

Sequence Diagram Tutorial (Visual Tutorial)						
United States			Canada		India	EventStudio System Designer 5
California		Nevada	Ontario		Rajasthan	
Los Angeles	San Francisco	Las Vegas			Jaipur	11-Sep-11 17:53 (Page 1)

This diagram provides a visual tutorial of FDL. The tutorial is organized with visual output of the FDL statement followed by the statement.

## Messages



Message Statement: Model messages interactions with parameters.

```
Message (attribute="Value", field): "Los Angeles" -> "Las Vegas"
```



Message Statement: Model messages interactions (no parameters specified in this case).

```
MessageResponse : "Los Angeles" <- "Las Vegas"
```



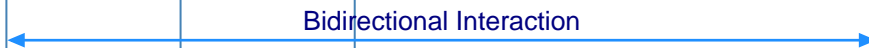
Model messages to self.

```
"Self Message" : "Las Vegas" -> "Las Vegas"
```



Use the => or <= to represent messages with bold arrows.

```
"Message with Bold Arrow" : "Los Angeles" => Jaipur
```

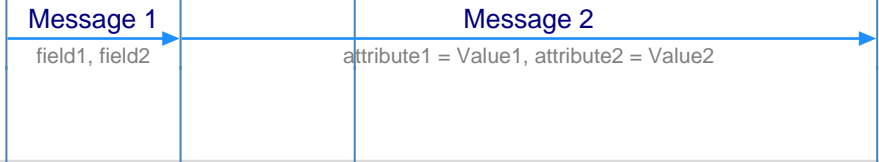


Model bi-directional message interactions with <-> or <=>.

```
"Bidirectional Interaction" : "Los Angeles" <-> Jaipur
```

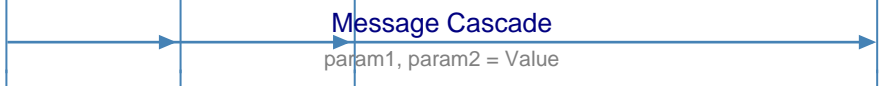
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## Compound Messages



Represent a chain of message interactions in a single line. Separate message names and parameters may be specified for each message interaction.

```
chain
  "Message 1" (field1, field2): "Los Angeles" -> "San Francisco"
  "Message 2" (attribute1=Value1, attribute2=Value2): "San Francisco" -> Jaipur
endchain
```



Represent a chain of message interactions involving forwarding of the same message. One set of message name and parameters may be specified.

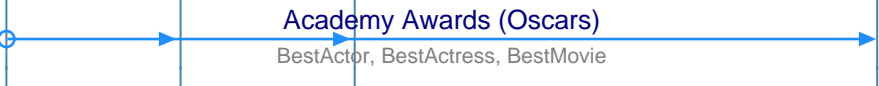
```
"Message Cascade" (param1, param2="Value"): "Los Angeles" -> "San Francisco" -> "Las Vegas" -> Jaipur
```



Cascades work for bidirectional interactions as well.

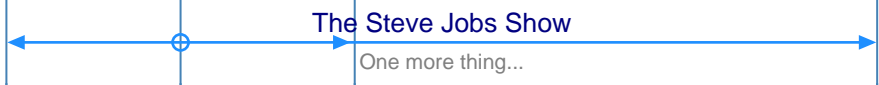
```
"Bidirectional Interaction Cascade" : "Los Angeles" <-> "San Francisco" <-> "Las Vegas" <-> Jaipur
```

## Multicasts



Model multicasts using this statement. The multicast source is shown with a circle.

```
"Los Angeles" multicasts "Academy Awards (Oscars)" (BestActor, BestActress, BestMovie) to "San Francisco", "Las Vegas", Jaipur
```

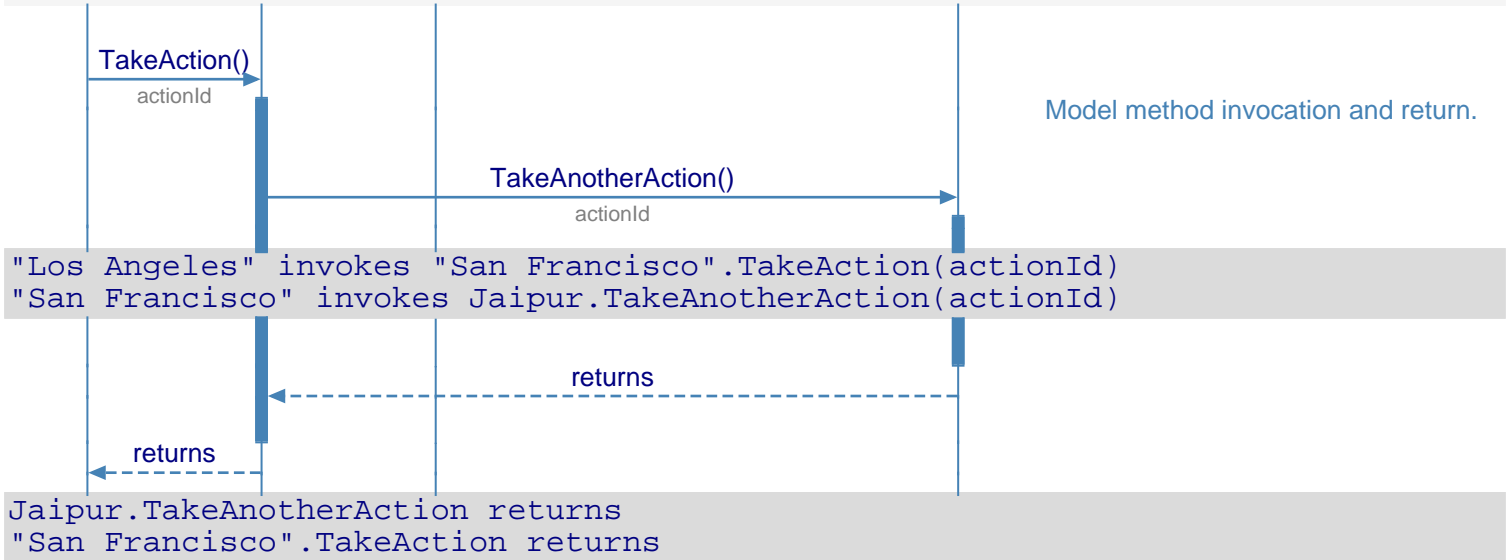


Another multicast. This time the multicast source is not at the edge.

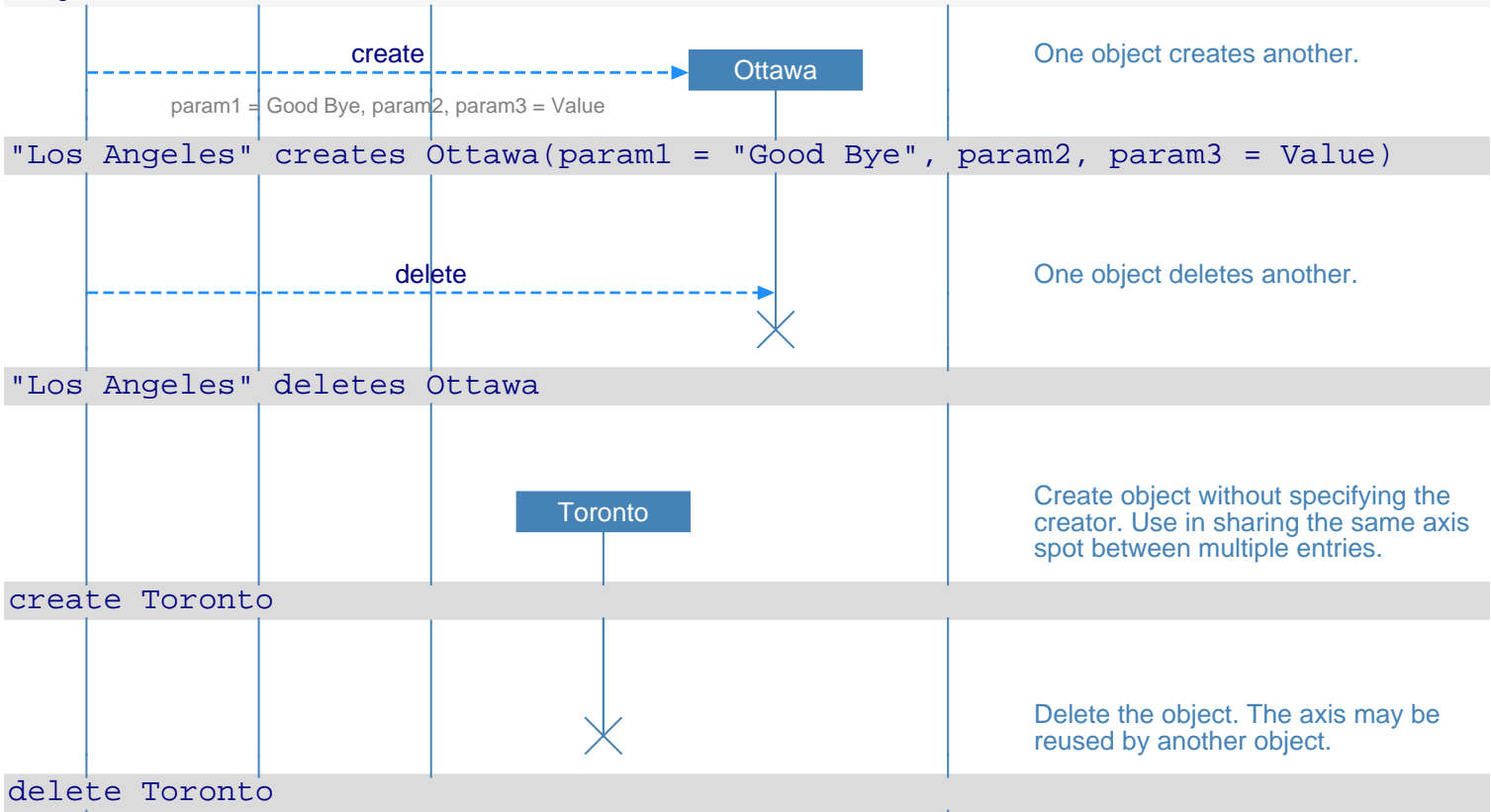
```
"San Francisco" multicasts "The Steve Jobs Show" ("One more thing...") to "Los Angeles", "Las Vegas", Jaipur
```

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## Object Interactions



## Object Creation and Deletion





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## Actions

Host Academy Awards

Model actions taken by an object.

"Los Angeles" takes action "Host Academy Awards"

Joint Bid for Olympics

Model joint actions taken by multiple objects.

"Los Angeles", "San Francisco" take action "Joint Bid for Olympics"

Discuss Budget

Model actions at component level. Action taken at California level will also be shown in a component level interaction diagram.

California takes action "Discuss Budget"

Celebrate Independence Day

A module level action. In this case, all entities within USA are included.

"United States" takes action "Celebrate Independence Day"

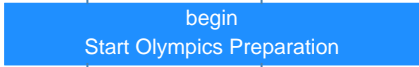
Sign Bilateral Agreement

Action involving multiple modules.

"United States", India take action "Sign Bilateral Agreement"

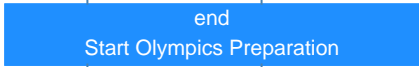
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## Compound Actions



Model an action start.

"Los Angeles", "San Francisco" begin action "Start Olympics Preparation"



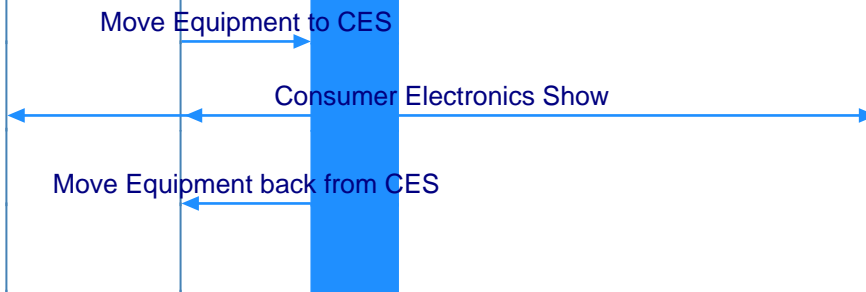
Model an action end.

"Los Angeles", "San Francisco" end action "Start Olympics Preparation"



Represent the action as a continuous bar from action start to end.

"Las Vegas" begins continuous action "CES"



Examples of interactions during a continuous action.

Model the end of the continuous action. Marks the end of the action bar.

"Las Vegas" ends continuous action "CES"

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## Resource Management

allocate  
CES Convention Center

Model resource allocation.

"Las Vegas" allocates "CES Convention Center"

free  
CES Convention Center

Free the resource. EventStudio will warn you if a allocated resource is not freed.

"Las Vegas" frees "CES Convention Center"

allocate  
Track and Field Stadium

A joint resource allocation.

"Los Angeles", "San Francisco" allocate "Track and Field Stadium"

free  
Track and Field Stadium

A joint resource free.

"Los Angeles", "San Francisco" free "Track and Field Stadium"

## State Transitions

Awaiting CES

Change the state of an object.

"Las Vegas" state = "Awaiting CES"

Awaiting Olympics

Change the joint state of two objects.

"Los Angeles", "San Francisco" state = "Awaiting Olympics"

Celebrating Independence Day

State specified at module level. The state transition will be included in module level and component level diagrams as well.

"United States" state = "Celebrating Independence Day"

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## Hyperlinks (PDF only)

[Olympics Opening Ceremony](#)

Click on action box to visit the Olympics website. A different style has been applied with the style prefix [hyperlink].

[hyperlink] "Los Angeles", "San Francisco" take action "Olympics Opening Ceremony" <<http://www.olympic.org/>>

SCTP Datagram

Click on the message name to get details about the message. [hyperlink] style prefix has also been applied.

[hyperlink] "SCTP Datagram" : "San Francisco" -> "Las Vegas" <[http://en.wikipedia.org/wiki/Stream\\_Control\\_Transmission\\_Protocol](http://en.wikipedia.org/wiki/Stream_Control_Transmission_Protocol)>

**Sequence Diagram Tutorial Template (Multiple Scenario Handling and Sequence Groupings)**

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A sequence with specified participants (shown expanded).

```
"San Francisco", "Los Angeles" participate in sequence "Olympics Planning"
    "Coordinate Olympics Meetings" : "San Francisco" <-> "Los Angeles"
    "San Francisco", "Los Angeles" take action "Prepare Olympics Budget"
endsequence
```

**Sequence Diagram Tutorial Template (Multiple Scenario Handling and Sequence Grouping 2)**

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Olympics Planning

A compressed sequence. Clicking on the compressed sequence takes you to the expanded version.

"San Francisco", "Los Angeles" participate in sequence "Olympics Planning"  
"Coordinate Olympics Meetings" : "San Francisco" <-> "Los Angeles"  
"San Francisco", "Los Angeles" take action "Prepare Olympics Budget"  
endsequence