops blocking and a socket has been received. If you need to send any greeting or initial message, do it here.

**dataReceived**(*self*, *data*)

Translates bytes into lines, and calls `lineReceived`.

Overrides: `twisted.internet.protocol.Protocol.dataReceived`

**lineLengthExceeded**(*self*, *line*)

Called when the maximum line length has been reached. Override if it needs to be dealt with in some special way.

**makeConnection**(*self*, *transport*)

Make a connection to a transport and a server.

This sets the 'transport' attribute of this Protocol, and calls the `connectionMade()` callback.

**sendLine**(*self*, *line*)

Sends a line to the other end of the connection.

### 1.4.2 Class Variables

Name	Description
<code>MAX_LENGTH</code>	The maximum length of a line to allow (If a sent line is longer than this, the connection is dropped). Default is 16384. <b>Value:</b> 16384
<code>__implemented__</code>	<b>Value:</b> <implementedBy <code>twisted.internet.protocol.Protocol</code> >
<code>__provides__</code>	<b>Value:</b> <zope.interface.declarations.ClassProvides object at 0x83...
<code>connected</code>	<b>Value:</b> 0
<code>delimiter</code>	The line-ending delimiter to use. By default this is ' <code>\r\n</code> '. <b>Value:</b> ' <code>\r\n</code> '
<code>transport</code>	<b>Value:</b> None

## 1.5 Class *EgoTrackerFactory*

`twisted.internet.protocol.Factory` └

`twisted.internet.protocol.ServerFactory` └

**`egoTracker.EgoTrackerFactory`**

See Also: <http://twistedmatrix.com/documents/8.2.0/api/twisted.internet.protocol.ServerFactory.html>

### 1.5.1 Methods

**\_\_init\_\_**(*self*, *log*, *networkId*)

**startFactory**(*self*)

This will be called before I begin listening on a Port or Connector.

It will only be called once, even if the factory is connected to multiple ports.

This can be used to perform 'unserialization' tasks that are best put off until things are actually running, such as connecting to a database, opening files, etcetera.

Overrides: twisted.internet.protocol.Factory.startFactory exitit(inherited documentation)

**addOverlayNode**(*self*, *nodeline*)

adds a new node to the overlay set. Before the actual addition checks if this node is already inside

**Parameters**

**nodeline:** the new node  
(*type=String*)

**updateNeighbors**(*self*, *data*)

Updates the overlay graph upon receiving a new update

**Parameters**

**data:** the update  
(*type=String*)

**markRemove**(*self*, *nodeline*)

Appends a remove event to the event buffer for the specified node

**Parameters**

**nodeline:** node candidate for removal  
(*type=String*)

**To Do:** Not sure that the whole idea is working correctly Needs to be redesign but in conjunction with the whole failure policy that will adopt the application over Egoist.

**periodicRMV**(*self*)

Methos that is called periodically and removes the nodes that in their event buffer have as a last element a REMOVE.

**Bug:** It's not working correctly due to the fact that some nodes fail to connect temporarily to a node but the node is still alive. I guess that if we add to the event buffer a special Costant for every other action (REGISTER, UPDATE) the problem is going to be solved.

**\_\_providedBy\_\_**(...)

Object Specification Descriptor

**buildProtocol**(*self*, *addr*)

Create an instance of a subclass of Protocol.

The returned instance will handle input on an incoming server connection, and an attribute "factory" pointing to the creating factory.

Override this method to alter how Protocol instances get created.

**Parameters**

**addr:** an object implementing `twisted.internet.interfaces.IAddress`

**doStart**(*self*)

Make sure startFactory is called.

Users should not call this function themselves!

**doStop**(*self*)

Make sure stopFactory is called.

Users should not call this function themselves!

**stopFactory**(*self*)

This will be called before I stop listening on all Ports/Connectors.

This can be overridden to perform 'shutdown' tasks such as disconnecting database connections, closing files, etc.

It will be called, for example, before an application shuts down, if it was connected to a port. User code should not call this function directly.

**1.5.2 Class Variables**

Name	Description
<code>__implemented__</code>	<b>Value:</b> <implementedBy <code>twisted.internet.protocol.Factory</code> >
<code>__provides__</code>	<b>Value:</b> < <code>zope.interface.declarations.ClassProvides</code> object at 0x83...
<code>noisy</code>	<b>Value:</b> True
<code>numPorts</code>	<b>Value:</b> 0

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