

# Completion Events and Transitions

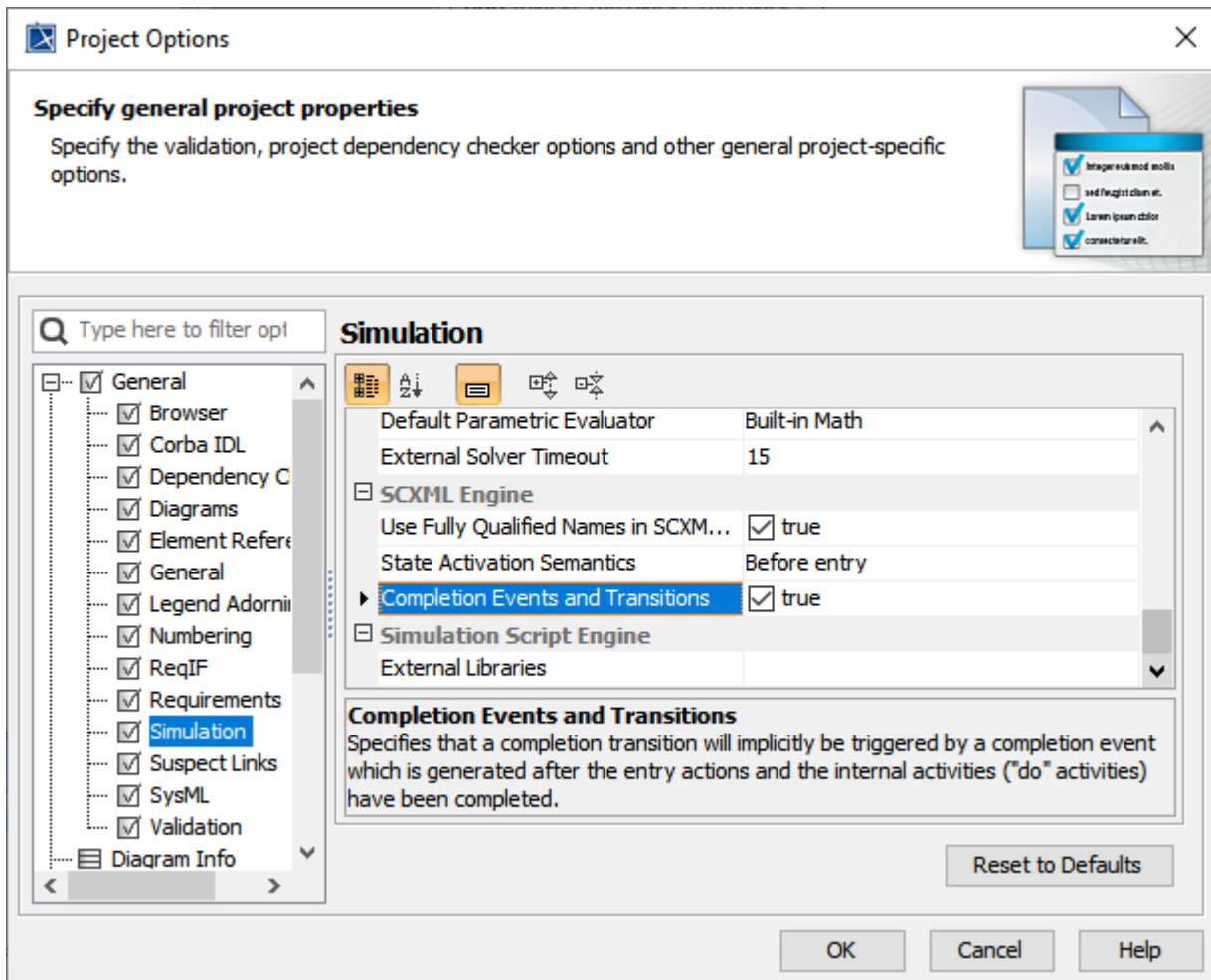
Completion Events are standard UML Events which are fired during the execution of a State Machine diagram. For composite or submachine States, a completion Event will be generated when all internal Activities, e.g., **entry** and **doActivity** Behaviors, have completed execution under either of the following circumstances

- If the State is a composite State, all its orthogonal Regions have reached a FinalState.
- if the State is a submachine State, the submachine StateMachine execution has reached a FinalState.



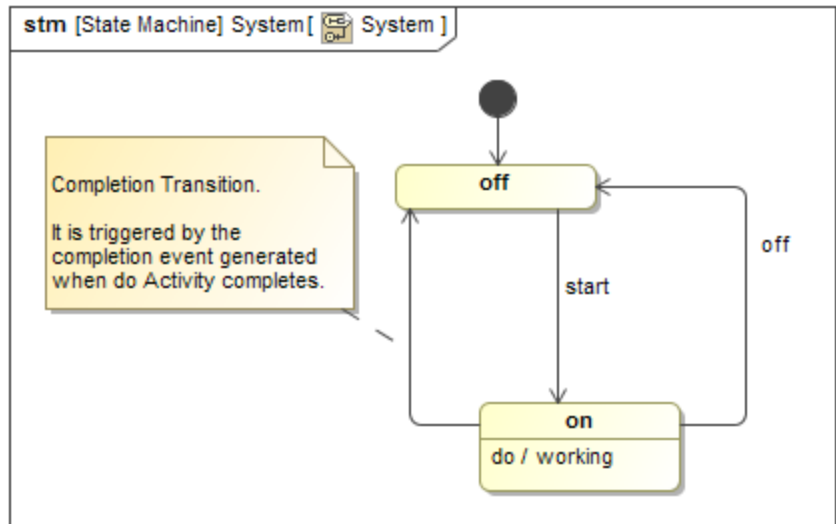
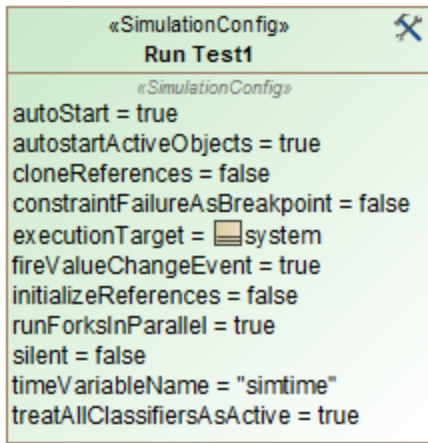
TIP

You can enable/disable the **Completion Events and Transitions** option in the **SCXML Engine** group in the **Project Options** dialog for completion Events and Transitions support.



The Completion Events and Transitions option in the SCXML Engine group in the Project Options dialog.

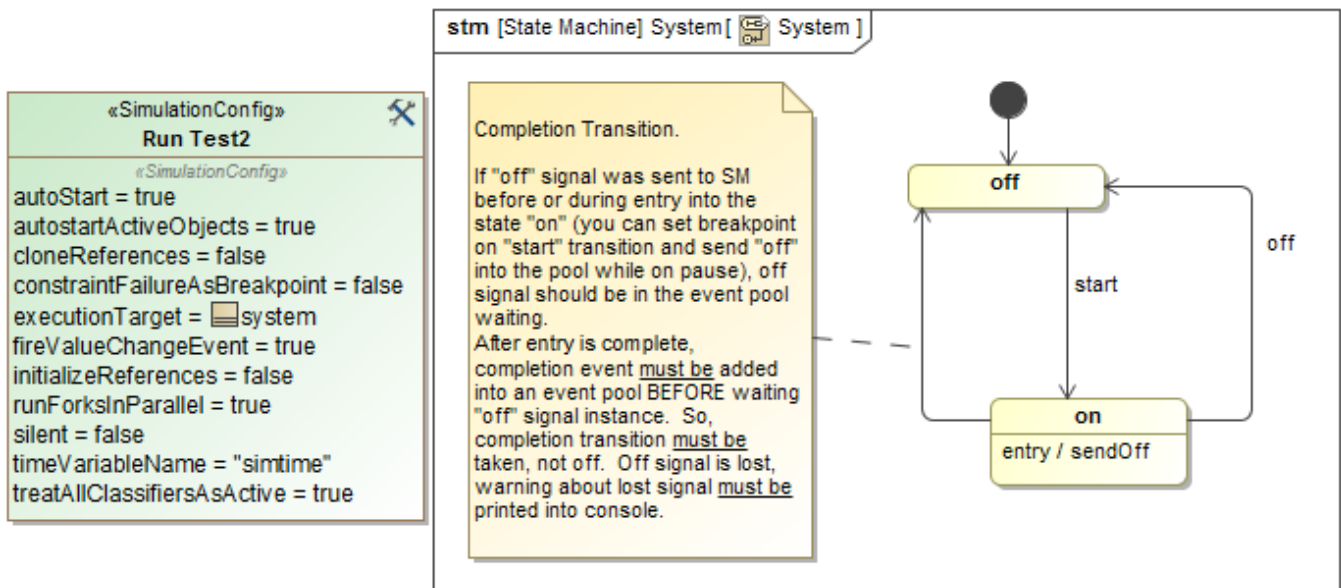
Case 1



Completion Events and Transitions in a State Machine diagram.

For example, in the above State Machine diagram, a Transition from the "on" State to the "off" State does not happen until a completion Event is generated. The completion Event is generated after the DoActivity Behavior completes and only then the State transits from "on" to "off".

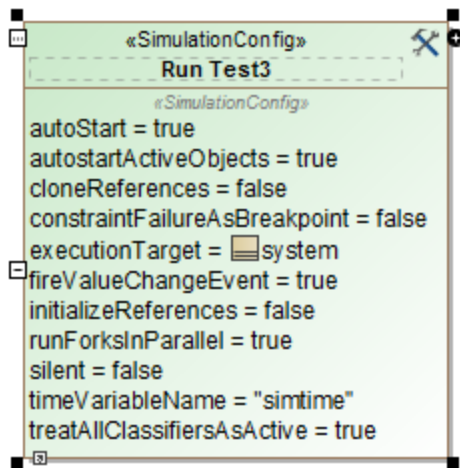
## Case 2



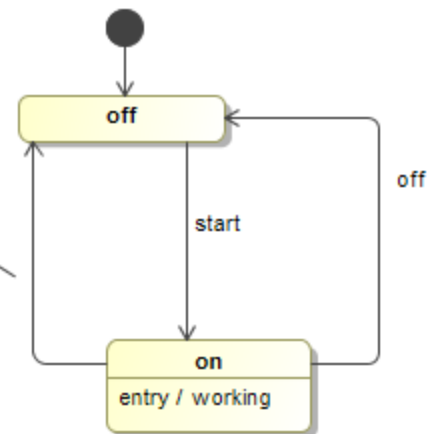
Completion Events and Transitions in a State Machine diagram.

In the above State Machine diagram, a completion Event is generated after the entry and sendOff Behaviors have completed.

## Case 3



Completion Transition.  
 It is triggered by the completion event generated when entry completes.



Completion Events and Transitions in a State Machine diagram.

In the above State Machine diagram, a completion Event will be generated after the entry and working Behaviors have completed.



#### Information

Completion Events have dispatch priority over all other Events. They are put into the beginning of the Event queue.

#### Related page

- [State Machine](#)
- [State Machine diagram](#)