

# Ordering

The Ordering model demonstrates the use of Alf as the action language within an executable model using State Machines. It includes the following diagrams:

- *Order Classes* – A Class diagram of an *Order* consisting of multiple *OrderLineItems*, placed by a *Customer*, which may be paid using a *CreditCard*.
- *Order\_Behavior* – A State Machine diagram of the active Behavior of an *Order*.
- *CreditCardCharge\_Behavior* – A State Machine diagram of the active Behavior of a *CreditCardCharge* (this is just a stub for testing purposes).
- *Customer\_Behavior* – A State Machine diagram of the active Behavior of a *Customer* (this is just a stub for testing purposes).
- *Test* – A Class diagram of a simple *Test* Class with a classifier behavior that acts as a test driver.

Alf is used to define the behavior of all Operations in the *Order Classes* model, entry Behaviors in all the state machines and the classifier behavior for *Test*. To view any of the Alf code, open the [Alf editor](#) window (select **Windows > Alf**) and then select the desired Operation, entry Behavior or Activity. The Alf code will appear in the window.

## Related pages


[Using Alf for Operation methods](#)

[Using Alf for State Behaviors](#)

[Using Alf for classifier behaviors](#)

[Running a model with Alf](#)

To run the test

1. Select **Simulation > Run** on the class *Test*.
2. Set the **Animation speed** to maximum (even if it looks like it is already at maximum, make sure the slider is all the way to the right).
3. Click on the **Start**  button.
4. When the run pauses, select *Order\_Behavior* in the **Sessions** tab.
5. Select *SubmitCharge* under **Trigger**.
6. Select *CreditCardCharge\_Behavior* in the **Sessions** tab (this State Machine should be in the State *Verifying* at this point).
7. Select either *ChargeApproved* or *ChargeDenied* under **Trigger**.
8. Select *Order\_Behavior* in the **Sessions** tab.
9. If *ChargeDenied*, then *Order\_Behavior* should be in State *Payment Not Approved*. Select either *SubmitCharge* or *OrderCancelled* under **Trigger**. If *SubmitCharge*, go back to step 7.
10. If *ChargeApproved*, then *Order\_Behavior* should be in State *Awaiting Delivery*. Select *OrderDelivered* under **Trigger**.