



Inserting and Deleting Rows and Sections

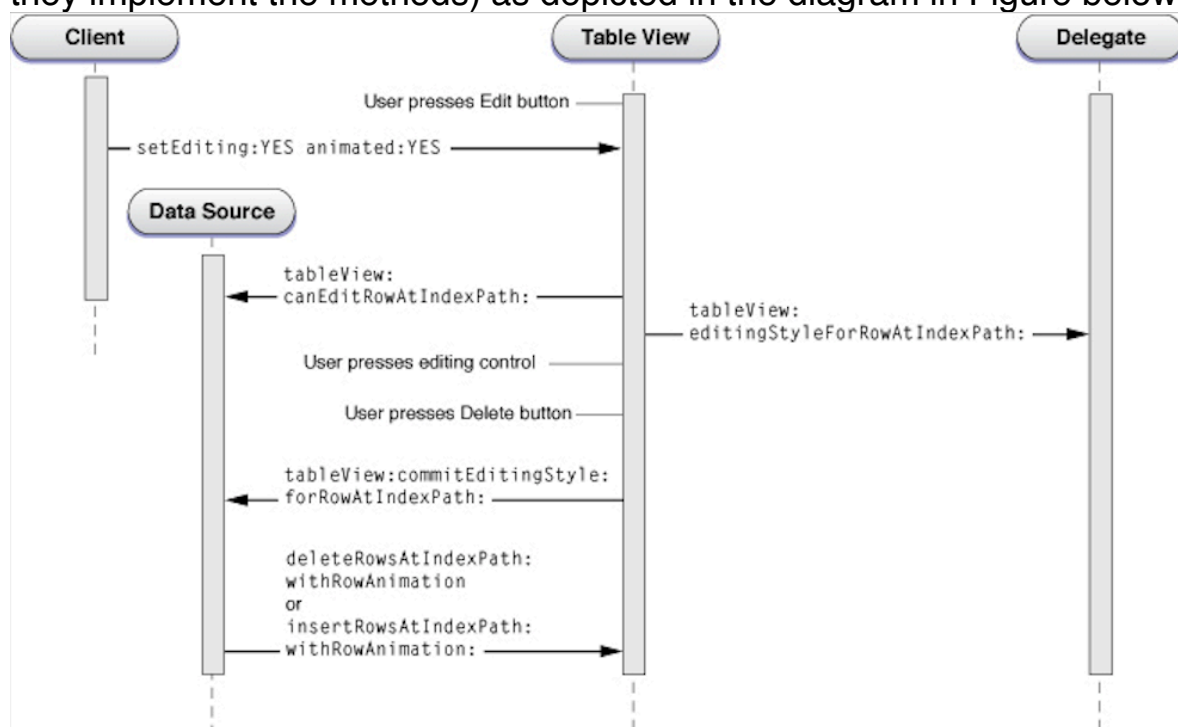
| | |
|---|-------------------|
|  | Deletion control |
|  | Insertion control |

Inserting and Deleting Rows in Editing Mode

> When a Table View is Edited

1. A table view goes into editing mode when it receives a `setEditing:animated:` message.

2. When a table view receives `setEditing:animated:`, it sends the same message to the `UITableViewCell` object for each visible row. Then it sends a succession of messages to its data source and its delegate (if they implement the methods) as depicted in the diagram in Figure below.



3. When the user swipes across a row to display the Delete button for

that row, the table view first checks to see if its data source has implemented the `tableView:commitEditingStyle:forRowAtIndexPath:` method; if this is so, it sends `setEditing:animated:` to itself and enters the editing mode.

> An Example of Deleting a Table-View Row

1. View controller responding to `setEditing:animated:`

```
- (void)setEditing:(BOOL)editing animated:(BOOL)animated {  
    [super setEditing:editing animated:animated];  
    [tableView setEditing:editing animated:YES];  
    if (editing) {  
        addButton.enabled = NO;  
    } else {  
        addButton.enabled = YES;  
    }  
}
```

2. Customizing the editing style of rows

```
- (UITableViewCellEditingStyle)tableView:(UITableView *)tableView  
editingStyleForRowAtIndexPath:(NSIndexPath *)indexPath {  
    SimpleEditableListAppDelegate *controller =  
    (SimpleEditableListAppDelegate *)[[UIApplication sharedApplication]  
delegate];  
    if (indexPath.row == [controller countOfList]-1) {  
        return UITableViewCellEditingStyleInsert;  
    } else {  
        return UITableViewCellEditingStyleDelete;  
    }  
}
```

3. Updating the data-model array and deleting the row

```
- (void)tableView:(UITableView *)tableView commitEditingStyle:  
(UITableViewCellEditingStyle)editingStyle forRowAtIndexPath:  
(NSIndexPath *)indexPath {  
    // If row is deleted, remove it from the list.  
    if (editingStyle == UITableViewCellEditingStyleDelete) {  
        SimpleEditableListAppDelegate *controller =  
        (SimpleEditableListAppDelegate *)[[UIApplication sharedApplication]  
delegate];  
        [controller removeObjectFromListAtIndex:indexPath.row];  
        [tableView deleteRowsAtIndexPaths:[NSArray
```

```

arrayWithObject:indexPath]
withRowAnimation:UITableViewRowAnimationFade];
    }
}

```

> An Example of Adding a Table-View Row

1. Responding to a tap on the Add button

```

- (void)addItem:sender {
    if (itemInputController == nil) {
        itemInputController = [[ItemInputController alloc] init];
    }
    UINavigationController *navigationController =
[[UINavigationController alloc]
initWithRootViewController:itemInputController];
    [[self navigationController]
presentModalViewController:navigationController animated:YES];
}

```

2. Adding the new item to the data-model array

```

- (void)save:sender {

    UITextField *textField = [(EditableTableViewTextField *)[tableView
cellForRowAtIndex:[NSIndexPath indexPathForRow:0 inSection:0]]
textField];

    SimpleEditableListAppDelegate *controller =
(SimpleEditableListAppDelegate *)[UIApplication sharedApplication]
delegate];
    NSString *newItem = textField.text;
    if (newItem != nil) {
        [controller insertObject:newItem inListAtIndex:[controller
countOfList]];
    }
    [self dismissModalViewControllerAnimated:YES];
}

```

Batch Insertion, Deletion, and Reloading of Rows and Sections

1. Batch insertion and deletion methods

```

- (void)beginUpdates;
- (void)endUpdates;

```

```

- (void)insertSections:(NSIndexSet *)sections withRowAnimation:
(UItableViewRowAnimation)animation;
- (void)deleteSections:(NSIndexSet *)sections withRowAnimation:
(UItableViewRowAnimation)animation;
- (void)reloadSections:(NSIndexSet *)sections withRowAnimation:
(UItableViewRowAnimation)animation;

- (void)insertRowsAtIndexPaths:(NSArray *)indexPaths
withRowAnimation: (UItableViewRowAnimation)animation;
- (void)deleteRowsAtIndexPaths:(NSArray *)indexPaths
withRowAnimation: (UItableViewRowAnimation)animation;
- (void)reloadRowsAtIndexPaths:(NSArray *)indexPaths
withRowAnimation:(UItableViewRowAnimation)animation;

```

> An Example of Batched Insertion and Deletion Operations

1. Inserting and deleting a block of rows in a table view

```

- (IBAction)insertAndDeleteRows:(id)sender {
    // original rows: Arizona, California, Delaware, New Jersey,
    Washington

    [states removeObjectAtIndex:4]; // Washington
    [states removeObjectAtIndex:2]; // Delaware
    [states insertObject:@"Alaska" atIndex:0];
    [states insertObject:@"Georgia" atIndex:3];
    [states insertObject:@"Virginia" atIndex:5];

    NSArray *deleteIndexPaths = [NSArray arrayWithObjects:
                                   [NSIndexPath indexPathForRow:2 inSection:0],
                                   [NSIndexPath indexPathForRow:4 inSection:0],
                                   nil];
    NSArray *insertIndexPaths = [NSArray arrayWithObjects:
                                   [NSIndexPath indexPathForRow:0 inSection:0],
                                   [NSIndexPath indexPathForRow:3 inSection:0],
                                   [NSIndexPath indexPathForRow:5 inSection:0],
                                   nil];

    UITableView *tv = (UITableView *)self.view;

    [tv beginUpdates];
    [tv insertRowsAtIndexPaths:insertIndexPaths
withRowAnimation:UITableViewRowAnimationRight];
    [tv deleteRowsAtIndexPaths:deleteIndexPaths

```

```
withRowAnimation:UITableViewRowAnimationFade];  
[tv endUpdates];  
  
    // ending rows: Alaska, Arizona, California, Georgia, New Jersey,  
    Virginia  
}
```

> Ordering of Operations and Index Paths