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1 // foj/7/juno/ShellCommandTable.java
2 //
3 //
4 // Copyright 2003 Bill Campbell and Ethan Bolker
5
6 import java.util.*;
7
8 /**
9  * A ShellCommandTable object maintains a dispatch table of
10 * ShellCommand objects keyed by the command names used to invoke
11 * them.
12 *
13 * To add a new shell command to the table, install it from
14 * method fillTable().
15 *
16 * @see ShellCommand
17 *
18 * @version 7
19 */
20
21 public class ShellCommandTable
22 {
23     private Map table = new TreeMap();
24
25     /**
26      * Construct and fill a shell command table.
27      */
28
29     public ShellCommandTable()
30     {
31         fillTable();
32     }
33
34     /**
35      * Get a ShellCommand, given the command name key.
36      *
37      * @param key the name associated with the command we're
38      *         looking for.
39      *
40      * @return the command we're looking for, null if none.
41      */
42
43     public ShellCommand lookup( String key )
44     {
45         ShellCommand commandObject = (ShellCommand) table.get( key );
46         if (commandObject != null) {
47             return commandObject;
48         }
49
50         // try to load dynamically
51         // construct classname = "KeyCommand"
52         char[] chars = (key + "Command").toCharArray();
53         chars[0] = key.toUpperCase().charAt(0);
54         String classname = new String(chars);
55         try {
56             commandObject =

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57         (ShellCommand)Class.forName(classname).newInstance();
58     }
59     catch (Exception e) { // couldn't find class
60         return null;
61     }
62     install(key, commandObject); // put it in table for next time
63     return commandObject;
64 }
65
66 /**
67  * Get an array of the command names.
68  *
69  * @return the array of command names.
70  */
71
72     public String[] getCommandNames()
73     {
74         return (String[]) table.keySet().toArray( new String[0] );
75     }
76
77     // Associate a command name with a ShellCommand.
78
79     private void install( String commandName, ShellCommand command )
80     {
81         table.put( commandName, command );
82     }
83
84     // Fill the dispatch table with ShellCommands, keyed by their
85     // command names.
86
87     private void fillTable()
88     {
89         install( "list", new ListCommand() );
90         install( "cd", new CdCommand() );
91         install( "newfile", new NewFileCommand() );
92         install( "remove", new RemoveCommand() );
93         install( "help", new HelpCommand() );
94         install( "mkdir", new MkdirCommand() );
95         install( "type", new TypeCommand() );
96         install( "logout", new LogoutCommand() );
97     }
98 }

```