



# Coppelia

# High Availability

## Users Guide

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## 1. Introduction

### 1.1. High Availability (HA)

High Availability is the ability to continue providing service during a failure of one or more components of a system. The failure is defined as operator control (system maintenance) or system (hardware/software crash). In order to achieve a highly available service, a system must be designed to eliminate all single points of failure. Eliminating single points of failure requires additional hardware and software resources. High Availability solutions manage these resources and continue providing service during component failure.

CoppeliaHA has been designed to eliminate single points of failure and is the High Availability solution for Coppelia. CoppeliaHA was design to make upgrading from Coppelia as straight forward as possible. The main difference between the systems is the configuration and system cluster files.

### 1.2. Terms and Definitions

HA: High Availability

Users: Any external process that attaches to a CoppeliaHA engine

Coppelia Cluster: Two or more CoppeliaHA engines working in unison on independent platforms to implement a highly available service.

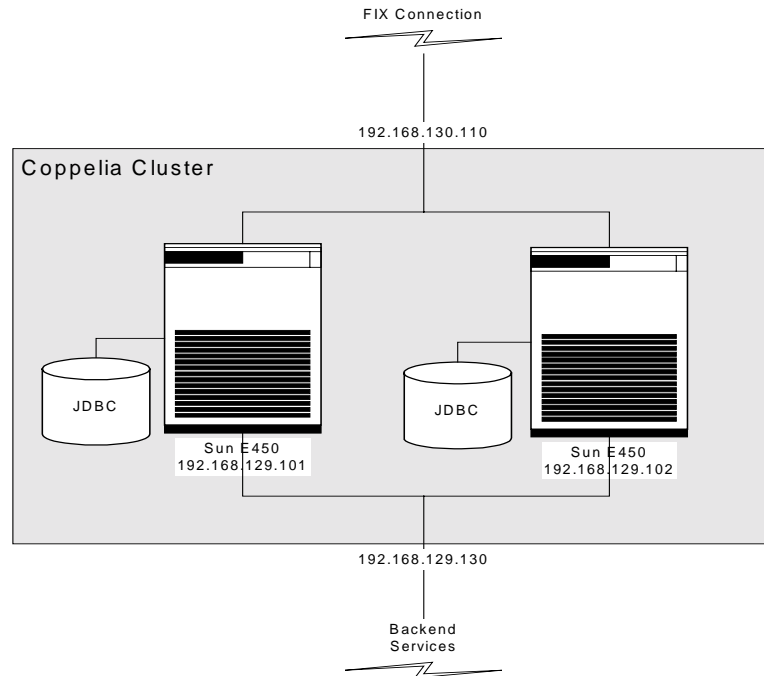
Clustering is the use of one or more engines working in unison on independent platforms to implement a highly available service. One engine acts as the primary service provider and the other act as hot-secondarys waiting their turn to assume the role of primary. The group of engines remain up to date and are considered a cluster.

Logical IP Address: A single address that represents a Coppelia Cluster.

### 1.3. Reference Documentation

Coppelia users guide

## 2. HA Concepts



### 2.1. Clustering (Logical Addresses)

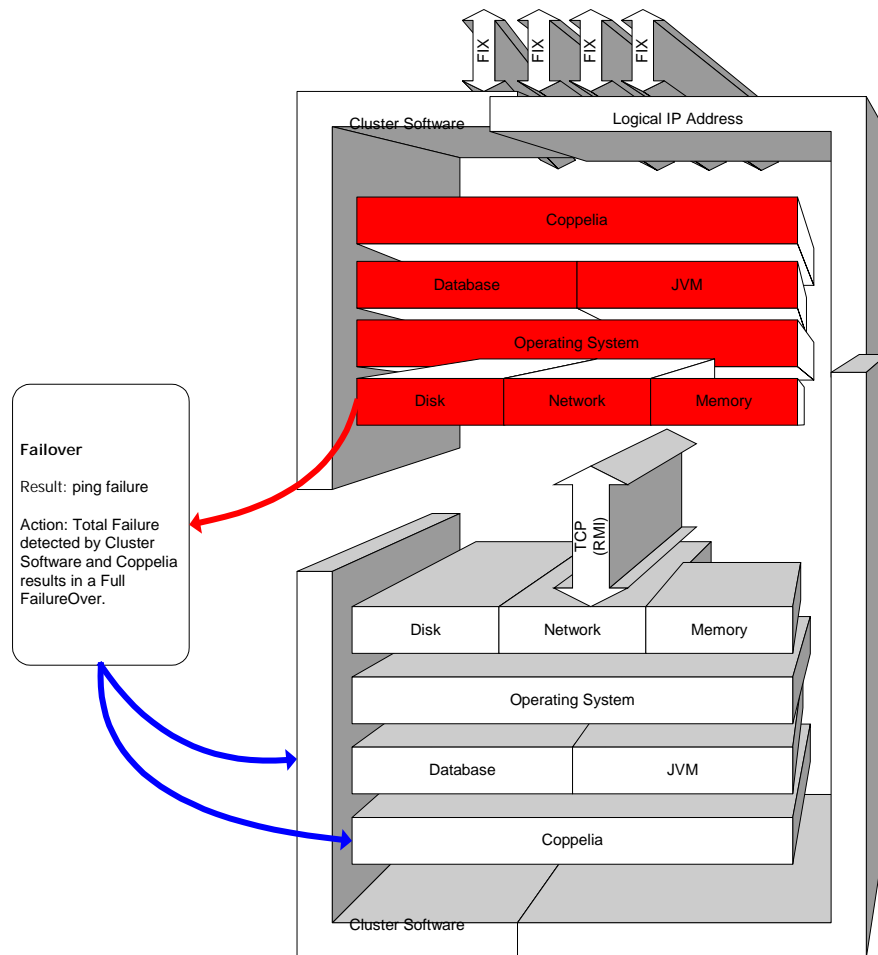
The purpose of a HA system is to present users with a single, highly available view of a Coppelia FIX service. This would shield users from any of the internal working of the system and any failure inside the cluster would simply result in a disconnection from the service followed by a reconnection. This is achieved by assigning a logical IP address for a Coppelia Cluster.

In the example we have two machines in the cluster. For simplicity each machine is configured with two independent network cards that are intern connected to two different subnets. In a real world environment it is recommended that each machine have four network cards, two for each segment. The important things to note is that both the external FIX connections and the Backend Services have their own IP address to connect to the CoppeliaHA service. An IP Address Takeover is used to create the cluster

## 2.2. IP Address Takeover

If a machine, or service, becomes unavailable, another machine can be substituted. The substitute machine is a hot stand-by. IP address takeover involves two machines, each with their own IP address and a floating IP address. The floating IP address is assigned to one of the servers, the primary.

IP address takeover begins with the secondary bringing up an interface for the floating IP address. An IP alias is used, which assigns a second logical interface on an existing physical interface. Once the interface is up, the secondary is able to accept messages for the floating IP address.



## 2.3. Coppelia HA Server Names

Server Blocks

```
[BUY1]
file_path=./buy1/
rmi_ip = 192.168.129.101
rmi_port = 9051
database = [DATABASE]

[BUY2]
file_path=./buy2/
rmi_port = 9052
rmi_ip = 192.168.129.102
database = [DATABASE]

[SERVER_BLOCK]
SERVER_BLOCK = [BUY1]
SERVER_BLOCK = [BUY2]
WELL_KNOWN_ADDRESS = 192.168.129.001

[MAIN]
server_block = [SERVER_BLOCK]
type = BUY
title = Coppelia v4.1, BUY SIDE
connect = CLIENT
local_port = 7200
connection = [SBI0]
interface_block = [INTERFACE]

[INTERFACE]
interface_type=INPROC
iiop_ip = 127.0.0.1
iiop_port = 8013

[DATABASE]

[SBI0]
net_address = 192.168.130.120
heartbeat_interval = 30
local_firm_id = SLGM0
remote_firm_id = SBI0
version = 411
contact = Benjamin Lai (212) 555-1212
user = ben
password = password
port = 9055
```

Each CoppeliaHA Server has a unique name, this not only helps to easily identify the server but it also used by the configuration file to distinguish attributes for each server allowing one configuration file to service N number of CoppeliaHA engines. The following example is a typical configuration file for a pair of CoppeliaHA servers. The first thing to note is that all configuration attributes above the **MAIN** block are used to configure HA, anything below the **MAIN** block is used by a standard Coppelia engine excluding the **high\_availability** attribute. In fact you could delete the top part and create a valid config file for a standard Coppelia engine. At the top of the files there are two blocks called **[BUY1]** and **[BUY2]** these represent the server blocks. On startup it reads in the config file and copies all of the attributes in the server block to the **MAIN** block. This enables customers to configure server specific items in the server block.

To facilitate this Coppelia requires two arguments at startup:

Coppelia <config file> <server name>

This has two major advantages over multiple files:

1. It guarantees that connection data and server blocks are the same across all servers.
2. Only one file has to be modified instead of one for each server.

## 2.4. Java Remote Method Invocation (RMI)

CoppeliaHA uses RMI to connect and communicate with other CoppeliaHA servers in the cluster. Traditionally Java applications that use RMI require an rmregistry to do the lookup and object binding. To reduce the chance of failure or errors CoppeliaHA incorporates this server into its JVM.

## 2.5. Pinging a Well Known Address (WKA)

CoppeliaHA has many internal features to ensure the system is working correctly. As an extension of this CoppeliaHA also checks that the external Ethernet devices are working by pinging WKA. No CoppeliaHA server can fully startup or become the primary server until it can successfully ping a WKA. An example of a WKA is a router or DNS server. When configuring your system there is no limit to the number of WKAs so as long as it's connected to the subnet, it's Ethernet card is working and at least one of the WKA returns a reply the server will startup.

# 3. Configuration

## 3.1. Config File

As mentioned above the configuration for a CoppeliaHA Cluster can and is recommended to be stored into a single file.

## 3.2. Coppelia Configuration Attributes

<b>Column</b>	<b>Description</b>
Name	This defines the attribute name which can be either in upper or lower case
Type	This is used to indicate what format argument is expected to be in
Block	The block in which the attribute can be used. The attribute can not be used in any other block as unique throughout the system for that block only
Default	The default value of the attribute
REQ	Required, whether or not the attribute must be set. Many of the attributes need only be set in certain circumstances
INST	Instances, maximum number of times the attribute can be used

## 3.3. Type Descriptions

<b>Name</b>	<b>Description</b>
Int	an integer value from 0 to MAXINT unless defined otherwise
Boolean	a boolean value which is either ON or OFF in uppercase
String	any value on a single line
Enum	one of the specified values anything else is invalid
Address	attribute must be a valid IP address
block	the attribute must reference another block



### 3.4. Block Descriptions

<b>Block</b>	<b>Description</b>	<b>Referenced From</b>
MAIN	This is where attributes which affect the global configuration of the server are set.	This is the primary block and is not referenced
DATABASE	Database specific configuration attributes are contained in this block	This is referenced from the MAIN block except for HA configuration where it is referenced is the SERVER_BLOCK
HIGH_AVAILABILITY	Configuration contain the servers in the HA setup	If used it is always referenced from the MAIN block
INTERFACE_BLOCK	Interface specific Configuration	This is referenced from the MAIN block except for HA configuration where it is referenced is the SERVER_BLOCK
CONNECTION	Connection information is stored in this block and is always referenced from the MAIN block	This is always reference from the MAIN block
SERVER_BLOCK	Used only in HA this stores server specific configuration items	Always referenced from HIGH_AVAILABILITY block
DROP_COPY	This contains a set of messages which will be routed to alternative desinations	Always referenced from a CONNECTION block
NO_PERSISTENCE_MSG	This stores a list of non-persisted messages	This is always referenced from the DATABASE block

### 3.5. Configuration Attributes

<b>NAME</b>	<b>TYPE</b>	<b>Block</b>	<b>DESCRIPTION</b>	<b>VALUES</b>	<b>DEFAULT</b>	<b>REQ</b>	<b>INST</b>
CANCEL_IOIS	boolean	CONNECTION	Intended as a tool that would reject all IOI messages received. Currently not being used.	ON or OFF	OFF	OFF	1
CONNECTION_PORT	Int	CONNECTION	The port on which the coppelia engine will connect to for this connection	0, MAXINT		ON	1
CONNECTION_TYPE	Enum	CONNECTION	The Protocol the connection will use i.e. FIX, NWII, the FIX, NWII, ACT, CMS, NWII_MD,		FIX	ON	1
CONTACT	String	CONNECTION	The administrator to contact if there is a problem connecting to this service			ON	1
DROP_COPY	Block	CONNECTION	Points to the DROP_COPY configuration block, this is used to configure some basic routing of particular messages			OFF	MAXINT
DESCRIPTION	String	CONNECTION	This is kept internally in the server, and is for informational purposes only. It is a text string, and	Any text string		OFF	1

NAME	TYPE	Block	DESCRIPTION	VALUES	DEFAULT	REQ	INST
			can be any description for the Coppelia Engine.				
ENCRYPTION	Enum	CONNECTION	The type of FIX encryption used for this connection	0, 1, 2, 3, 4, 5, 30,		0OFF	1
EVERY_HEART_BEAT	boolean	CONNECTION	Persist and forward every HeartBeat to the interface	ON or OFF	OFF	OFF	1
GROUP	String	CONNECTION	This associates a connection to a group of connections so that actions can be performed on a group basis				1
HEARTBEAT_INTERVAL	Int	CONNECTION	The number of seconds between a heartbeat	0, MAXINT		30ON	1
LOCAL_FIRM_ALIAS	String	CONNECTION	Local firm Alias			OFF	1
LOCAL_FIRM_ID	String	CONNECTION	Local firm Identification			OFF	1
MESSAGE_ON_LOGON	String	CONNECTION	Enter any text here that you want to include into your logon message's text field.	Any text string, or strings.		OFF	1
NET_ADDRESS	address	CONNECTION	The IP address to connect to.			ON	1
NO_RESEND_INFINITY	boolean	CONNECTION	When set to ON, this will cause FIX resend request messages sent by Coppelia to go up to the last received sequence number (standard behavior is to ask for a range up to 999,999)	ON or OFF	ON	OFF	1
OUCH_ACCOUNT	String	CONNECTION	Used to define the account name when the connection is configured for the OUCH protocol.				1
OUCH_PASSWORD	String	CONNECTION	Used to define the password for OUCH account				
PASS_NEXT_HEARTBEAT	boolean	CONNECTION	Will place the first heartbeat received after an order into the queue when ON.	ON or OFF	OFF	OFF	1
PASS_TEST_REQUEST	String	CONNECTION	This will pass Test Request messages (with a certain Test Request Phrase) to be placed into the queue when ON.	ON or OFF	OFF	OFF	1
PASS_TEST_REQUEST_PHRASE	boolean	CONNECTION	Designates a specific Test Request phrase (required by a Test Request message) to be placed in a queue. A Test Request that does not match this phrase will not be placed in the queue.	Any text string. Must be one word, and no spaces.	OFF	OFF	1
PASSWORD	String	CONNECTION	Used by NWII for password as a logon confirmation			OFF	1
RAW_DATA	boolean	CONNECTION	Configures Coppelia to deliver raw FIX strings instead of MessageObjects to the client when ON.	ON or OFF	OFF	OFF	1
REMOTE_FIRM_ALIAS	String	CONNECTION	Remote Firm Alias for this connection			OFF	1
REMOTE_FIRM_ID	String	CONNECTION	Remote Firm ID for this connection			ON	1
USER	String	CONNECTION	User Name for this connection			ON	1
VERSION	string	CONNECTION	Protocol Version for this connection			ON	1
DATABASE_SESSION_BLOCK	String	DATABASE	This point to a DB session configuration which allows				MAXINT

NAME	TYPE	Block	DESCRIPTION	VALUES	DEFAULT	REQ	INST
			for multiple DB session so that Connections can be assign to a specific DB session				
DATABASE_TYPE	enum	DATABASE	Which database to use with Coppelia.	ODI, JDBC, MEMORY, ODI, FILE, OSJI,		ON	1
DB_SYNC_REC_MAX	int	DATABASE	Maximum number of records sent at one time to a HA backup server	10, 100000	10000	OFF	1
DEBUG_PERSISTENCE	boolean	DATABASE	Turn on DB Debug statements	ON or OFF	OFF	OFF	1
LOGGER_MAX_OPERATIONS	int	DATABASE	Maximum number of transactions before a commit occurs on DB	0, MAXINT	1000	OFF	1
MAX_DATABASE_SESSIONS	Int	DATABASE	The maximum number of DB session, if there is no specific allocation using DATABASE_SESSION_BLOCK connections will be allocated to DB sessions using round robin allocation				1
NO_PERSIST_MSG_TYPE	String	DATABASE	A list of message type thar won't be persisted				1
OBJECT_STORE_NUMBER_OF_MESSAGES	Int	DATABASE	This indicates the maximum number of messages used by ObjectStore to reduce the amount of re-allocation and improve performance.				
OBJECT_STORE_PATH	string	DATABASE	Specifies where Objectstore database files are kept. Only used when database is the Objectstore database!	Full path and name of the script, including a trailing backslash. e.g.:D:\coppelia\connect.bat\		off	1
OBJECT_STORE_STRING	string	DATABASE	Prefix for ObjectStore DB			OFF	1
SQL_DRIVER	string	DATABASE	This is a misnomer. A better parameter option name would be JDBC_DRIVER. The string indicates the JDBC driver to use. Some database have optimized drivers that give better performance than the driver provided by Java.		OFF	ON	1
SQL_PASSWORD	string	DATABASE	SQL password to access the JDBC DB		OFF	ON	1
SQL_URL	string	DATABASE	JDBC URL used to identify the DB server e.g. jdbc:oracle:thin:@192.168.129.27:1521:myoracle		OFF	ON	1
SQL_USER	string	DATABASE	SQL user name to access the JDBC DB		OFF	ON	1
SESSION_NAME	Boolean	DATABASE_SESSION	The unique name of the session				
SERVER_BLOCK	block	HIGH_AVAILABILITY	This point to the HA server block configuration			ON	MAXINT
WELL_KNOWN_ADDRESSES	address	HIGH_AVAILABILITY	This is a repeating configuration item which is a list of IP address which the HA server can ping			ON	MAXINT
AMB_APP_ID	string	INTERFACE_BLOCK	The Ambrosia interface is no longer supported by Coppelia, so all Ambrosia			ON	1

NAME	TYPE	Block	DESCRIPTION	VALUES	DEFAULT	REQ	INST
			parameters are obsolete				
AMB_HOSTNAME	string	INTERFACE_BLOCK	The Ambrosia interface is no longer supported by Coppelia, so all Ambrosia parameters are obsolete			ON	1
AMB_PASSWORD	string	INTERFACE_BLOCK	The Ambrosia interface is no longer supported by Coppelia, so all Ambrosia parameters are obsolete			ON	1
AMB_SUBJECT	string	INTERFACE_BLOCK	The Ambrosia interface is no longer supported by Coppelia, so all Ambrosia parameters are obsolete			ON	1
AMB_USER	string	INTERFACE_BLOCK	The Ambrosia interface is no longer supported by Coppelia, so all Ambrosia parameters are obsolete			ON	1
DEBUG_CORBA	boolean	INTERFACE_BLOCK	This will provide debugging of the CORBA libraries on a socket level to stderr. (can also be set as DEBUG_CORBA)	ON or OFF	OFF	OFF	1
DEBUG_RV	boolean	INTERFACE_BLOCK	Turn on Debuggin for the RV interface	ON or OFF	OFF	OFF	1
FULL_OBJECT	boolean	INTERFACE_BLOCK	Return ValidatedData Object which include the raw FIX string as well as the regular MessageObject	ON or OFF	OFF	OFF	1
INTERFACE_IP	address	INTERFACE_BLOCK	The IP address of this server. This parameter is required for proper Coppelia functionality. It is required regardless of the interface type – even if a user is using an interface that is not CORBA, the IIOIP_IP parameter must be set with the correct IP address for Coppelia to run properly.			ON	1
INTERFACE_PORT	int	INTERFACE_BLOCK	Which port number that will be used to communicate to the server via the CORBA interface.	0, MAXINT		ON	1
INTERFACE_TYPE	enum	INTERFACE_BLOCK	The type of binding to your own middleware. For types other than CORBA, see the appropriate section in the document for that interface.	INPROC, RV, MQSERIES, CORBA, RMI, JMS, AMBROSIA, HAWK, CORBA		OFF	1
MQ_AUDIT_QUEUE	string	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details			ON	1
MQ_BY_FIX_MSG_TYPE	string	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details			ON	1
MQ_BY_VERSION	string	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details			ON	1
MQ_CHANNEL	string	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details			ON	1

NAME	TYPE	Block	DESCRIPTION	VALUES	DEFAULT	REQ	INST
MQ_HOST	string	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details			ON	1
MQ_HOST_NAME	string	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details			ON	1
MQ_INPUT_QUEUE	string	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details			ON	1
MQ_MANAGER	string	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details			ON	1
MQ_NAME_BY_FIRM_ID	string	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details			ON	1
MQ_NAME_BY_MSG_TYPE	string	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details			ON	1
MQ_NAME_BY_TARGET_ID	string	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details		OFF	ON	1
MQ_NAME_BY_VERSION	string	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details			ON	1
MQ_QUEUE_NAME_PREFIX	string	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details			ON	1
MQ_QUEUE_NAME_SUFFIX	string	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details			ON	1
MQ_SERVER	string	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details			ON	1
MQ_SOURCE_QUEUE_NAME	string	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details			ON	1
MQ_SPECIAL_AUDIT	string	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details			ON	1
MQ_TARGET_QUEUE	string	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details			ON	1
REPEATED_FIELD	boolean	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details	ON or OFF	ON	OFF	1
RMI_CODE_BASE	url	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details			ON	1
RMI_ENCRYPTION	enum	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details	SSL, NONE,	NONE	OFF	1

NAME	TYPE	Block	DESCRIPTION	VALUES	DEFAULT	REQ	INST
RV_DAEMON	string	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details			ON	1
RV_FULL_SUBJECT	boolean	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details	ON or OFF	OFF	ON	1
RV_HOST_NAME	string	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details			ON	1
RV_NETWORK	string	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details			ON	1
RV_PORT	int	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details	0, MAXINT		ON	1
RV_SERVICE	string	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details			ON	1
RV_SUBJECT	boolean	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details	ON or OFF	OFF	ON	1
RV_USE_HAWK	boolean	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details	ON or OFF	OFF	ON	1
SESSION_NOTIFICATION	boolean	INTERFACE_BLOCK	[RMI] To enable the CoppeliaRMI Session Notification, the following line is required in the configuration file: SESSION_NOTIFICATION ON When a FIX session is established or terminated with one of Coppelia's targets, the client can be notified provided that he has set up a Monitor. Like Listeners, Monitors extend the CoppeliaRmiListener class.	ON or OFF	OFF	OFF	1
SSL_CA_CERT	string	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details		ca_cert.der	OFF	1
SSL_SERVER_CERT	string	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details		server_cert.der	OFF	1
STRICT_CHECKING	boolean	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details	ON or OFF	ON	OFF	1
TSS_DAEMON	string	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details			ON	1
TSS_FULL_SUBJECT	string	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details			ON	1

NAME	TYPE	Block	DESCRIPTION	VALUES	DEFAULT	REQ	INST
TSS_HOSTNAME	address	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details			ON	1
TSS_NETWORK	string	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details			ON	1
TSS_PORT	int	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details	0, MAXINT		0ON	1
TSS_PROJECT	string	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details		Coppelia	ON	1
TSS_SERVICE	string	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details			ON	1
TSS_SUBJECT	string	INTERFACE_BLOCK	INTERFACE SPECIFIC CONFIGURATION see middleware documentation for more details			ON	1
USE_CALLBACKS	boolean	INTERFACE_BLOCK	[RMI] To enable the CoppeliaRMI Callback model, the following line is required in the configuration file: CALLBACKS ON	ON or OFF	OFF	OFF	1
USE_DNS	boolean	INTERFACE_BLOCK	[CORBA] Instructs Coppelia to use DNS for connecting to Coppelia via CORBA. With this parameter ON, connections do not have to be specified as IP addresses. For example, the machine corresponding to the following IP address: 192.168.129.25 can be connected to by referring to it by its DNS entry: In this case, JAVELIN1.	ON or OFF	OFF	OFF	1
AUTO_CONNECT	int	MAIN	Indicates the number of seconds to wait inbetween Coppelia's automatic attempts to connect any IDs not currently connected.	Any positive integer. Default is 15. Setting value to 0 disables it.		0OFF	1
BLOCK_QUEUE_LENGTH	int	MAIN	Indicates the number of messages that will be allowed on the queue before Coppelia initiates the blocking mechanism.	Any positive integer. default - ???		500OFF	1
BLOCK_QUEUE_WAIT	int	MAIN	Indicates the number of seconds that Coppelia will wait before allowing more messages onto queue.	Any positive integer. default - ???		250OFF	1

NAME	TYPE	Block	DESCRIPTION	VALUES	DEFAULT	REQ	INST
CHECK_REMOTE	boolean	MAIN	Instructs Coppelia to check if the target is still connected before sending. If this is set to OFF and the remote is not connected, Coppelia will dump the unsent message into the outbound queue, and the message will get sent once a connection is established. If, on the other hand, this value is set to ON and the remote is not connected, Coppelia will return a REMOTEDOWN code. Important—under these circumstances, the message that would have been sent will not be in the outbound queue. In order to resend the message, the user will have to recreate it from scratch and send it a second time (after establishing a connection).	ON or OFF	OFF	OFF	1
CONNECT	enum	MAIN	Indicates whether the server should initiate connections or should accept (listen for) connections. A Coppelia engine that is configured as a CLIENT will not accept any connections. The only way for a Coppelia engine to accept connections is for it to be set as a SERVER. A SERVER connection also allows the making of outbound connections.	SERVER - listens for and initiates connections CLIENT - initiates connections only	SERVER	ON	1
CONNECT_DOWN_NOTIFICATION	boolean	MAIN	Notify the interface when a connection is dropped	ON or OFF	OFF	OFF	1
CONNECTION	block	MAIN	This block defines all of the config for a specific connection			ON	MAXINT
CONSOLE	boolean	MAIN	Used to toggle the Coppelia Console. To run Coppelia properly in the background, this parameter must be turned OFF. This parameter should be set to off when the process is run in the background	ON or OFF	ON	OFF	1
DATABASE	block	MAIN	This points to the DB confog block			ON	1
DEBUG	boolean	MAIN	Turn on global debugging	ON or OFF	OFF	OFF	1
DEBUG_THREADS	boolean	MAIN	Turn on Thread debugging		OFF	OFF	1
DISCONNECT_SCRIPT	string	MAIN	Specifies a script, executable, or batch file, that is run when a connection becomes disconnected.	Full path and name of the script, including a trailing backslash. e.g.:D:\coppelia\connect.bat\		OFF	1
DROP_OUTBOUND_MSG	boolean	MAIN	Used for testing to drop every 20th message to test resend requests	ON or OFF	OFF	OFF	1



NAME	TYPE	Block	DESCRIPTION	VALUES	DEFAULT	REQ	INST
ENCRYPT_LOG_FILE	boolean	MAIN	When ON, this parameter specifies the automatic encryption of the Coppelia log file.	ON or OFF	OFF	ON	1
EVERY_ADMIN	boolean	MAIN	Send every Admin message to the interface	ON or OFF	OFF	OFF	1
EXIT_SCRIPT	string	MAIN	Shell script to be called when the Coppelia engine is shutdown			OFF	1
FILE_PATH	string	MAIN	Designates the path wherescript, you want Coppelia to writeincluding all log files and databasetrailing files. Full path and name of the script, including a trailing backslash. e.g.:D:\coppelia\connect.bat\			off	1
GC_CYCLE_TIME	int	MAIN	Specifies the time in (seconds?) before Coppelia forces JVM garbage collection.	0, MAXINT		30ON	1
GC_THRESHOLD	int	MAIN	The maximum amount of memory used before Garbage Collection is used	0, MAXINT		20ON	1
GUI	boolean	MAIN	Toggles the Coppelia GUI. With the Coppelia software comes a very simple GUI that can be used for demonstrations of the capabilities of the Coppelia engine. Using the GUI is good for development and debugging. However, for running the server in production, the GUI should not be used, as it will have a negative impact on performance and is more difficult to control. The functionality of the GUI is limited as well, as it only is able to send simple orders and execution reports. Note that there is much more useful GUI in the form of the FIXometer network monitor, which allows a user to monitor Coppelia processes remotely.	ON or OFF	OFF	off	1
HIGH_AVAILABILITY	block	MAIN	Point to the High Availability configuration Block			OFF	1
INTERFACE_BLOCK	block	MAIN	This block is where all configuration attributes regarding the interface are stored			ON	1
LOCAL_PORT	int	MAIN	Specifies the port number for this server that is used for TCP/IP connections. Note - for Coppelias configured as Servers, this is the port number that remote clients will connect to. Therefore, remote clients will need to know this port. For Coppelias that are configured as Clients,	Any unique port number.		ON	1

NAME	TYPE	Block	DESCRIPTION	VALUES	DEFAULT	REQ	INST
			this port number does not need to be known by Servers that will be connected to, but this still must be set.				
LOG_DAYS	int	MAIN	Specifies the number of days after which Coppelia will automatically delete the generated .log files and .rej files.	0, MAXINT		7OFF	1
LOG_DEBUG_INFO	boolean	MAIN	Write debuggin information to the Log file	ON or OFF	OFF	OFF	1
LOG_FILE	boolean	MAIN	The name of the Log file	ON or OFF	ON	OFF	1
LOG_HEART_BEATS	boolean	MAIN	Specifies whether or not to log heartbeats to the screen and to the log file. Not logging heartbeats will save on log file clutter, while logging them tends to help for debugging purposes.	ON or OFF	OFF	OFF	1
LOGON_ACK	boolean	MAIN	This is for test purposes only. If setto OFF, Coppelia will not reply to a logon message.	ON or OFF	ON	OFF	1
MAIN_BLOCK	block	MAIN	This is where global configuration attributes are set			OFF	1
MANGLE_OUTBOUND_MSG	boolean	MAIN	Used in testing to detroy valid messages to ensure validating is working	ON or OFF	OFF	OFF	1
MANGLE_TAG	int	MAIN	Used in testing to destory tags	1, 1000		35OFF	1
NO_IP_CHECK	boolean	MAIN	Instructs Coppelia to NOT care about the incoming connections' source IP, regardless of what is in the .dat file. This is per server, not per connection.What this means is that if a connection from a remote ID comes in on a different IP address than what is specified in the .dat file, Coppelia will allow the connection.Note-Use this parameter with caution, as it will allow any engine with the proper Firm ID to connect to you.	ON or OFF	OFF	OFF	1
NO_PERSISTENCE_MSG	block	MAIN	This prevents certain message types from being persisted (saved) to the Coppelia database. This is used when expecting largeReport and message traffic, some (if not many) of which don't need to be saved.	Comma-delimited integer string. Example:8,6will not save Execution and Report indication of Interest messages in the Coppelia database		OFF	1

NAME	TYPE	Block	DESCRIPTION	VALUES	DEFAULT	REQ	INST
NO_SERVER_CHECK	boolean	MAIN	When running multiple Coppelia engines on a single machine, this parameter prevents Coppelia from getting confused between multiple targets. Failure to connect a Coppelia engine that is on the same machine is usually caused when this parameter is not set to ON.	ON or OFF	OFF	OFF	1
PRINT_STACK_TRACE	boolean	MAIN	Print Stack Trace when debugging is turned on	ON or OFF	OFF	OFF	1
REJECT_MSG_TYPES	string	MAIN	Designates a list of integer string. message types for which Coppelia will automatically reject send a Reject message. Execution Administration messages and are ignored. Example: 8, 6 will reject Report and Indication of Interest messages	Comma-delimited integer string.		OFF	MAXINT
RESEND_REQUEST_ACK	boolean	MAIN	Turn resend request ON or OFF by default it is always on	ON or OFF	ON	OFF	1
RESEND_REQUEST_DELAY	int	MAIN	The wait time to a resend request this is mainly used in testing	10000, 100000	15000	OFF	1
RESTORE	boolean	MAIN	???		OFF	OFF	1
RMI_IP	address	MAIN	This RMI ip address of the server this is always required		127.0.0.1	ON	1
RMI_PORT	int	MAIN	[RMI] Specifies the unique port number for RMI connections.	numeric port number default - 1099	1099	on	1
SERVER_NAME	string	MAIN	This identifying name by which the server is known			OFF	1
SOCKET_TIMEOUT	int	MAIN	Specifies the time in seconds to wait for a socket connection-not a FIX logon-to succeed. If this time passes, the connection is given up, and an error message is reported, such as "javtech dbg socket creation timed out"	0, MAXINT	3	ON	1
TEST_REQUEST_RETRIES	int	MAIN	Number of times to send a FIX Test Request message, without receiving a heartbeat response back, before disconnecting a remote FIX engine.	0, MAXINT	3	OFF	1
TITLE	string	MAIN	[Coppelia GUI ONLY] – Specifies the text that appears on the title bar of the server; used primarily for informational purposes.	Any text string.		ON	1
TRADE_TABLE	boolean	MAIN	Obsolete. Currently has no use.	ON or OFF	OFF	OFF	1
TRANSACTION_EOD_LOGGING	boolean	MAIN	If turned ON the log files will be stored instead of being deleted at EOD	ON or OFF	OFF	OFF	1
TYPE	enum	MAIN	Whether the server is configured for the buy side (sending orders, receiving execution reports, receiving	SELL, BUY,	BUY	ON	1

NAME	TYPE	Block	DESCRIPTION	VALUES	DEFAULT	REQ	INST
			indications) or the sell side (receiving orders, sending indications, sending execution reports)				
USER_DEFINED_FILE	string	MAIN	[For use with User Defined Messages] – Specifies the path and file name of User Defined Message configuration files	Full path and name of the script, including a trailing backslash. e.g.:D:\coppelia\connect.bat\		OFF	1
MSG_TYPE	int	NO_PERSISTENCE_MSG	This is a list of message type that will not be persisted in the DB	0, 1024		OFF	MAXINT