

# THE OBSERVER PATTERN IN ACTION: TREE EDITS AND MOUSE CLICKS

# TREES ARE RATHER COMPLICATED

**JTree** IS THE MAIN UI ELEMENT CLASS

BUT A HOST OF ASSOCIATED CLASSES  
NEED TO BE USED IN ADDITION

TREENODE OBJECTS, WHICH ARE CONTAINED  
INSIDE THE TREE

TREEMODEL OBJECTS, WHICH REPRESENT  
THE MODEL FOR WHICH THE JTREE IS THE VIEW

A TREEMODEL IS EXPLICITLY NEEDED FOR  
OPERATIONS SUCH AS UPDATING THE TREE  
WHEN A NEW NODE IS ADDED

THE MODEL FOR WHICH THE JTREE IS THE VIEW

## TreeModelListeners

USE TREEMODELLISTENERS  
WHEN THE TREE DATA CHANGES  
AND THE TREE UI MUST BE  
UPDATED

AS THEIR NAME WOULD SUGGEST,  
"TREE-MODEL-LISTENERS" LISTEN FOR  
CHANGES IN THE MODEL (I.E.  
THE UNDERLYING DATA) OF A TREE

## TreeSelectionListeners

USE TREESELECTIONLISTENERS  
WHEN THE USER HAS SELECTED  
SOME NODES IN A TREE, AND  
SOME OTHER UI ELEMENTS NEED  
TO BE UPDATED TO STAY IN SYNCH

ON THE OTHER HAND  
"TREE-SELECTION-LISTENERS"  
LISTEN FOR CHANGES IN THE  
VIEW (UI REPRESENTATION)  
OF THE TREE

# CAPTURING RIGHT-CLICKS OF A MOUSE

EVERY `JComponent` ALLOWS PROGRAMMERS TO LISTEN  
IN ONMOUSEEVENTS

YOU CAN IMPLEMENT THE `mouseadapter` INTERFACE

AND LISTEN IN VIA THE `addmouselistener` METHOD, WHICH IS PRESENT  
IN EVERY UI ELEMENT