ActressMas Namespace

Classes

	Class	Description
	Agent	The base class for an agent that runs on a turn-based manner in its environment. You must create your own agent classes derived from this abstract class.
	AgentState	The class that stores the serializable state of the agent when it moves. It is the Memento in the Memento design pattern, while the specific Agent class whose state is saved and restored is the Originator. This class should be inherited to add all the serializable fields specific to a particular agent. For

		example, a concurrent agent cannot be serialized directly because MailboxProcessor is not serializable
	Container	A container contains an environment and is connected to a server. It facilitates the move of agents in a distributed system.
	EnvironmentMas	An abstract base class for the multiagent environment, where all the agents are executed.
	Info	Information about ActressMas version
	Message	A message that the agents use to communicate. In an agent-based system, the communication between the agents is exclusively performed by exchanging messages.
	NewTextEventArgs	The class that defines a message from a server or

		a container.
	ObservableAgent	The class that represents the observable properties of an agent. They depend on the set of Observables properties of an agent and on the PerceptionFilter function of an agent who wants to observe other agents.
	RunnableMas	An abstract class which should be derived in order to specify the multiagent system with mobile agents that will be run in the environment of a container.
	Server	A server that ensures the communication of containers, e.g. for the movement of agents, in a distributed system.

Delegates

	Delegate	Description
	NewTextEventHandler	An event handler for a

	message from a server or a container.

Agent Class

The base class for an agent that runs on a turn-based manner in its environment. You must create your own agent classes derived from this abstract class.

Inheritance Hierarchy

SystemObject ActressMasAgent

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public abstract class Agent
```

The Agent type exposes the following members.

Constructors

	Name	Description
	Agent	

Top

Properties

	Name	Description
	Environment	The environment in which the agent runs.
	Name	The name of the agent. Each agent must have a unique name in its environment. Most operations are performed using agent names rather than agent objects.
	Observables	The properties of an agent which can be visible from the outside, i.e. perceivable by other agents.
	UsingObservables	Whether the agent uses the observable feature. The default value is false and it must be explicitly set to true before using observables.

Top

Methods

	Name	Description
	Act	This is the method

		that is called when the agent receives a message and is activated. This is where the main logic of the agent should be placed.
	ActDefault	This is the method that is called when the agent does not receive any messages at the end of a turn.
	Broadcast(Object, Boolean, String)	Sends a message to all the agents in the environment.
	Broadcast(String, Boolean, String)	Sends a message to all the agents in the environment.
	CanMove	Tests whether the agent can move to a certain remote container.
	LoadState	Imports the state of the agent, after it has moved from another container.

	Move	The method that should be called when the agent wants to move to a different container.
	PerceptionFilter	The function that identifies which properties and conditions must be satisfied by the Observables of other agents in order to be perceived by the observing agent. It must return true for the observables that will be available to the agent.
	SaveState	Exports the state of the agent, so it can be serialized when moving to another container.
	See	This method provides the agents whose observable properties are visible. It is called once a turn, before Act.

	Send(String, Object, String)	Sends a message to a specific agent, identified by name.
	Send(String, String, String)	Sends a message to a specific agent, identified by name.
	SendToMany(ListString, Object, String)	Sends a message to a specific set of agents, identified by name.
	SendToMany(ListString, String, String)	Sends a message to a specific set of agents, identified by name.
	Setup	This method is called as the first turn or right after an agent has moved to a new container. It is similar to the constructor of the class, but it may be used for agent-related logic, e.g. for sending initial message(s).
	Stop	Stops the execution of the agent and removes it from the

	environment. Use the Stop method instead of Environment.Remove when the decision to be stopped belongs to the agent itself.

Top

See Also

Reference

ActressMas Namespace

Agent Constructor

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public Agent()
```

See Also

Reference

Agent Class
ActressMas Namespace

Agent Properties

The Agent type exposes the following members.

Properties

	Name	Description
	Environment	The environment in which the agent runs.
	Name	The name of the agent. Each agent must have a unique name in its environment. Most operations are performed using agent names rather than agent objects.
	Observables	The properties of an agent which can be visible from the outside, i.e. perceivable by other agents.
	UsingObservables	Whether the agent uses the observable feature. The default value is false and it must be explicitly

	set to true before using observables.

Top

See Also

Reference

Agent Class
ActressMas Namespace

AgentEnvironment Property

The environment in which the agent runs.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public EnvironmentMas Environment { get; set; }
```

Property Value

Type: EnvironmentMas

See Also

Reference

Agent Class
ActressMas Namespace

AgentName Property

The name of the agent. Each agent must have a unique name in its environment. Most operations are performed using agent names rather than agent objects.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public string Name { get; set; }
```

Property Value

Type: String

See Also

Reference

Agent Class
ActressMas Namespace

AgentObservables Property

The properties of an agent which can be visible from the outside, i.e. perceivable by other agents.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public Dictionary<string, string> Observables { ge
```

Property Value

Type: DictionaryString, String

See Also

Reference

Agent Class
ActressMas Namespace

AgentUsingObservables Property

Whether the agent uses the observable feature. The default value is false and it must be explicitly set to true before using observables.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public bool UsingObservables { get; set; }
```

Property Value

Type: Boolean

See Also

Reference

Agent Class
ActressMas Namespace

Agent Methods

The Agent type exposes the following members.

Methods

	Name	Description
	Act	This is the method that is called when the agent receives a message and is activated. This is where the main logic of the agent should be placed.
	ActDefault	This is the method that is called when the agent does not receive any messages at the end of a turn.
	Broadcast(Object, Boolean, String)	Sends a message to all the agents in the environment.
	Broadcast(String,	Sends a message to

	Boolean, String)	all the agents in the environment.
	CanMove	Tests whether the agent can move to a certain remote container.
	LoadState	Imports the state of the agent, after it has moved from another container.
	Move	The method that should be called when the agent wants to move to a different container.
	PerceptionFilter	The function that identifies which properties and conditions must be satisfied by the Observables of other agents in order to be perceived by the observing agent. It must return true for the observables that will be available to the agent.

	SaveState	Exports the state of the agent, so it can be serialized when moving to another container.
	See	This method provides the agents whose observable properties are visible. It is called once a turn, before Act.
	Send(String, Object, String)	Sends a message to a specific agent, identified by name.
	Send(String, String, String)	Sends a message to a specific agent, identified by name.
	SendToMany(ListString, Object, String)	Sends a message to a specific set of agents, identified by name.
	SendToMany(ListString, String, String)	Sends a message to a specific set of agents, identified by name.
	Setup	This method is called as the first turn or

		right after an agent has moved to a new container. It is similar to the constructor of the class, but it may be used for agent-related logic, e.g. for sending initial message(s).
	Stop	Stops the execution of the agent and removes it from the environment. Use the Stop method instead of Environment.Remove when the decision to be stopped belongs to the agent itself.

Top

See Also

Reference

Agent Class
ActressMas Namespace

AgentAct Method

This is the method that is called when the agent receives a message and is activated. This is where the main logic of the agent should be placed.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public virtual void Act(
        Message message
)
```

Parameters

message

Type: ActressMasMessage
The message that the agent has received and should respond to

See Also

Reference

Agent Class
ActressMas Namespace

AgentActDefault Method

This is the method that is called when the agent does not receive any messages at the end of a turn.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public virtual void ActDefault()
```

See Also

Reference

Agent Class
ActressMas Namespace

AgentBroadcast Method

Overload List

	Name	Description
	Broadcast(Object, Boolean, String)	Sends a message to all the agents in the environment.
	Broadcast(String, Boolean, String)	Sends a message to all the agents in the environment.

Top

See Also

Reference

Agent Class

ActressMas Namespace

AgentBroadcast Method (Object, Boolean, String)

Sends a message to all the agents in the environment.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public void Broadcast(
        Object contentObj,
        bool includeSender = false,
        string conversationId = ""
)
```

Parameters

contentObj
Type: SystemObject
The content of the message

includeSender **(Optional)**
Type: SystemBoolean
Whether the sender itself receives the message or not

conversationId **(Optional)**
Type: SystemString
A conversation identifier, for the cases when a conversation involves multiple messages that refer to the same topic

See Also

Reference

Agent Class
Broadcast Overload
ActressMas Namespace

AgentBroadcast Method (String, Boolean, String)

Sends a message to all the agents in the environment.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public void Broadcast(
        string content,
        bool includeSender = false,
        string conversationId = ""
)
```

Parameters

content
Type: SystemString
The content of the message

includeSender **(Optional)**
Type: SystemBoolean
Whether the sender itself receives the message or not

conversationId **(Optional)**
Type: SystemString
A conversation identifier, for the cases when a conversation involves multiple messages that refer to the same topic

See Also

Reference

Agent Class
Broadcast Overload
ActressMas Namespace

AgentCanMove Method

Tests whether the agent can move to a certain remote container.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public bool CanMove(
        string destination
)
```

Parameters

destination
Type: SystemString
The name of the container that the agent wants to move to

Return Value

Type: Boolean

See Also

Reference

Agent Class
ActressMas Namespace

AgentLoadState Method

Imports the state of the agent, after it has moved from another container.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public virtual void LoadState(
        AgentState state
)
```

Parameters

state

Type: ActressMasAgentState
The state of the agent

See Also

Reference

Agent Class
ActressMas Namespace

AgentMove Method

The method that should be called when the agent wants to move to a different container.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public void Move(
        string destination
)
```

Parameters

destination

Type: SystemString

The name of the container that the agent wants to move to

See Also

Reference

Agent Class

ActressMas Namespace

AgentPerceptionFilter Method

The function that identifies which properties and conditions must be satisfied by the Observables of other agents in order to be perceived by the observing agent. It must return true for the observables that will be available to the agent.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C# Copy

```
public virtual bool PerceptionFilter(
        Dictionary<string, string> observed
)
```

Parameters

observed
Type: System.Collections.GenericDictionaryString, String
A dictionary with name-value pairs of observed properties

Return Value

Type: Boolean

See Also

Reference

Agent Class

ActressMas Namespace

AgentSaveState Method

Exports the state of the agent, so it can be serialized when moving to another container.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public virtual AgentState SaveState()
```

Return Value

Type: AgentState

See Also

Reference

Agent Class
ActressMas Namespace

AgentSee Method

This method provides the agents whose observable properties are visible. It is called once a turn, before Act.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public virtual void See(
        List<ObservableAgent> observableAgents
)
```

Parameters

observableAgents

Type: System.Collections.GenericListObservableAgent
The list of agents which have at least one observable property desired by the observing agent. The desired properties are also available, from the ObservableAgent objects.

See Also

Reference

Agent Class
ActressMas Namespace

AgentSend Method

Overload List

	Name	Description
	Send(String, Object, String)	Sends a message to a specific agent, identified by name.
	Send(String, String, String)	Sends a message to a specific agent, identified by name.

Top

See Also

Reference

Agent Class

ActressMas Namespace

AgentSend Method (String, Object, String)

Sends a message to a specific agent, identified by name.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public void Send(
        string receiver,
        Object contentObj,
        string conversationId = ""
)
```

Parameters

receiver
Type: SystemString
The agent that will receive the message

contentObj
Type: SystemObject
The content of the message

conversationId **(Optional)**
Type: SystemString
A conversation identifier, for the cases when a conversation involves multiple messages that refer to the same topic

See Also

Reference

Agent Class
Send Overload
ActressMas Namespace

AgentSend Method (String, String, String)

Sends a message to a specific agent, identified by name.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public void Send(
        string receiver,
        string content,
        string conversationId = ""
)
```

Parameters

receiver
Type: SystemString
The agent that will receive the message. If the agent is in another container, use: agent@container

content
Type: SystemString
The content of the message

conversationId **(Optional)**
Type: SystemString
A conversation identifier, for the cases when a conversation

involves multiple messages that refer to the same topic

See Also

Reference

Agent Class
Send Overload
ActressMas Namespace

AgentSendToMany Method

Overload List

	Name	Description
	SendToMany(ListString, Object, String)	Sends a message to a specific set of agents, identified by name.
	SendToMany(ListString, String, String)	Sends a message to a specific set of agents, identified by name.

Top

See Also

Reference

Agent Class

ActressMas Namespace

AgentSendToMany Method (ListString, Object, String)

Sends a message to a specific set of agents, identified by name.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public void SendToMany(
        List<string> receivers,
        Object contentObj,
        string conversationId = ""
)
```

Parameters

receivers
Type: System.Collections.GenericListString
The list of agents that will receive the message

contentObj
Type: SystemObject
The content of the message

conversationId **(Optional)**
Type: SystemString
A conversation identifier, for the cases when a conversation involves multiple messages that refer to the same topic

See Also

Reference

Agent Class
SendToMany Overload
ActressMas Namespace

AgentSendToMany Method (ListString, String, String)

Sends a message to a specific set of agents, identified by name.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public void SendToMany(
        List<string> receivers,
        string content,
        string conversationId = ""
)
```

Parameters

receivers
Type: System.Collections.GenericListString
The list of agents that will receive the message

content
Type: SystemString
The content of the message

conversationId **(Optional)**
Type: SystemString
A conversation identifier, for the cases when a conversation involves multiple messages that refer to the same topic

See Also

Reference

Agent Class
SendToMany Overload
ActressMas Namespace

AgentSetup Method

This method is called as the first turn or right after an agent has moved to a new container. It is similar to the constructor of the class, but it may be used for agent-related logic, e.g. for sending initial message(s).

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public virtual void Setup()
```

See Also

Reference

Agent Class
ActressMas Namespace

AgentStop Method

Stops the execution of the agent and removes it from the environment. Use the Stop method instead of Environment.Remove when the decision to be stopped belongs to the agent itself.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public void Stop()
```

See Also

Reference

Agent Class
ActressMas Namespace

AgentState Class

The class that stores the serializable state of the agent when it moves. It is the Memento in the Memento design pattern, while the specific Agent class whose state is saved and restored is the Originator. This class should be inherited to add all the serializable fields specific to a particular agent. For example, a concurrent agent cannot be serialized directly because MailboxProcessor is not serializable

Inheritance Hierarchy

SystemObject ActressMasAgentState

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
[SerializableAttribute]
public abstract class AgentState
```

The AgentState type exposes the following members.

Constructors

	Name	Description
	AgentState	

Top

Properties

	Name	Description
	AgentType	The agent class needed in order to instantiate the agent object after a move
	Name	The agent name

Top

See Also

Reference

ActressMas Namespace

AgentState Constructor

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
protected AgentState()
```

See Also

Reference

AgentState Class
ActressMas Namespace

AgentState Properties

The AgentState type exposes the following members.

Properties

	Name	Description
	AgentType	The agent class needed in order to instantiate the agent object after a move
	Name	The agent name

Top

See Also

Reference

AgentState Class

ActressMas Namespace

AgentStateAgentType Property

The agent class needed in order to instantiate the agent object after a move

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public Type AgentType { get; set; }
```

Property Value

Type: Type

See Also

Reference

AgentState Class
ActressMas Namespace

AgentStateName Property

The agent name

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public string Name { get; set; }
```

Property Value

Type: String

See Also

Reference

AgentState Class
ActressMas Namespace

Container Class

A container contains an environment and is connected to a server. It facilitates the move of agents in a distributed system.

Inheritance Hierarchy

SystemObject ActressMasContainer

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C# Copy

```
public class Container
```

The Container type exposes the following members.

Constructors

	Name	Description
	Container	Initializes a new instance of the Container class.

Top

Properties

	Name	Description
	Name	The name of the container. If the container is not connected to the server, this method will return the empty string.

Top

Methods

	Name	Description
	AllContainers	Returns a list with the names of all the containers in the distributed system. This list may change over time, as some new containers may get connected and existing ones may disconnect.
	RunMas	Starts the execution of the multiagent system defined in the environment.
	Start	Tries to connect to the server and activates the container.
	Stop	Disconnects from the server and deactivates the container.

Top

Events

	Name	Description
	NewText	An event handler for the ongoing messages provided by the container.

Top

See Also

Reference

ActressMas Namespace

Container Constructor

Initializes a new instance of the Container class.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public Container(
        string serverIP,
        int serverPort,
        string name
)
```

Parameters

serverIP
Type: SystemString
The IP address of the server

serverPort
Type: SystemInt32
The port number of the server

name
Type: SystemString
The name of the container. The name of the container should be unique and cannot contain spaces.

See Also

Reference

Container Class

ActressMas Namespace

Container Properties

The Container type exposes the following members.

Properties

	Name	Description
	Name	The name of the container. If the container is not connected to the server, this method will return the empty string.

Top

See Also

Reference

Container Class

ActressMas Namespace

ContainerName Property

The name of the container. If the container is not connected to the server, this method will return the empty string.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public string Name { get; }
```

Property Value

Type: String

See Also

Reference

Container Class
ActressMas Namespace

Container Methods

The Container type exposes the following members.

Methods

	Name	Description
	AllContainers	Returns a list with the names of all the containers in the distributed system. This list may change over time, as some new containers may get connected and existing ones may disconnect.
	RunMas	Starts the execution of the multiagent system defined in the environment.
	Start	Tries to connect to the server and activates the container.
	Stop	Disconnects from the server and deactivates the container.

Top

See Also

Reference

Container Class

ActressMas Namespace

ContainerAllContainers Method

Returns a list with the names of all the containers in the distributed system. This list may change over time, as some new containers may get connected and existing ones may disconnect.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public List<string> AllContainers()
```

Return Value

Type: ListString

See Also

Reference

Container Class
ActressMas Namespace

ContainerRunMas Method

Starts the execution of the multiagent system defined in the environment.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public void RunMas(
        EnvironmentMas environment,
        RunnableMas mas
)
```

Parameters

environment
Type: ActressMasEnvironmentMas
The multiagent environment

mas
Type: ActressMasRunnableMas
The multiagent system to be executed

See Also

Reference

Container Class
ActressMas Namespace

ContainerStart Method

Tries to connect to the server and activates the container.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public void Start()
```

See Also

Reference

Container Class
ActressMas Namespace

ContainerStop Method

Disconnects from the server and deactivates the container.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public void Stop()
```

See Also

Reference

Container Class
ActressMas Namespace

Container Events

The Container type exposes the following members.

Events

	Name	Description
	NewText	An event handler for the ongoing messages provided by the container.

Top

See Also

Reference

Container Class

ActressMas Namespace

ContainerNewText Event

An event handler for the ongoing messages provided by the container.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public event NewTextEventHandler NewText
```

Value

Type: ActressMasNewTextEventHandler

See Also

Reference

Container Class
ActressMas Namespace

EnvironmentMas Class

An abstract base class for the multiagent environment, where all the agents are executed.

Inheritance Hierarchy

SystemObject ActressMasEnvironmentMas

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public class EnvironmentMas
```

The EnvironmentMas type exposes the following members.

Constructors

	Name	Description
	EnvironmentMas	Initializes a new instance of the EnvironmentMas class.

Top

Properties

	Name	Description
	ContainerName	The name of the container that contains the environment. If the container is not set or not connected to the server, this method will return the empty string.
	Memory	An object that can be used as a shared memory by the agents.
	NoAgents	The number of agents in the environment

Top

Methods

	Name	Description
	Add(Agent)	Adds an agent to the environment. The agent should already have a name and its name should be unique.
	Add(Agent, String)	Adds an agent to the environment. Its

		name should be unique.
	AllAgents	Returns a list with the names of all the agents.
	AllContainers	Returns a list with the names of all the containers in the distributed system. This list may change over time, as some new containers may get connected and existing ones may disconnect.
	Continue	Continues the simulation for an additional number of turns, after an initial simulation has finished. The simulation may stop earlier if there are no more agents in the environment. If the number of turns is 0, the simulation runs indefinitely, or until there are no

		more agents in the environment.
	FilteredAgents	Returns a list with the names of all the agents that contain a certain string.
	RandomAgent	Returns the name of a randomly selected agent from the environment
	RandomAgent(Random)	Returns the name of a randomly selected agent from the environment using a predefined random number generator. This is useful for experiments involving non-determinism, but which should be repeatable for analysis and debugging.
	Remove(String)	Stops the execution of the agent identified by name

		and removes it from the environment. Use the Remove method instead of Agent.Stop when the decision to stop an agent does not belong to the agent itself, but to some other agent or to an external factor.
	Remove(Agent)	Stops the execution of the agent and removes it from the environment. Use the Remove method instead of Agent.Stop when the decision to stop an agent does not belong to the agent itself, but to some other agent or to an external factor.
	Send	Sends a message from the outside of the multiagent system. Whenever possible, the agents should use the Send

		method of their own class, not the Send method of the environment. This method can also be used to simulate a forwarding behavior.
	SendRemote	Sends a message to a remote agent in another container.
	SimulationFinished	A method that may be optionally overriden to perform additional processing after the simulation has finished.
	Start	Starts the simulation.
	TurnFinished	A method that may be optionally overriden to perform additional processing after a turn of the simulation has finished.

Top

Fields

	Name	Description
	_container	

Top

See Also

Reference

ActressMas Namespace

EnvironmentMas Constructor

Initializes a new instance of the EnvironmentMas class.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public EnvironmentMas(
        int noTurns = 0,
        int delayAfterTurn = 0,
        bool randomOrder = true,
        Random rand = null,
        bool parallel = true
)
```

Parameters

noTurns **(Optional)**
Type: SystemInt32
The maximum number of turns of the simulation. Setup is considered to be the first turn. The simulation may stop earlier if there are no more agents in the environment. If the number of turns is 0, the simulation runs indefinitely, or until there are no more agents in the environment.

delayAfterTurn **(Optional)**
Type: SystemInt32
A delay (in miliseconds) after each turn.

randomOrder **(Optional)**

Type: SystemBoolean

Whether the agents should be run in a random order (different each turn) or sequentially. If the execution is parallel, agents are always run in random order.

rand **(Optional)**

Type: SystemRandom

A random number generator for non-deterministic but repeatable experiments. It should instantiated using a seed. If it is null, a new Random object is created and used.

parallel **(Optional)**

Type: SystemBoolean

Whether agent behaviors are executed in parallel or sequentially. The code of a single agent in a turn is always executed sequentially.

See Also

Reference

EnvironmentMas Class

ActressMas Namespace

EnvironmentMas Properties

The EnvironmentMas type exposes the following members.

Properties

	Name	Description
	ContainerName	The name of the container that contains the environment. If the container is not set or not connected to the server, this method will return the empty string.
	Memory	An object that can be used as a shared memory by the agents.
	NoAgents	The number of agents in the environment

Top

See Also

Reference

EnvironmentMas Class

ActressMas Namespace

EnvironmentMasContainerName Property

The name of the container that contains the environment. If the container is not set or not connected to the server, this method will return the empty string.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public string ContainerName { get; }
```

Property Value

Type: String

See Also

Reference

EnvironmentMas Class
ActressMas Namespace

EnvironmentMasMemory Property

An object that can be used as a shared memory by the agents.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public Dictionary<string, Object> Memory { get; se
```

Property Value

Type: DictionaryString, Object

See Also

Reference

EnvironmentMas Class
ActressMas Namespace

EnvironmentMasNoAgents Property

The number of agents in the environment

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public int NoAgents { get; }
```

Property Value

Type: Int32

See Also

Reference

EnvironmentMas Class
ActressMas Namespace

EnvironmentMas Methods

The EnvironmentMas type exposes the following members.

Methods

	Name	Description
	Add(Agent)	Adds an agent to the environment. The agent should already have a name and its name should be unique.
	Add(Agent, String)	Adds an agent to the environment. Its name should be unique.
	AllAgents	Returns a list with the names of all the agents.
	AllContainers	Returns a list with the names of all the containers in the distributed system. This list may change

		over time, as some new containers may get connected and existing ones may disconnect.
	Continue	Continues the simulation for an additional number of turns, after an initial simulation has finished. The simulation may stop earlier if there are no more agents in the environment. If the number of turns is 0, the simulation runs indefinitely, or until there are no more agents in the environment.
	FilteredAgents	Returns a list with the names of all the agents that contain a certain string.
	RandomAgent	Returns the name of a randomly selected agent from the environment

	RandomAgent(Random)	Returns the name of a randomly selected agent from the environment using a predefined random number generator. This is useful for experiments involving non-determinism, but which should be repeatable for analysis and debugging.
	Remove(String)	Stops the execution of the agent identified by name and removes it from the environment. Use the Remove method instead of Agent.Stop when the decision to stop an agent does not belong to the agent itself, but to some other agent or to an external factor.
	Remove(Agent)	Stops the execution

		of the agent and removes it from the environment. Use the Remove method instead of Agent.Stop when the decision to stop an agent does not belong to the agent itself, but to some other agent or to an external factor.
	Send	Sends a message from the outside of the multiagent system. Whenever possible, the agents should use the Send method of their own class, not the Send method of the environment. This method can also be used to simulate a forwarding behavior.
	SendRemote	Sends a message to a remote agent in another container.
		

	SimulationFinished	A method that may be optionally overriden to perform additional processing after the simulation has finished.
	Start	Starts the simulation.
	TurnFinished	A method that may be optionally overriden to perform additional processing after a turn of the simulation has finished.

Top

See Also

Reference

EnvironmentMas Class
ActressMas Namespace

EnvironmentMasAdd Method

Overload List

	Name	Description
	Add(Agent)	Adds an agent to the environment. The agent should already have a name and its name should be unique.
	Add(Agent, String)	Adds an agent to the environment. Its name should be unique.

Top

See Also

Reference

EnvironmentMas Class

ActressMas Namespace

EnvironmentMasAdd Method (Agent)

Adds an agent to the environment. The agent should already have a name and its name should be unique.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public void Add(
        Agent agent
)
```

Parameters

agent
Type: ActressMasAgent
The concurrent agent that will be added

See Also

Reference

EnvironmentMas Class
Add Overload
ActressMas Namespace

EnvironmentMasAdd Method (Agent, String)

Adds an agent to the environment. Its name should be unique.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public void Add(
        Agent agent,
        string name
)
```

Parameters

agent
Type: ActressMasAgent
The concurrent agent that will be added

name
Type: SystemString
The name of the agent

See Also

Reference

EnvironmentMas Class

Add Overload
ActressMas Namespace

EnvironmentMasAllAgents Method

Returns a list with the names of all the agents.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public List<string> AllAgents()
```

Return Value

Type: ListString

See Also

Reference

EnvironmentMas Class
ActressMas Namespace

EnvironmentMasAllContainers Method

Returns a list with the names of all the containers in the distributed system. This list may change over time, as some new containers may get connected and existing ones may disconnect.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public List<string> AllContainers()
```

Return Value

Type: ListString

See Also

Reference

EnvironmentMas Class
ActressMas Namespace

EnvironmentMasContinue Method

Continues the simulation for an additional number of turns, after an initial simulation has finished. The simulation may stop earlier if there are no more agents in the environment. If the number of turns is 0, the simulation runs indefinitely, or until there are no more agents in the environment.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public void Continue(
        int noTurns = 0
)
```

Parameters

noTurns **(Optional)**
Type: SystemInt32
The maximum number of turns of the continued simulation

See Also

Reference

EnvironmentMas Class

ActressMas Namespace

EnvironmentMasFilteredAgents Method

Returns a list with the names of all the agents that contain a certain string.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public List<string> FilteredAgents(
        string nameFragment
)
```

Parameters

nameFragment
Type: SystemString
The name fragment that the agent names should contain

Return Value

Type: ListString

See Also

Reference

EnvironmentMas Class

ActressMas Namespace

EnvironmentMasRandomAgent Method

Overload List

	Name	Description
	RandomAgent	Returns the name of a randomly selected agent from the environment
	RandomAgent(Random)	Returns the name of a randomly selected agent from the environment using a predefined random number generator. This is useful for experiments involving non-determinism, but which should be repeatable for analysis and debugging.

Top

See Also

Reference

EnvironmentMas Class
ActressMas Namespace

EnvironmentMasRandomAgent Method

Returns the name of a randomly selected agent from the environment

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public string RandomAgent()
```

Return Value

Type: String

See Also

Reference

EnvironmentMas Class
RandomAgent Overload
ActressMas Namespace

EnvironmentMasRandomAgent Method (Random)

Returns the name of a randomly selected agent from the environment using a predefined random number generator. This is useful for experiments involving non-determinism, but which should be repeatable for analysis and debugging.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public string RandomAgent(
        Random rand
)
```

Parameters

rand

Type: SystemRandom
The random number generator which should be non-null and instantiated using a seed

Return Value

Type: String

See Also

Reference

EnvironmentMas Class

RandomAgent Overload

ActressMas Namespace

EnvironmentMasRemove Method

Overload List

	Name	Description
	Remove(String)	Stops the execution of the agent identified by name and removes it from the environment. Use the Remove method instead of Agent.Stop when the decision to stop an agent does not belong to the agent itself, but to some other agent or to an external factor.
	Remove(Agent)	Stops the execution of the agent and removes it from the environment. Use the Remove method instead of Agent.Stop when the decision to stop an agent does not belong to the agent itself, but to some

	other agent or to an external factor.

Top

See Also

Reference

EnvironmentMas Class
ActressMas Namespace

EnvironmentMasRemove Method (String)

Stops the execution of the agent identified by name and removes it from the environment. Use the Remove method instead of Agent.Stop when the decision to stop an agent does not belong to the agent itself, but to some other agent or to an external factor.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public void Remove(
        string agentName
)
```

Parameters

agentName
Type: SystemString
The name of the agent to be removed

See Also

Reference

EnvironmentMas Class
Remove Overload

ActressMas Namespace

EnvironmentMasRemove Method (Agent)

Stops the execution of the agent and removes it from the environment. Use the Remove method instead of Agent.Stop when the decision to stop an agent does not belong to the agent itself, but to some other agent or to an external factor.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public void Remove(
        Agent agent
)
```

Parameters

agent
Type: ActressMasAgent
The agent to be removed

See Also

Reference

EnvironmentMas Class
Remove Overload

ActressMas Namespace

EnvironmentMasSend Method

Sends a message from the outside of the multiagent system. Whenever possible, the agents should use the Send method of their own class, not the Send method of the environment. This method can also be used to simulate a forwarding behavior.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public void Send(
        Message message
)
```

Parameters

message
Type: ActressMasMessage
The message to be sent

See Also

Reference

EnvironmentMas Class
ActressMas Namespace

EnvironmentMasSendRemote Method

Sends a message to a remote agent in another container.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public void SendRemote(
        string receiverContainer,
        Message message
)
```

Parameters

receiverContainer
Type: SystemString
The destination container

message
Type: ActressMasMessage
The message to be sent

See Also

Reference

EnvironmentMas Class

ActressMas Namespace

EnvironmentMasSimulationFinished Method

A method that may be optionally overriden to perform additional processing after the simulation has finished.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public virtual void SimulationFinished()
```

See Also

Reference

EnvironmentMas Class
ActressMas Namespace

EnvironmentMasStart Method

Starts the simulation.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public void Start()
```

See Also

Reference

EnvironmentMas Class
ActressMas Namespace

EnvironmentMasTurnFinished Method

A method that may be optionally overriden to perform additional processing after a turn of the simulation has finished.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public virtual void TurnFinished(
        int turn
)
```

Parameters

turn

Type: SystemInt32
The turn that has just finished

See Also

Reference

EnvironmentMas Class
ActressMas Namespace

EnvironmentMas Fields

The EnvironmentMas type exposes the following members.

Fields

	Name	Description
	_container	

Top

See Also

Reference

EnvironmentMas Class

ActressMas Namespace

EnvironmentMas_container Field

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
protected Container _container
```

Field Value

Type: Container

See Also

Reference

EnvironmentMas Class
ActressMas Namespace

Info Class

Information about ActressMas version

Inheritance Hierarchy

SystemObject ActressMasInfo

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public class Info
```

The Info type exposes the following members.

Constructors

	Name	Description
	Info	

Top

Fields

	Name	Description
	s	

Version	ActressMas current version

Top

See Also

Reference

ActressMas Namespace

Info Constructor

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public Info()
```

See Also

Reference

Info Class
ActressMas Namespace

Info Fields

The Info type exposes the following members.

Fields

	Name	Description
	Version	ActressMas current version

Top

See Also

Reference

Info Class

ActressMas Namespace

InfoVersion Field

ActressMas current version

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public static readonly string Version
```

Field Value

Type: String

See Also

Reference

Info Class
ActressMas Namespace

Message Class

A message that the agents use to communicate. In an agent-based system, the communication between the agents is exclusively performed by exchanging messages.

Inheritance Hierarchy

SystemObject ActressMasMessage

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
[SerializableAttribute]
public class Message
```

The Message type exposes the following members.

Constructors

	Name	Description
	Message	Initializes a new instance of the Message class with an empty message.
	Message(String,	Initializes a new instance of

	String, Object)	the Message class.
	Message(String, String, String)	Initializes a new instance of the Message class.
	Message(String, String, Object, String)	Initializes a new instance of the Message class.
	Message(String, String, String, String)	Initializes a new instance of the Message class.

Top

Properties

	Name	Description
	Content	The content of the message (a string).
	ContentObj	The content of the message (an object).
	ConversationId	The conversation identifier, for the cases when a conversation involves multiple messages that refer to the same topic
	Receiver	The name of the agent that needs to receive the message

	Sender	The name of the agent that sends the message

Top

Methods

	Name	Description
	Format	Returns a string of the form "[Sender -> Receiver]: Content"
	Parse(String, ListString)	Parses the content of a message and identifies the action (similar, e.g., to a performative) and the list of parameters.
	Parse(String, String)	Parses the content of a message and identifies the action (similar, e.g., to a performative) and the parameters concatenated in a string.
	Parse1P	Parses the content of a message and identifies the action (similar, e.g., to a performative) and the single parameter.

Top

See Also

Reference

ActressMas Namespace

Message Constructor

Overload List

	Name	Description
	Message	Initializes a new instance of the Message class with an empty message.
	Message(String, String, Object)	Initializes a new instance of the Message class.
	Message(String, String, String)	Initializes a new instance of the Message class.
	Message(String, String, Object, String)	Initializes a new instance of the Message class.
	Message(String, String, String, String)	Initializes a new instance of the Message class.

Top

See Also

Reference

Message Class

ActressMas Namespace

Message Constructor

Initializes a new instance of the Message class with an empty message.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public Message()
```

See Also

Reference

Message Class
Message Overload
ActressMas Namespace

Message Constructor (String, String, Object)

Initializes a new instance of the Message class.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public Message(
        string sender,
        string receiver,
        Object contentObj
)
```

Parameters

sender
Type: SystemString
The name of the agent that sends the message

receiver
Type: SystemString
The name of the agent that needs to receive the message

contentObj
Type: SystemObject
The content of the message

See Also

Reference

Message Class
Message Overload
ActressMas Namespace

Message Constructor (String, String, String)

Initializes a new instance of the Message class.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public Message(
        string sender,
        string receiver,
        string content
)
```

Parameters

sender
Type: SystemString
The name of the agent that sends the message

receiver
Type: SystemString
The name of the agent that needs to receive the message

content
Type: SystemString
The content of the message

See Also

Reference

Message Class
Message Overload
ActressMas Namespace

Message Constructor (String, String, Object, String)

Initializes a new instance of the Message class.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public Message(
        string sender,
        string receiver,
        Object contentObj,
        string conversationId
)
```

Parameters

sender
Type: SystemString
The name of the agent that sends the message

receiver
Type: SystemString
The name of the agent that needs to receive the message

contentObj
Type: SystemObject
The content of the message

conversationId

Type: SystemString

The conversation identifier, for the cases when a conversation involves multiple messages that refer to the same topic

See Also

Reference

Message Class

Message Overload

ActressMas Namespace

Message Constructor (String, String, String, String)

Initializes a new instance of the Message class.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public Message(
        string sender,
        string receiver,
        string content,
        string conversationId
)
```

Parameters

sender
Type: SystemString
The name of the agent that sends the message

receiver
Type: SystemString
The name of the agent that needs to receive the message

content
Type: SystemString
The content of the message

conversationId

Type: SystemString

The conversation identifier, for the cases when a conversation involves multiple messages that refer to the same topic

See Also

Reference

Message Class

Message Overload

ActressMas Namespace

Message Properties

The Message type exposes the following members.

Properties

	Name	Description
	Content	The content of the message (a string).
	ContentObj	The content of the message (an object).
	ConversationId	The conversation identifier, for the cases when a conversation involves multiple messages that refer to the same topic
	Receiver	The name of the agent that needs to receive the message
	Sender	The name of the agent that sends the message

Top

See Also

Reference

Message Class

ActressMas Namespace

MessageContent Property

The content of the message (a string).

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public string Content { get; set; }
```

Property Value

Type: String

See Also

Reference

Message Class
ActressMas Namespace

MessageContentObj Property

The content of the message (an object).

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public Object ContentObj { get; set; }
```

Property Value

Type: Object

See Also

Reference

Message Class
ActressMas Namespace

MessageConversationId Property

The conversation identifier, for the cases when a conversation involves multiple messages that refer to the same topic

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public string ConversationId { get; set; }
```

Property Value

Type: String

See Also

Reference

Message Class
ActressMas Namespace

MessageReceiver Property

The name of the agent that needs to receive the message

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public string Receiver { get; set; }
```

Property Value

Type: String

See Also

Reference

Message Class
ActressMas Namespace

MessageSender Property

The name of the agent that sends the message

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public string Sender { get; set; }
```

Property Value

Type: String

See Also

Reference

Message Class
ActressMas Namespace

Message Methods

The Message type exposes the following members.

Methods

	Name	Description
	Format	Returns a string of the form "[Sender -> Receiver]: Content"
	Parse(String, ListString)	Parses the content of a message and identifies the action (similar, e.g., to a performative) and the list of parameters.
	Parse(String, String)	Parses the content of a message and identifies the action (similar, e.g., to a performative) and the parameters concatenated in a string.
	Parse1P	Parses the content of a message and identifies the action (similar, e.g., to a performative) and the single parameter.

Top

See Also

Reference

Message Class
ActressMas Namespace

MessageFormat Method

Returns a string of the form "[Sender -> Receiver]: Content"

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public string Format()
```

Return Value

Type: String

See Also

Reference

Message Class
ActressMas Namespace

MessageParse Method

Overload List

	Name	Description
	Parse(String, ListString)	Parses the content of a message and identifies the action (similar, e.g., to a performative) and the list of parameters.
	Parse(String, String)	Parses the content of a message and identifies the action (similar, e.g., to a performative) and the parameters concatenated in a string.

Top

See Also

Reference

Message Class

ActressMas Namespace

MessageParse Method (String, ListString)

Parses the content of a message and identifies the action (similar, e.g., to a performative) and the list of parameters.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public void Parse(
        out string action,
        out List<string> parameters
)
```

Parameters

action
Type: SystemString
parameters
Type: System.Collections.GenericListString

See Also

Reference

Message Class
Parse Overload

ActressMas Namespace

MessageParse Method (String, String)

Parses the content of a message and identifies the action (similar, e.g., to a performative) and the parameters concatenated in a string.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public void Parse(
        out string action,
        out string parameters
)
```

Parameters

action
Type: SystemString
parameters
Type: SystemString

See Also

Reference

Message Class

Parse Overload
ActressMas Namespace

MessageParse1P Method

Parses the content of a message and identifies the action (similar, e.g., to a performative) and the single parameter.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public void Parse1P(
        out string action,
        out string parameter
)
```

Parameters

action
Type: SystemString
parameter
Type: SystemString

See Also

Reference

Message Class
ActressMas Namespace

NewTextEventArgs Class

The class that defines a message from a server or a container.

Inheritance Hierarchy

SystemObject SystemEventArgs
ActressMasNewTextEventArgs

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public class NewTextEventArgs : EventArgs
```

The NewTextEventArgs type exposes the following members.

Constructors

	Name	Description
	NewTextEventArgs	

Top

Properties

	Name	Description

	Text	The text of the message

Top

See Also

Reference

ActressMas Namespace

NewTextEventArgs Constructor

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public NewTextEventArgs(
         string text
)
```

Parameters

text

Type: SystemString

See Also

Reference

NewTextEventArgs Class
ActressMas Namespace

NewTextEventArgs Properties

The NewTextEventArgs type exposes the following members.

Properties

	Name	Description
	Text	The text of the message

Top

See Also

Reference

NewTextEventArgs Class

ActressMas Namespace

NewTextEventArgsText Property

The text of the message

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public string Text { get; }
```

Property Value

Type: String

See Also

Reference

NewTextEventArgs Class
ActressMas Namespace

NewTextEventHandler Delegate

An event handler for a message from a server or a container.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public delegate void NewTextEventHandler(
        Object source,
        NewTextEventArgs e
)
```

Parameters

source
Type: SystemObject

e
Type: ActressMasNewTextEventArgs

See Also

Reference

ActressMas Namespace

ObservableAgent Class

The class that represents the observable properties of an agent. They depend on the set of Observables properties of an agent and on the PerceptionFilter function of an agent who wants to observe other agents.

Inheritance Hierarchy

SystemObject ActressMasObservableAgent

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public class ObservableAgent
```

The ObservableAgent type exposes the following members.

Constructors

	Name	Description
	ObservableAgent(DictionaryString, String)	Initializes a new instance of the ObservableAgent class.

	ObservableAgent(String)	Initializes a new instance of the ObservableAgent class.
	ObservableAgent(String, DictionaryString, String)	Initializes a new instance of the ObservableAgent class.

Top

Properties

	Name	Description
	Observed	The properties of the observed agent which are visible to the agent who registers to see them. They are a subset of the full Observables properties of an agent.

Top

See Also

Reference

ActressMas Namespace

ObservableAgent Constructor

Overload List

	Name	Description
	ObservableAgent(DictionaryString, String)	Initializes a new instance of the ObservableAgent class.
	ObservableAgent(String)	Initializes a new instance of the ObservableAgent class.
	ObservableAgent(String, DictionaryString, String)	Initializes a new instance of the ObservableAgent class.

Top

See Also

Reference

ObservableAgent Class
ActressMas Namespace

ObservableAgent Constructor (DictionaryString, String)

Initializes a new instance of the ObservableAgent class.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public ObservableAgent(
        Dictionary<string, string> observable
)
```

Parameters

observable

Type: System.Collections.GenericDictionaryString, String
A collection of observable properties

See Also

Reference

ObservableAgent Class
ObservableAgent Overload
ActressMas Namespace

ObservableAgent Constructor (String)

Initializes a new instance of the ObservableAgent class.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public ObservableAgent(
        string name
)
```

Parameters

name

Type: SystemString
The name of the observable agent

See Also

Reference

ObservableAgent Class
ObservableAgent Overload
ActressMas Namespace

ObservableAgent Constructor (String, DictionaryString, String)

Initializes a new instance of the ObservableAgent class.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public ObservableAgent(
        string name,
        Dictionary<string, string> observable
)
```

Parameters

name
Type: SystemString
The name of the observable agent

observable
Type: System.Collections.GenericDictionaryString, String
A collection of observable properties

See Also

Reference

ObservableAgent Class

ObservableAgent Overload

ActressMas Namespace

ObservableAgent Properties

The ObservableAgent type exposes the following members.

Properties

	Name	Description
	Observed	The properties of the observed agent which are visible to the agent who registers to see them. They are a subset of the full Observables properties of an agent.

Top

See Also

Reference

ObservableAgent Class
ActressMas Namespace

ObservableAgentObserved Property

The properties of the observed agent which are visible to the agent who registers to see them. They are a subset of the full Observables properties of an agent.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public Dictionary<string, string> Observed { get;
```

Property Value

Type: DictionaryString, String

See Also

Reference

ObservableAgent Class
ActressMas Namespace

RunnableMas Class

An abstract class which should be derived in order to specify the multiagent system with mobile agents that will be run in the environment of a container.

Inheritance Hierarchy

SystemObject ActressMasRunnableMas

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public abstract class RunnableMas
```

The RunnableMas type exposes the following members.

Constructors

	Name	Description
	RunnableMas	

Top

Methods

	Name	Description
	RunMas	Starts the execution of a multiagent environment within a container

Top

See Also

Reference

ActressMas Namespace

RunnableMas Constructor

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
protected RunnableMas()
```

See Also

Reference

RunnableMas Class
ActressMas Namespace

RunnableMas Methods

The RunnableMas type exposes the following members.

Methods

	Name	Description
	RunMas	Starts the execution of a multiagent environment within a container

Top

See Also

Reference

RunnableMas Class

ActressMas Namespace

RunnableMasRunMas Method

Starts the execution of a multiagent environment within a container

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public virtual void RunMas(
        EnvironmentMas env
)
```

Parameters

env

Type: ActressMasEnvironmentMas
The multiagent environment

See Also

Reference

RunnableMas Class
ActressMas Namespace

Server Class

A server that ensures the communication of containers, e.g. for the movement of agents, in a distributed system.

Inheritance Hierarchy

SystemObject ActressMasServer

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public class Server
```

The Server type exposes the following members.

Constructors

	Name	Description
	Server	Initializes a new instance of the Server class.

Top

Methods

	Name	Description
	Start	Tries to start the server
	Stop	Stops the server

Top

Events

	Name	Description
	NewText	An event handler for the ongoing messages provided by the server.

Top

See Also

Reference

ActressMas Namespace

Server Constructor

Initializes a new instance of the Server class.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public Server(
        int port,
        int ping
)
```

Parameters

port
Type: SystemInt32
The port number of the server

ping
Type: SystemInt32
The time interval (in miliseconds) for the ping messages, needed to check if the containers are still alive

See Also

Reference

Server Class
ActressMas Namespace

Server Methods

The Server type exposes the following members.

Methods

	Name	Description
	Start	Tries to start the server
	Stop	Stops the server

Top

See Also

Reference

Server Class

ActressMas Namespace

ServerStart Method

Tries to start the server

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public void Start()
```

See Also

Reference

Server Class
ActressMas Namespace

ServerStop Method

Stops the server

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public void Stop()
```

See Also

Reference

Server Class
ActressMas Namespace

Server Events

The Server type exposes the following members.

Events

	Name	Description
	NewText	An event handler for the ongoing messages provided by the server.

Top

See Also

Reference

Server Class

ActressMas Namespace

ServerNewText Event

An event handler for the ongoing messages provided by the server.

Namespace: ActressMas
Assembly: ActressMas (in ActressMas.dll) Version: 3.0.0.0 (3.0.0.0)

Syntax

C#

Copy

```
public event NewTextEventHandler NewText
```

Value

Type: ActressMasNewTextEventHandler

See Also

Reference

Server Class
ActressMas Namespace