Hachat Documentation

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Contents

1 Module gui

1.1 Class gui

object
    gui.gui

1.1.1 Methods

__init__(*self*, *parent*)

x.__init__(...) initializes x; see help(type(x)) for signature

Overrides: object.__init__ extit(inherited documentation)

empfang(*self*, *msg*)

ende(*self*)

ende_(*self*, *event*)

popup_(*self*, *event*)

run(*self*)

senden(*self*)

senden_(*self*, *event*)

Inherited from object

__delattr__(), __format__(), __getattribute__(), __hash__(), __new__(), __reduce__(), __reduce_ex__(), __repr__(), __setattr__(), __sizeof__(), __str__(), __subclasshook__()

1.1.2 Properties

Name	Description
Inherited from object __class__	

2 Module host

This module provides the Host Class which represents connections to other Peers in a Hachat-Peer

2.1 Variables

Name	Description
__package__	**Value:** `None`

2.2 Class Host

Class representing a connection to another peer

2.2.1 Methods

__del__(*self*)

__init__(*self*, *peer*, *hostIP*, *hostPort*)

addToMsgQueue(*self*, *msg*)

check if message is type Message and add to Queue

constructKey(*cls*, *hostIP*, *hostPort*)

Class method: construct key to identify hosts in hostlist

sendHello(*self*)

will send a HELO-Message to the corresponding peer

3 Module message

3.1 Functions

toMessage(*string*)

construct Message type from string

3.2 Variables

Name	Description
__package__	**Value:** `None`

3.3 Class ByeMessage

object
message.Message
message.ByeMessage

Message Type to be send when leaving

3.3.1 Methods

__init__(*self*, *origin*, *uid*=`None`)

build Message with supplied uid or otherwise get a random uid

Overrides: object.__init__ extit(inherited documentation)

__str__(*self*)

implements interface

Overrides: object.__str__

Inherited from object

__delattr__(), __format__(), __getattribute__(), __hash__(), __new__(), __reduce__(), __reduce_ex__(), __repr__(), __setattr__(), __sizeof__(), __subclasshook__()

3.3.2 Properties

Name	Description
Inherited from object __class__	

3.4 Class HeloMessage

object

message.Message

message.HeloMessage

regularly sent HELO Message which exchange information on IP and Port Message layout: | type | uid | recipientIP | recipientPort | senderIP | senderPort |

3.4.1 Methods

__init__(*self*, *recipientIP*, *recipientPort*, *senderIP*, *senderPort*, *uid*=None)

build Message with supplied uid or otherwise get a random uid

Overrides: object.__init__ extit(inherited documentation)

__str__(*self*)

implements interface

Overrides: object.__str__

Inherited from object

__delattr__(), __format__(), __getattribute__(), __hash__(), __new__(), __reduce__(), __reduce_ex__(), __repr__(), __setattr__(), __sizeof__(), __subclasshook__()

3.4.2 Properties

Name	Description
Inherited from object __class__	

3.5 Class History

Klasse History speichert und ueberprueft Text-Msgs

3.5.1 Methods

__init__(*self*, *msgLimit*, *hashLimit*)

addMsg(*self*, *msg*)

getListMsgObjects(*self*, *msgQuant*)

getMsgHashes(*self*, *msgQuant*)

getMsgObjects(*self*, *msgHash*)

msgExists(*self*, *msghash*)

msgSafed(*self*, *msg*)

removeMsg(*self*, *msgQuant*=0, *hashQuant*=0)

3.6 Class HistoryExchangeMessage

object

message.Message

message.HistoryExchangeMessage

for request and pushing Hosts Message layout: | type | uid | recipientIP | recipientPort | origin key | level | quant | liste |

3.6.1 Methods

__init__(*self*, *recipientIP*, *recipientPort*, *origin*, *level*, *quant*=`None`, *liste*=`None`, *uid*=`None`)

build Message with supplied uid or otherwise get a random uid

Overrides: object.__init__ extit(inherited documentation)

__str__(*self*)

implements interface

Overrides: object.__str__

Inherited from object

__delattr__(), __format__(), __getattribute__(), __hash__(), __new__(), __reduce__(), __reduce_ex__(), __repr__(), __setattr__(), __sizeof__(), __subclasshook__()

3.6.2 Properties

Name	Description
Inherited from object __class__	

3.7 Class HostExchangeMessage

object

message.Message

message.HostExchangeMessage

for request and pushing Hosts Message layout: | type | uid | recipientIP | recipientPort | origin key | level | quant | listofHosts |

3.7.1 Methods

__init__(*self*, *recipientIP*, *recipientPort*, *origin*, *level*, *quant*=`None`, *listofHosts*=`None`, *uid*=`None`)

build Message with supplied uid or otherwise get a random uid

Overrides: object.__init__ extit(inherited documentation)

__str__(*self*)

implements interface

Overrides: object.__str__

Inherited from object

__delattr__(), __format__(), __getattribute__(), __hash__(), __new__(), __reduce__(), __reduce_ex__(), __repr__(), __setattr__(), __sizeof__(), __subclasshook__()

3.7.2 Properties

Name	Description
Inherited from object __class__	

3.8 Class Message

object

message.Message

Known Subclasses: message.ByeMessage, message.HeloMessage, message.HistoryExchangeMessage, message.HostExchangeMessage, message.TextMessage

3.8.1 Methods

__init__(*self*, *uid*)

build Message with supplied uid or otherwise get a random uid

Overrides: object.__init__

__str__(*self*)

cast Message to string

Overrides: object.__str__

Inherited from object

__delattr__(), __format__(), __getattribute__(), __hash__(), __new__(), __reduce__(), __reduce_ex__(), __repr__(), __setattr__(), __sizeof__(), __subclasshook__()

3.8.2 Properties

Name	Description
Inherited from object	
__class__	

3.9 Class MessageException

object

exceptions.BaseException

exceptions.Exception

message.MessageException

Custom Exception Type for Messages

3.9.1 Methods

__init__(*self*, *value*)

x.__init__(...) initializes x; see help(type(x)) for signature

Overrides: object.__init__ extit(inherited documentation)

__str__(*self*)

str(x)

Overrides: object.__str__ extit(inherited documentation)

Inherited from exceptions.Exception

__new__()

Inherited from exceptions.BaseException

__delattr__(), __getattribute__(), __getitem__(), __getslice__(), __reduce__(), __repr__(), __setattr__(), __setstate__(), __unicode__()

Inherited from object

__format__(), __hash__(), __reduce_ex__(), __sizeof__(), __subclasshook__()

3.9.2 Properties

Name	Description
Inherited from exceptions.BaseException args, message	
Inherited from object __class__	

3.10 Class TextMessage

object

message.Message

message.TextMessage

normal Text Messages Message layout: | type | uid | hash | sender name | origin key | lastHop key | text |

3.10.1 Methods

__**init**__(*self*, *name*, *origin*, *lastHop*, *text*, *uid*=`None`)

build Message with supplied uid or otherwise get a random uid

Overrides: object.__init__ extit(inherited documentation)

__**str**__(*self*)

implements interface

Overrides: object.__str__

Inherited from object

__delattr__(), __format__(), __getattribute__(), __hash__(), __new__(), __reduce__(), __reduce_ex__(), __repr__(), __setattr__(), __sizeof__(), __subclasshook__()

3.10.2 Properties

Name	Description
Inherited from object __class__	

4 Module peer

4.1 Variables

Name	Description
__package__	**Value:** `None`

4.2 Class Peer

Peer Klasse

4.2.1 Methods

HistoryControl(*self*, *neighbour*, *historyList*)

checks if the historyList from neighbour contains msgs wich are not in own History. If so, these lostMsg Hahses will be pushed back and by this the associated msgObjects are requested.

__del__(*self*)

__init__(*self*, *firstHost*=`None`, *port*=`None`, *name*=`'temp'`, *ip*=`None`, *testmode*=`False`)

addToHosts(*self*, *addr*)

check if already in hostlist otherwise add

forwardMsg(*self*, *msg*, *Oneneigbour*=`None`)

forwarding TextMessage, but not to initial sender if host is set, it will only forward to this single host

generateMsgParts(*self*, *quant*=`5`, *length*=`2000`)

generates random TextMsgs, if length > 1000 there will be more then one msg-part

getHistory(*self*, *neighbour*, *initial*=`False`)

request History from neigbour; initial is true for a initial history exchange: this will skip pushing Hashes and immediately request msg.objects

maintenanceLoop(*self*)

processMessage(*self*, *msg*, *fromAddr*)

processes the received messages

pushHistory(*self*, *neighbour*, *quant*)

push own List of History-Hashes to neighbour

pushHosts(*self*, *neighbour*, *quant*)

give Hosts from hostExchange to a neighbour

pushMsgObjects(*self*, *neighbour*, *lostMsgHashes*=`None`)

pushes requested msgObjects back to neighbour

requestHosts(*self*, *neighbour*, *quant*=`None`)

request Hosts from neighbour

sendLoop(*self*, *test*=`False`)

send Message objects of all hosts from Queue as string

sendText(*self*, *text*)

startRecvLoop(*self*)

general receive loop of a peer

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