NSTableView

Inherits From:	NSControl : NSView : NSResponder : NSObject
Conforms To:	NSCoding (NSResponder) NSObject (NSObject)
Declared In:	AppKit/NSTableView.h

Class at a Glance

Purpose

An NSTableView object displays record-oriented data in a table, and allows the user to edit values and resize and rearrange columns.

Principal Attributes

- Displays record-oriented data
- Gets data from an object you provide
- Lazily retrieves only data that needs to be displayed
- Works with NSScrollView
- Uses a delegate

Creation

Interface Builder

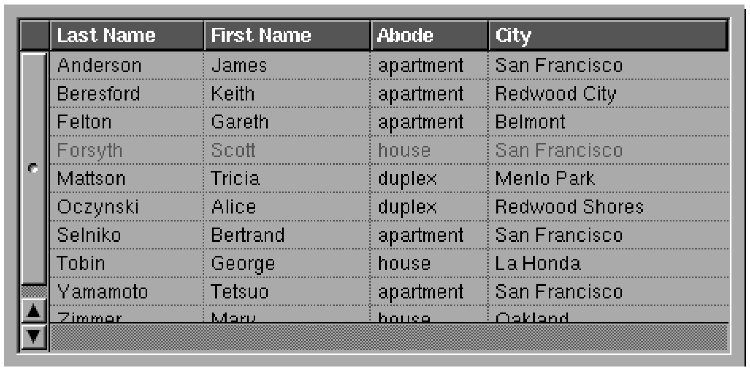
– initWithFrame:	Designated initializer

Commonly Used Methods

– dataSource	Returns the object providing the data that the NSTableView displays.
– tableColumns	Returns the NSTableColumn objects representing attributes for the NSTableView.
– selectedColumn	Returns the index of the selected column.
– selectedRow	Returns the index of the selected column.
– numberOfRows	Returns the number of rows in the NSTableView.
– reloadData	Informs the NSTableView that data has changed and needs to be retrieved and displayed again.

Class Description

An NSTableView displays data for a set of related records, with rows representing individual records and columns representing the attributes of those records. A record is a set of values for a particular real-world entity, such as an employee or a bank account. For example, in a table of employee records, each row represents one employee, and the columns represent such attributes as the first and last name, address, salary, and so on. An NSTableView is usually displayed in an NSScrollView, like this:



Last Name	First Name	Abode	City
Anderson	James	apartment	San Francisco
Beresford	Keith	apartment	Redwood City
Felton	Gareth	apartment	Belmont
Forsyth	Scott	house	San Francisco
Mattson	Tricia	duplex	Menlo Park
Oczynski	Alice	duplex	Redwood Shores
Selniko	Bertrand	apartment	San Francisco
Tobin	George	house	La Honda
Yamamoto	Tetsuo	apartment	San Francisco
Zimmer	Mary	house	Oakland

In this illustration, the NSTableView itself is only the portion displaying values. The header is drawn by two auxiliary views: the column headers by the *header view*, and the blank square above the vertical scroller by the *corner view*. The roles of these two auxiliary views are discussed in “Auxiliary Components.”

The user selects rows or columns in the table by clicking, and edits individual cells by double-clicking. The user can also rearrange columns by dragging the column headers and can resize the columns by dragging the divider between two column headers. You can configure the table’s parameters so that the user can select more than one row or column (or have none selected), so that the user isn’t allowed to edit particular columns or rearrange them, and so on. You can also specify an action message to be sent when the user double-clicks something other than an editable cell.

Providing Data for Display

Unlike most NSControls, an NSTableView doesn’t store or cache the data it displays. Instead, it gets all of its data from an object that you provide, called its *data source*. Your data source object can store records in any way, but it must be able to identify them by integer index and must implement methods to provide the following information: how many records the data source contains, and what the value is for a particular record’s attribute. If you want to allow the user to edit the records, you must also provide a method for changing the value of an attribute. These methods are described in the NSTableDataSource informal protocol specification.

A record attribute is indicated by an object called its *identifier*, which is associated with a column in the NSTableView, as described in “Auxiliary Components.” The data source uses the identifier as a key to retrieve values for the attribute—because columns can be reordered, their indices can’t be used to identify record attributes. The identifier can be any kind of object that uniquely identifies attributes for the data source. For example, if you specify identifiers as NSStrings containing the names of attributes, such as “Last Name”, “Address”, and so on, the data source object can use these strings as keys into NSDictionary objects. See the NSTableDataSource informal protocol specification for example of how to use identifiers.

Auxiliary Components

As indicated earlier, an NSTableView is usually displayed in an NSScrollView along with its two auxiliary views, the corner view and the header view. The corner view is by default a simple view that merely fills in the corner above the vertical scroller. You can replace the default corner view with a custom view; for example, a button that sorts based on the selected column. The header view is usually an instance of the NSTableHeaderView class, which draws the column headers and handles column selection, rearranging, and resizing. NSScrollView queries any document view it’s given for the **cornerView** and **headerView** methods, and if the document view responds and returns objects for them, the NSScrollView automatically tiles them along with its scrollers and the document view.

The NSTableView and the NSTableHeaderView both need access to information about columns (such as their width), so this information is encapsulated in NSTableColumn objects. An NSTableColumn stores its column’s width, and determines whether the user can resize the column or edit its cells. It also holds an NSCell object that the NSTableHeaderView uses to draw the column header, and an NSCell object that the NSTableView uses to draw values in the column (it reuses the same NSCell for each row in the column). Finally, the NSTableColumn holds the attribute identifier mentioned in “Providing Data for Display.”

The cell for each column header is by default an instance of the NSTableHeaderCell class; it’s used by the NSTableHeaderView to draw the column’s header. An NSTableHeaderCell contains the title displayed over the column, as well as the font and color for that title. You use the API of its superclasses, NSTextFieldCell and NSCell, to set a column’s title and to specify display attributes for that title (font, alignment, and so on). In addition, you can use the NSCell method **setImage:** to make the NSTableHeaderCell display an image instead of a title. To remove the image and restore the title, use the NSCell method **setStringValue:**.

The data cell for the column values is typically an instance of NSTextFieldCell, but can be an instance of any NSCell subclass, such as NSImageCell. This object is used to draw all values in the column and determines the font, alignment, text color, and other such display attributes for those values. You can customize the presentation of various kinds of values by assigning an NSFormatter to the cell. For example, to properly display NSDate values in a column, assign its data cell an NSDateFormatter.

Delegate Messages

NSTableView adds a handful of delegate messages to those defined by its superclass, NSControl. These methods give the delegate control over the appearance of individual cells in the table, over changes in selection, and over editing of cells. The delegate methods that request permission to alter the selection or edit a value are invoked during user actions that affect the NSTableView, but not when you change things programmatically; when making changes programmatically you decide whether you want the delegate to intervene and send the appropriate message (checking that the delegate responds first, of course). Because the delegate methods involve the actual data displayed by the NSTableView, the delegate is typically the same object as the data source.

tableView:willDisplayCell:forTableColumn:row: informs the delegate that the NSTableView is about to draw a particular cell. The delegate can modify the NSCell provided to alter the display attributes for that cell; for example, making uneditable values display in italic or gray text (as in the figure above).

tableView:shouldSelectRow: and **tableView:shouldSelectTableColumn:** give the delegate control over whether the user can select a particular row or column (though the user can still reorder columns). This is useful for disabling particular rows or columns. For example, in a database client application, when another user is editing a record you might want all other users not to be able to select it.

selectionShouldChangeInTableView: allows the delegate to deny a change in selection; for example, if the user is editing a cell and enters an improper value, the delegate can prevent the user from selecting or editing any other cells until a proper value has been entered into the original cell.

tableView:shouldEditTableColumn:row: asks the delegate whether it's okay to edit a particular cell. The delegate can approve or deny the request.

In addition to these methods, the delegate is also automatically registered to receive messages corresponding to NSTableView notifications. These inform the delegate when the selection changes and when a column is moved or resized:

Delegate Message	Notification
tableViewColumnDidMove:	NSTableViewColumnDidMoveNotification
tableViewColumnDidResize:	NSTableViewColumnDidResizeNotification
tableViewSelectionDidChange:	NSTableViewSelectionDidChangeNotification
tableViewSelectionIsChanging:	NSTableViewSelectionIsChangingNotification

Method Types

Creating an instance	– initWithFrame:
Setting the data source	– setDataSource: – dataSource
Loading data	– reloadData
Target-action behavior	– setDoubleAction: – doubleAction – clickedColumn – clickedRow

Configuring behavior	– setAllowsColumnReordering: – allowsColumnReordering – setAllowsColumnResizing: – allowsColumnResizing – setAllowsMultipleSelection: – allowsMultipleSelection – setAllowsEmptySelection: – allowsEmptySelection – setAllowsColumnSelection: – allowsColumnSelection
Setting display attributes	– setIntercellSpacing: – intercellSpacing – setRowHeight: – rowHeight – setBackgroundColor: – backgroundColor
Manipulating columns	– addTableColumn: – removeTableColumn: – moveColumn:toColumn: – tableColumns – columnWithIdentifier: – tableColumnWithIdentifier:
Selecting columns and rows	– selectColumn:byExtendingSelection: – selectRow:byExtendingSelection: – deselectColumn: – deselectRow: – numberOfSelectedColumns – numberOfSelectedRows – selectedColumn – selectedRow – isColumnSelected: – isRowSelected: – selectedColumnEnumerator – selectedRowEnumerator – selectAll: – deselectAll:
Getting the dimensions of the table	– numberOfColumns – numberOfRows

Setting grid attributes	– setDrawsGrid: – drawsGrid – setGridColor: – gridColor
Editing cells	– editColumn:row:withEvent:select: – editedRow – editedColumn
Setting auxiliary views	– setHeaderView: – headerView – setCornerView: – cornerView
Layout support	– rectOfColumn: – rectOfRow: – columnsInRect: – rowsInRect: – columnAtPoint: – rowAtPoint: – frameOfCellAtColumn:row: – setAutoresizesAllColumnsToFit – autoresizesAllColumnsToFit – sizeLastColumnToFit – sizeToFit – noteNumberOfRowsChanged – tile
Drawing	– drawRow:clipRect: – drawGridInClipRect: – highlightSelectionInClipRect:
Scrolling	– scrollRowToVisible: – scrollColumnToVisible:
Text delegate methods	– textShouldBeginEditing: – textDidBeginEditing: – textDidChange – textShouldEndEditing: – textDidEndEditing:
Setting the delegate	– setDelegate: – delegate

Instance Methods

addTableColumn:

– (void)**addTableColumn:**(NSTableColumn *)*aColumn*

Appends *aColumn* to the receiver.

See also: – **sizeLastColumnToFit**, – **sizeToFit**, – **removeTableColumn:**

allowsColumnReordering

– (BOOL)**allowsColumnReordering**

Returns YES if the receiver allows the user to rearrange columns by dragging their headers, NO otherwise. The default is YES. You can rearrange columns programmatically regardless of this setting.

See also: – **moveColumn:toColumn:**, – **setAllowsColumnReordering:**

allowsColumnResizing

– (BOOL)**allowsColumnResizing**

Returns YES if the receiver allows the user to resize columns by dragging between their headers, NO otherwise. The default is YES. You can resize columns programmatically regardless of this setting.

See also: – **setWidth:** (NSTableColumn), – **setAllowsColumnResizing:**

allowsColumnSelection

– (BOOL)**allowsColumnSelection**

Returns YES if the receiver allows the user to select columns by clicking their headers, NO otherwise. The default is YES. You can select columns programmatically regardless of this setting.

See also: – **selectColumn:byExtendingSelection:**, – **allowsColumnReordering**,
– **setAllowsColumnSelection:**

allowsEmptySelection

– (BOOL)**allowsEmptySelection**

Returns YES if the receiver allows the user to select zero columns or rows, NO otherwise. The default is YES.

You can *not* set an empty selection programmatically if this setting is NO, unlike with the other settings that affect selection behavior.

See also: – **deselectAll:**, – **deselectColumn:**, – **deselectRow:**, – **setAllowsEmptySelection:**

allowsMultipleSelection

– (BOOL)**allowsMultipleSelection**

Returns YES if the receiver allows the user to select more than one column or row at a time, NO otherwise. The default is NO. You can select multiple columns or rows programmatically regardless of this setting.

See also: – **selectColumn:byExtendingSelection:**, – **selectRow:byExtendingSelection:**, – **setAllowsMultipleSelection:**

autoresizesAllColumnsToFit

– (BOOL)**autoresizesAllColumnsToFit**

Returns YES if the receiver proportionally resizes its columns to fit when its superview’s frame changes, NO if it only resizes the last column.

See also: – **setAutoresizesAllColumnsToFit:**, – **sizeLastColumnToFit**, – **sizeToFit**

backgroundColor

– (NSColor *)**backgroundColor**

Returns the color used to draw the background of the receiver. The default background color is light gray.

See also: – **setBackgroundColor:**

clickedColumn

– (int)**clickedColumn**

Returns the index of the column the user clicked to trigger an action message. The return value of this method is meaningful only in the target’s implementation of the action or double-action method.

See also: – **clickedRow**, – **setAction:** (NSControl), – **setDoubleAction:**

clickedRow

– (int)**clickedRow**

Returns the index of the row the user clicked to trigger an action message. The return value of this method is meaningful only in the target’s implementation of the action or double-action method.

See also: – **clickedColumn**, – **setAction:** (NSControl), – **setDoubleAction:**

columnAtPoint:

– (int)**columnAtPoint:**(NSPoint)*aPoint*

Returns the index of the column that *aPoint* lies in, or –1 if *aPoint* lies outside the receiver’s bounds.

See also: – **rowAtPoint:**

columnsInRect:

– (NSRange)**columnsInRect:**(NSRect)*aRect*

Returns a range of indices for the receiver’s columns that lie wholly or partially within the horizontal boundaries of *aRect*; the location of the range is the first such column’s index, and the length is the number of columns that lie in *aRect*. Both the width and height of *aRect* must be nonzero values, or **columnsInRect:** returns an NSRange whose length is zero.

See also: – **rowsInRect:**

columnWithIdentifier:

– (int)**columnWithIdentifier:**(id)*anObject*

Returns the index of the first column in the receiver whose identifier is equal to *anObject*, when compared using **isEqual:**, or –1 if no columns are found with the specified identifier.

See also: – **tableColumnWithIdentifier:**

cornerView

– (NSView *)**cornerView**

Returns the NSView used to draw the area to the left of the column headers and above the vertical scroller of the enclosing NSScrollView. This is by default a simple view that merely fills in its frame, but you can replace it with a custom view using **setCornerView:**.

See also: – **headerView**

dataSource

– (id)**dataSource**

Returns the object that provides the data displayed by the receiver. See the class description and the NSTableDataSource informal protocol specification for more information.

See also: – **setDataSource:**

delegate

– (id)**delegate**

Returns the receiver's delegate.

See also: – **setDelegate:**

deselectAll:

– (void)**deselectAll:**(id)*sender*

Deselects all selected rows or columns if empty selection is allowed, otherwise does nothing. Posts NSTableViewSelectionDidChangeNotification to the default notification center if the selection does in fact change.

As a target-action method, **deselectAll:** checks with the delegate before changing the selection, using **selectionShouldChangeInTableView:**.

See also: – **allowsEmptySelection**, – **selectAll:**, – **selectColumn:byExtendingSelection:**

deselectColumn:

– (void)**deselectColumn:**(int)*columnIndex*

Deselects the column at *columnIndex* if it's selected, regardless of whether empty selection is allowed. If the selection does in fact change, posts NSTableViewSelectionDidChangeNotification to the default notification center.

If the indicated column was the last column selected by the user, the column nearest it effectively becomes the last selected column. In case of a tie, priority is given to the column on the left.

This method doesn't check with the delegate before changing the selection.

See also: – **selectedColumn**, – **allowsEmptySelection**, – **selectRow:byExtendingSelection:**

deselectRow:

– (void)**deselectRow:**(int)*rowIndex*

Deselects the row at *rowIndex* if it’s selected, regardless of whether empty selection is allowed. If the selection does in fact change, posts NSTableViewSelectionDidChangeNotification to the default notification center.

If the indicated row was the last row selected by the user, the row nearest it effectively becomes the last selected row. In case of a tie, priority is given to the row above.

This method doesn’t check with the delegate before changing the selection.

See also: – **selectedRow**, – **allowsEmptySelection**

doubleAction

– (SEL)**doubleAction**

Returns the message sent to the target when the user double-clicks a column header or an uneditable cell.

See also: – **action** (NSControl), – **target** (NSControl), – **setDoubleAction:**

drawGridInClipRect:

– (void)**drawGridInClipRect:**(NSRect)*aRect*

Draws the grid lines within *aRect*, using the grid color set with **setGridColor:**. This method draws a grid regardless of whether the receiver is set to draw one automatically.

Subclasses can override this method to draw grid lines other than the standard ones.

See also: – **gridColor**, – **setIntercellSpacing:**, – **drawsGrid**, – **drawRow:clipRect:**, – **highlightSelectionInClipRect:**

drawRow:clipRect:

– (void)**drawRow:**(int)*rowIndex* **clipRect:**(NSRect)*clipRect*

Draws the cells for the row at *rowIndex* in the columns that intersect *clipRect*. Sends **tableView:willDisplayCell:forTableColum:row:** to the delegate before drawing each cell.

Subclasses can override this method to customize their appearance.

See also: – **columnsInRect:**, – **highlightSelectionInClipRect:**, – **drawGridInClipRect:**

drawsGrid

– (BOOL)**drawsGrid**

Returns YES if the receiver draws grid lines around cells, NO if it doesn't. The default is YES.

See also: – **gridColor**, – **drawGridInClipRect:**, – **setDrawsGrid**

editColumn:row:withEvent:select:

– (void)**editColumn:**(int)*columnIndex*
row:(int)*rowIndex*
withEvent:(NSEvent *)*theEvent*
select:(BOOL)*flag*

Edits the cell at *columnIndex* and *rowIndex*, selecting its entire contents if *flag* is YES. This method is invoked automatically in response to user actions; you should rarely need to invoke it directly. *theEvent* is usually the mouse event that triggered editing; it can be **nil** when starting an edit programmatically.

This method scrolls the receiver so that the cell is visible, sets up the field editor, and sends **selectWithFrame:inView:editor:delegate:start:length:** and **editWithFrame:inView:editor:delegate:event:** to the field editor's NSCell object with the NSTableView as the text delegate.

See also: – **isEditable**, – **editedColumn**, – **editedRow**

editedColumn

– (int)**editedColumn**

If sent during **editColumn:row:withEvent:select:** returns the index of the column being edited; otherwise returns –1.

editedRow

– (int)**editedRow**

If sent during **editColumn:row:withEvent:select:** returns the index of the row being edited; otherwise returns –1.

frameOfCellAtColumn:row:

– (NSRect)**frameOfCellAtColumn:**(int)*columnIndex* **row:**(int)*rowIndex*

Returns a rectangle locating the cell that lies at the intersection of *columnIndex* and *rowIndex*. Returns NSZeroRect if *columnIndex* or *rowIndex* are greater than the number of columns or rows in the NSTableView.

The result of this method is used in a **drawWithFrame:inView:** message to the NSTableColumn's data cell.

See also: – **rectOfColumn:**, – **rectOfRow:**

gridColor

– (NSColor *)**gridColor**

Returns the color used to draw grid lines. The default color is gray.

See also: – **drawsGrid**, – **drawGridInClipRect:**, – **setGridColor:**

headerView

– (NSTableHeaderView *)**headerView**

Returns the NSTableHeaderView used to draw headers over columns, or **nil** if the NSTableView has no header view. See the class description and the NSTableHeaderView class specification for more information.

See also: – **setHeaderView:**

highlightSelectionInClipRect:

– (void)**highlightSelectionInClipRect:**(NSRect)*clipRect*

Highlights the region of the receiver in *clipRect*. This method is invoked before **drawRow:clipRect:**.

Subclasses can override this method to change the manner in which they highlight selections.

See also: – **drawGridInClipRect:**

initWithFrame:

– (id)**initWithFrame:**(NSRect)*frameRect*

Initializes a newly allocated NSTableView with *frameRect* as its frame rectangle. The new NSTableView has a header view but has no columns; you can create NSTableColumn objects, set their titles and attributes, and add them to the new NSTableView with **addTableColumn:**. You must also set the NSTableView up in an NSScrollView with NSScrollView's **setDocView:** method. This is the designated initializer for the NSTableView class. Returns **self**.

It's usually more convenient to create an NSTableView using Interface Builder. Interface Builder lets you create an NSTableView already embedded in an NSScrollView, add and name the columns, and set up a data source.

intercellSpacing

– (NSSize)**intercellSpacing**

Returns the horizontal and vertical spacing between cells. The default spacing is (3.0, 2.0).

See also: – **setDrawsGrid:**, **– setIntercellSpacing:**

isColumnSelected:

– (BOOL)**isColumnSelected:**(int)*columnIndex*

Returns YES if the column at *columnIndex* is selected, NO otherwise.

See also: – **selectedColumn**, – **selectedColumnEnumerator**, – **selectColumn:byExtendingSelection:**

isRowSelected:

– (BOOL)**isRowSelected:**(int)*rowIndex*

Returns YES if the row at *rowIndex* is selected, NO otherwise.

See also: – **selectedRow**, – **selectedRowEnumerator**, – **selectRow:byExtendingSelection:**

moveColumn:toColumn:

– (void)**moveColumn:**(int)*columnIndex* **toColumn:**(int)*newIndex*

Moves the column and heading at *columnIndex* to *newIndex*, inserting the column before the existing column at *newIndex*.

This method posts NSTableViewColumnDidMoveNotification to the default notification center.

noteNumberOfRowsChanged

– (void)**noteNumberOfRowsChanged**

Informs the receiver that the number of records in its data source has changed, allowing the receiver to update the scrollers in its NSScrollView without actually reloading data into the receiver. It's useful for a data source that continually receives data in the background over a period of time, in which case the NSTableView can remain responsive to the user while the data is received.

See the NSTableDataSource informal protocol specification for information on the messages an NSTableView sends to its data source.

See also: – **reloadData**, – **numberOfRowsInTableView:** (NSTableDataSource informal protocol)

numberOfColumns

– (int)**numberOfColumns**

Returns the number of columns in the receiver.

See also: – **numberOfRows**

numberOfRows

– (int)**numberOfRows**

Returns the number of rows in the receiver.

See also: – **numberOfColumns**, – **numberOfRowsInTableView:** (NSTableDataSource informal protocol)

numberOfSelectedColumns

– (int)**numberOfSelectedColumns**

Returns the number of selected columns.

See also: – **numberOfSelectedRows**, – **selectedColumnEnumerator**

numberOfSelectedRows

– (int)**numberOfSelectedRows**

Returns the number of selected rows.

See also: – **numberOfSelectedColumns**, – **selectedRowEnumerator**

rectOfColumn:

– (NSRect)**rectOfColumn:**(int)*columnIndex*

Returns the rectangle containing the column at *columnIndex*. Raises an NSInternalInconsistencyException if *columnIndex* lies outside the range of valid column indices for the NSTableView.

See also: – **frameOfCellAtColumn:row:**, – **rectOfRow:**,
– **headerRectOfColumn:** (NSTableHeaderView)

rectOfRow:

– (NSRect)**rectOfRow:**(int)*rowIndex*

Returns the rectangle containing the row at *rowIndex*. Raises an NSInternalInconistencyException if *columnIndex* lies outside the range of valid column indices for the receiver.

See also: – **frameOfCellAtColumn:row:**, – **rectOfColumn:**

reloadData

– (void)**reloadData**

Marks the receiver as needing redisplay, so that it will reload the data for visible cells and draw the new values.

See also: – **noteNumberOfRowsChanged**

removeTableColumn:

– (void)**removeTableColumn:**(NSTableColumn *)*aTableColumn*

Deletes *aTableColumn* from the receiver.

See also: – **sizeLastColumnToFit**, – **sizeToFit**, – **addTableColumn:**

rowAtPoint:

– (int)**rowAtPoint:**(NSPoint)*aPoint*

Returns the index of the row that *aPoint* lies in, or –1 if *aPoint* lies outside the receiver's bounds.

See also: – **columnAtPoint:**

rowHeight

– (float)**rowHeight**

Returns the height of each row in the receiver. The default row height is 16.0.

See also: – **setRowHeight:**

rowsInRect:

– (NSRange)**rowsInRect:**(NSRect)*aRect*

Returns a range of indices for the rows that lie wholly or partially within the vertical boundaries of *aRect*; the location of the range is the first such row's index, and the length is the number of rows that lie in *aRect*. Both the width and height of *aRect* must be nonzero values, or **columnsInRect:** returns an NSRange whose length is zero.

See also: – **columnsInRect:**

scrollColumnToVisible:

– (void)**scrollColumnToVisible:**(int)*columnIndex*

Scrolls the receiver and header view horizontally in an enclosing NSClipView so that the column specified by *columnIndex* is visible.

See also: – **scrollRowToVisible:**, – **scrollToPoint:** (NSClipView)

scrollRowToVisible:

– (void)**scrollRowToVisible:**(int)*rowIndex*

Scrolls the receiver vertically in an enclosing NSClipView so that the row specified by *rowIndex* is visible.

See also: – **scrollColumnToVisible:**, – **scrollToPoint:** (NSClipView)

selectAll:

– (void)**selectAll:**(id)*sender*

If the table allows multiple selection, selects all rows or all columns, according to whether rows or columns were most recently selected; otherwise does nothing. Posts NSTableViewSelectionDidChangeNotification to the default notification center if the selection does in fact change.

As a target-action method, **selectAll:** checks with the delegate before changing the selection.

See also: – **allowsMultipleSelection**, – **deselectAll:**, – **selectColumn:byExtendingSelection:**

selectColumn:byExtendingSelection:

– (void)**selectColumn:**(int)*columnIndex* **byExtendingSelection:**(BOOL)*flag*

Selects the column at *columnIndex*, regardless of whether column selection is allowed. If flag is NO, deselects all before selecting the new column. Raises an NSInternalInconistencyException if multiple selection isn't allowed and *flag* is YES. Posts NSTableViewSelectionDidChangeNotification to the default notification center if the selection does in fact change.

This method doesn't check with the delegate before changing the selection. If the user is editing a cell, editing is simply forced to end and the selection is changed.

See also: – **allowsMultipleSelection**, – **allowsColumnSelection**, – **deselectColumn:**, – **selectedColumn**, – **selectRow:byExtendingSelectoin:**

selectedColumn

– (int)**selectedColumn**

Returns the index of the last column selected or added to the selection, or –1 if no column is selected.

See also: – **selectedColumnEnumerator**, – **numberOfSelectedColumns**, – **selectColumn:byExtendingSelection:**, – **deselectColumn:**

selectedColumnEnumerator

– (NSEnumerator *)**selectedColumnEnumerator**

Returns an object that enumerates the indices of the selected columns as NSNumbers.

See also: – **numberOfSelectedColumns**, – **selectedColumn**, – **selectedRowEnumerator**

selectedRow

– (int)**selectedRow**

Returns the index of the last row selected or added to the selection, or –1 if no row is selected.

See also: – **selectedRowEnumerator**, – **numberOfSelectedRows**, – **selectRow:byExtendingSelection:** – **deselectRow:**

selectedRowEnumerator

– (NSEnumerator *)**selectedRowEnumerator**

Returns an object that enumerates the indices of the selected rows as NSNumbers.

See also: – **numberOfSelectedRows**, – **selectedRow**, – **selectedColumnEnumerator**

selectRow:byExtendingSelection:

– (void)**selectRow:**(int)*rowIndex* **byExtendingSelection:**(BOOL)*flag*

Selects the row at *rowIndex*. If flag is NO, deselects all before selecting the new row. Raises an NSInternalInconistencyException if multiple selection isn't allowed and flag is YES. Posts NSTableViewSelectionDidChangeNotification to the default notification center if the selection does in fact change.

This method doesn't check with the delegate before changing the selection. If the user is editing a cell, editing is simply forced to end and the selection is changed.

See also: – **allowsMultipleSelection**, – **allowsRowSelection**, – **deselectRow:**, – **selectedRow**, – **selectColumn:byExtendingSelectoin:**

setAllowsColumnReordering:

– (void)**setAllowsColumnReordering:**(BOOL)*flag*

Controls whether the user can drag column headers to reorder columns. If *flag* is YES the user can reorder columns; if *flag* is NO the user can't. The default is YES. You can rearrange columns programmatically regardless of this setting.

See also: – **moveColumn:toColumn:**, – **allowsColumnReordering**

setAllowsColumnResizing:

– (void)**setAllowsColumnResizing:**(BOOL)*flag*

Controls whether the user can resize columns by dragging between headers. If *flag* is YES the user can resize columns; if *flag* is NO the user can't. The default is YES. You can resize columns programmatically regardless of this setting.

See also: – **setWidth:** (NSTableColumn), – **allowsColumnResizing**

setAllowsColumnSelection:

– (void)**setAllowsColumnSelection:**(BOOL)*flag*

Controls whether the user can select an entire column by clicking its header. If *flag* is YES the user can select columns; if *flag* is NO the user can't. The default is YES. You can select columns programmatically regardless of this setting.

See also: – **selectColumn:byExtendingSelection:**, – **setAllowsColumnReordering:**, – **allowsColumnSelection**

setAllowsEmptySelection:

– (void)**setAllowsEmptySelection:**(BOOL)*flag*

Controls whether the receiver allows zero rows or columns to be selected. If *flag* is YES empty selection is allowed; if *flag* is NO it isn't. The default is YES.

You can *not* set an empty selection programmatically if empty selection is disallowed, unlike with the other settings that affect selection behavior.

See also: – **deselectAll:**, – **deselectColumn:**, – **deselectRow:**, – **allowsEmptySelection**

setAllowsMultipleSelection:

– (void)**setAllowsMultipleSelection:**(BOOL)*flag*

Controls whether the user can select more than one row or column at a time. If *flag* is YES the user can select multiple rows or columns; if *flag* is NO the user can't. The default is NO. You can select multiple columns or rows programmatically regardless of this setting.

See also: – **selectColumn:byExtendingSelection:**, – **selectRow:byExtendingSelection:**, – **allowsMultipleSelection**

setAutoresizesAllColumnsToFit

– (void)**setAutoresizesAllColumnsToFit:**(BOOL)*flag*

Controls whether the receiver proportionally resizes its columns to fit when its superview's frame changes. If *flag* is YES, the difference in width is distributed among the receiver's table columns; if *flag* is NO, only the last column is resized to fit.

See also: – **autoresizesAllColumnsToFit**, – **sizeLastColumnToFit**, – **sizeToFit**

setBackgroundColor:

– (void)**setBackgroundColor:**(NSColor *)*aColor*

Sets the receiver's background color to *aColor.*

See also: – **setNeedsDisplay:** (NSView), – **backgroundColor**

setCornerView:

– (void)**setCornerView:**(NSView *)*aView*

Sets the receiver's corner view to *aView.* The default corner view merely draws a bezeled rectangle using a blank NSTableHeaderCell, but you can replace it with a custom view that displays an image or with a control that can handle mouse events, such as a select-all button. Your custom corner view should be as wide as a vertical NSScroller and as tall as the receiver's header view.

See also: – **setHeaderView:**, – **cornerView**

setDataSource:

– (void)**setDataSource:**(id)*anObject*

Sets the receiver's data source to *anObject* and invokes **tile**. *anObject* should implement the appropriate methods of the NSTableDataSource informal protocol.

This method raises an NSInternalInconistencyException if *anObject* doesn't respond to either **numberOfRowsInTableView:** or **tableView:objectValueForTableColumn:row:**.

See also: – **dataSource**

setDelegate:

– (void)**setDelegate:**(id)*anObject*

Sets the receiver's delegate to *anObject*.

See also: – **delegate**

setDoubleAction:

– (void)**setDoubleAction:**(SEL)*aSelector*

Sets to *aSelector* the message sent to the target when the user double-clicks an uneditable cell or a column header. If the double-clicked cell is editable, this message isn't sent and the cell is edited instead. You can use this method to implement features such as sorting records according to the column that was double-clicked.

See also: – **setAction:** (NSControl), – **setTarget:** (NSControl), – **doubleAction**

setDrawsGrid:

– (void)**setDrawsGrid:**(BOOL)flag

Controls whether the receiver draws grid lines around cells. If *flag* is YES it does; if flag is NO it doesn't. The default is YES.

See also: – **setGridColor:**, – **drawGridInClipRect:**, – **drawsGrid**

setGridColor:

– (void)**setGridColor:**(NSColor *)*aColor*

Sets the color used to draw grid lines to *aColor*. The default color is gray.

See also: – **setDrawsGrid:**, – **drawGridInClipRect:**, – **gridColor**

setHeaderView:

– (void)**setHeaderView:**(NSTableHeaderView *)*aHeaderView*

Sets the receiver's header view to *aHeaderView*.

See also: – **setCornerView:**, – **headerView**

setIntercellSpacing:

– (void)**setIntercellSpacing:**(NSSize)*aSize*

Sets the width and height between cells to those in *aSize* and redisplays the receiver. The default intercell spacing is (3.0, 2.0).

See also: – **intercellSpacing**

setRowHeight:

– (void)**setRowHeight:**(float)*rowHeight*

Sets the height for rows to *rowHeight* and invokes **tile**.

See also: – **rowHeight**

sizeLastColumnToFit

– (void)**sizeLastColumnToFit**

Resizes the last column if there's room so that the receiver fits exactly within its enclosing NSClipView.

See also: – **setAutoresizesAllColumnsToFit:**, – **minWidth** (NSTableColumn), – **maxWidth** (NSTableColumn)

sizeToFit

– (void)**sizeLastColumnToFit**

Resizes columns if there's room so that all fit in the enclosing NSClipView and so all but the last are just wide enough to display their titles and values. This method first sets all columns to their minimum widths; then divides among the columns the space remaining to fill the width of the NSScrollView.

See also: – **setAutoresizesAllColumnsToFit:**, – **minWidth** (NSTableColumn), – **maxWidth** (NSTableColumn)

tableColumns

– (NSArray *)**tableColumns**

Returns the NSTableColumns in the receiver.

tableColumnWithIdentifier:

– (NSTableColumn *)**tableColumnWithIdentifier:**(id)*anObject*

Returns the NSTableColumn object for the first column whose identifier is equal to *anObject*, as compared using **isEqual:**, or **nil** if no columns are found with the specified identifier.

See also: – **columnWithIdentifier:**

textDidBeginEditing:

– (void)**textDidBeginEditing:**(NSNotification *)*aNotification*

Posts an NSControlTextDidBeginEditingNotification to the default notification center, as described in the NSControl class specification. *aNotification* is the NSNotification posted by the field editor; see the NSText class specifications for more information on this text delegate method.

See also: – **textShouldBeginEditing:**

textDidChange:

– (void)**textDidChange:**(NSNotification *)*aNotification*

Sends **textDidChange:** to the edited cell, and posts an NSControlTextDidChangeNotification to the default notification center, as described in the NSControl class specification. *aNotification* is the NSNotification posted by the field editor; see the NSText class specifications for more information on this text delegate method.

textDidEndEditing:

– (void)**textDidEndEditing:**(NSNotification *)*aNotification*

Updates the data source based on the newly-edited value and selects another cell for editing if possible according to the character that ended editing (Return, Tab, Backtab). *aNotification* is the NSNotification posted by the field editor; see the NSText class specifications for more information on this text delegate method.

See also: – **textShouldEndEditing:**

textShouldBeginEditing:

– (BOOL)**textShouldBeginEditing:**(NSNotification *)*aNotification*

Queries the delegate using **control:textShouldBeginEditing:**, returning the delegate's response, or simply returning YES to allow editing if the delegate doesn't respond to that method. *aNotification* is the NSNotification posted by the field editor; see the NSText class specifications for more information on this text delegate method.

See also: – **textDidBeginEditing:**

textShouldEndEditing:

– (BOOL)**textShouldEndEditing:**(NSNotification *)*aNotification*

Validates the cell being edited and queries the delegate using **control:textShouldEndEditing:**, returning the delegate's response if it responds to that method. If it doesn't, it returns YES if the cell's new value is valid and NO if it isn't. *aNotification* is the NSNotification posted by the field editor; see the NSText class specifications for more information on this text delegate method.

See also: – **textDidEndEditing:**

tile

– (void)**tile**

Properly sizes the receiver and its header view, and marks it as needing display. Also resets cursor rectangles for the header view and line scroll amounts for the NSScrollView.

See also: – **setNeedsDisplay:** (NSView)

Methods Implemented By the Delegate

selectionShouldChangeInTableView:

– (BOOL)**selectionShouldChangeInTableView:**(NSTableView *)*aTableView*

Returns YES to permit *aTableView* to change its selection (typically a row being edited), NO to deny permission. The user can select and edit different cells within the same row, but can't select another row unless the delegate approves. The delegate can implement this method for complex validation of edited rows based on the values of any of their cells.

tableView:shouldEditTableColumn:row:

– (BOOL)**tableView:**(NSTableView *)*aTableView*
  shouldEditTableColumn:(NSTableColumn *)*aTableColumn*
  row:(int)*rowIndex*

Returns YES to permit *aTableView* to edit the cell at *rowIndex* in *aTableColumn*, NO to deny permission. The delegate can implement this method to disallow editing of specific cells.

tableView:shouldSelectRow:

– (BOOL)**tableView:**(NSTableView *)*aTableView*
  shouldSelectRow:(int)*rowIndex*

Returns YES to permit *aTableView* to select the row at *rowIndex*, NO to deny permission. The delegate can implement this method to disallow selection of particular rows.

tableView:shouldSelectTableColumn:

– (BOOL)**tableView:**(NSTableView *)*aTableView*
  shouldSelectTableColumn:(NSTableColumn *)*aTableColumn*

Returns YES to permit *aTableView* to select *aTableColumn*, NO to deny permission. The delegate can implement this method to disallow selection of particular columns.

tableView:willDisplayCell:forTableColumn:row:

– (void)**tableView:**(NSTableView *)*aTableView*
  willDisplayCell:(id)*aCell*
  forTableColumn:(NSTableColumn *)*aTableColumn*
  row:(int)*rowIndex*

Informs the delegate that *aTableView* will display the cell at *rowIndex* in *aTableColumn* using *aCell*. The delegate can modify the display attributes of *aCell* to alter the appearance of the cell. Since *aCell* is reused for every row in *aTableColumn*, the delegate must set the display attributes both when drawing special cells and when drawing normal cells.

tableViewColumnDidMove:

– (void)**tableViewColumnDidMove:**(NSNotification *)*aNotification*

Informs the delegate that a column was moved by user action in the NSTableView. *aNotification* is an NSTableViewColumnDidMoveNotification.

tableViewColumnDidResize:

– (void)**tableViewColumnDidResize:**(NSNotification *)*aNotification*

Informs the delegate that a column was resized in the NSTableView. *aNotification* is an NSTableViewColumnDidResizeNotification.

tableViewSelectionDidChange:

– (void)**tableViewSelectionDidChange:**(NSNotification *)*aNotification*

Informs the delegate that the NSTableView’s selection has changed. *aNotification* is an NSTableViewSelectionDidChangeNotification.

tableViewSelectionIsChanging:

– (void)**tableViewSelectionIsChanging:**(NSNotification *)*aNotification*

Informs the delegate that the NSTableView’s selection is in the process of changing (typically because the user is dragging the mouse across a number of rows). *aNotification* is an NSTableViewSelectionIsChangingNotification.

Notifications

NSTableViewColumnDidMoveNotification

Posted whenever a column is moved by user action in the NSTableView. The notification contains:

Notification Object	The NSTableView in which a column moved.
Userinfo	

Key	Value
NSOldColumn	The column’s original index (an NSNumber)
NSNewColumn	The column’s present index (an NSNumber)

See also: – **moveColumn:toColumn:**

NSTableViewColumnDidResizeNotification

Posted whenever a column is resized in the NSTableView. The notification contains:

Notification Object	The NSTableView in which a column was resized.
Userinfo	

Key	Value
NSOldWidth	The column’s original width (an NSNumber)

NSTableViewSelectionDidChangeNotification

Posted after the NSTableView's selection changes. The notification contains:

Notification Object	The NSTableView whose selection changed.
Userinfo	None

NSTableViewSelectionIsChangingNotification

Posted as the NSTableView's selection changes (while the mouse is still down). The notification contains:

Notification Object	The NSTableView whose selection is changing.
Userinfo	None