

Drag and Drop

Overview

Powered by Intersoft's unique *DragDrop Framework 2007* architecture, you can enjoy pixel-perfect sensitivity of drag-and-drop in WebTreeView control. This can be done easily by setting the **AllowDragDrop** property to *True*.

There are four properties that you can set in the **DragDropSettings** to customize the node drag drop behaviors :

- **AllowChildDrop**
This property allows you to control a node's drop ability, set it to *True* and a node can be dropped on a child node. The default value is *False*.
- **AllowRootDrop**
Setting this property to *True* to allow nodes to be dropped on root node. The default value is *False*.
- **AllowSiblingDrop**
Setting this property to *True* to allow nodes to be dropped on target's sibling node. The default value is *False*.
- **AllowLeafDrop**
Setting this property to *True* to allow nodes to be dropped into node which type is Leaf. Leaf type is the node without children. The default value of this property is *False*.

WebTreeView.NET includes comprehensive drag and drop support with ability to combine four behaviors at once. For instance, you can enable both *AllowLeafDrop* and *AllowSiblingDrop* to enable child move and item reposition. You can also enable *AllowChildDrop*, *AllowSiblingDrop* and *AllowLeafDrop* at once to create more powerful drag and drop behavior.

While you can easily enable the drag and drop feature at global level by setting the **AllowDragDrop** property to *True*, you also have the flexibility to control the drag and drop ability at node level. For instance, you can specify individual node to disallow the drag behavior by setting the **AllowDrag** property of the *WebTreeNode* to *False*. The same goes true for **AllowDrop** property.

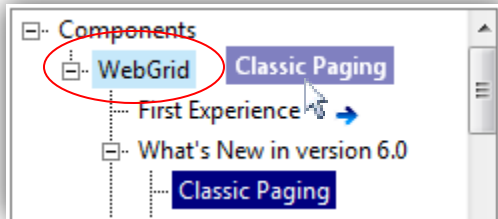
The drag and drop feature also work perfectly in conjunction with **multiple selection** feature. You can select multiple nodes by using Ctrl+Click approach, or Ctrl+Shift for batch selection. You can then initiate drag operation by dragging one of the selected node.

Drag Drop Visual Hints

By default, all drag and drop operations in WebTreeView will initiate a “Move” operation. There are several visual hints that allow you to understand the status of the drag drop behavior:

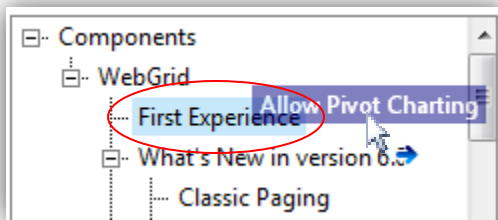
- **Move into Parent**

This action is marked with a changing background style of the target node. This behavior is enabled when *AllowChildDrop* is enabled. See following image:



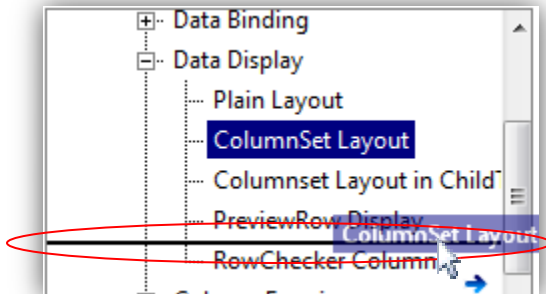
- **Move into Leaf**

This action is marked with a changing background style of the target node. This behavior is enabled when *AllowLeafDrop* is enabled. See following image:



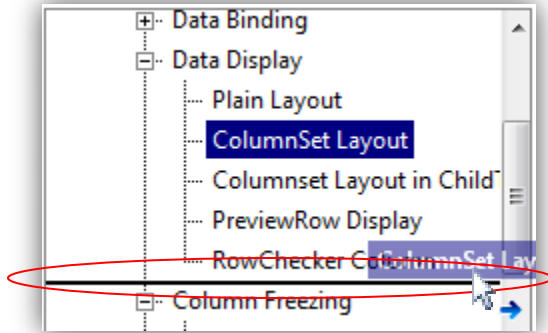
- **Move Before Node**

This action is marked with a line indicator above the desired target node. The drop result will move the dragged node to the position before target node. This behavior is enabled when *AllowSiblingDrop* is enabled. See following image:



- **Move After Node**

This action is marked with a line indicator below the desired target node. The drop result will move the dragged node to the position after target node. This behavior is enabled when *AllowSiblingDrop* is enabled. See following image:



Automatic Drag Drop Behaviors

The behaviors and drag drop implementation in WebTreeView.NET are mostly automatic so you can create powerful Treeview presentation with drag and drop ability in shorter time and less efforts.

The automatic behaviors are:

- When a parent node is drag-and-dropped to another node, the child node will always follow its parent node. This is the default behavior of WebTreeView.NET.
- When a node is dropped to another node's sibling, the dragged node will be moved to the target node's position.
- When a node is dropped to a leaf node, the dragged node will be moved into the leaf node, and the leaf node will be converted to parent node.
- When the drag selection contains multiple nodes, the selected nodes will be moved including its children if any.
- When the dragged mouse cursor is moved near to the most bottom boundary of the control's dimension, the Treeview will be automatically scrolled down. The same goes true for automatic scrolling up. This feature is also called **Auto Scroll on Drag**.

The drag drop constraints are:

- You can't perform drag and drop when the dragged selection contains nodes from different level/depth.
- You can't move a source node into destination node which is under the source node.
- When custom objects are dropped into WebTreeView, the built-in WebTreeView's drag drop behavior will not be processed. You can handle custom drop implementation in **OnDragDrop** client side event.

Drag Drop Client Side Events

The drag drop feature in WebTreeView.NET exposes complete client side events which developers can implement to extend and customize the drag drop behaviors.

The client side events related to drag drop feature:

- **OnDragStart**
This event is invoked when a drag session is initiated by holding the left mouse button and moves the mouse. The parameters available to this event are *controlId*, *dragObject*.
- **OnDragEnd**
This event is invoked when a drag session has ended regardless of the drop status. This means the event will be invoked in any condition of the drop status (either in valid or invalid). The parameters available to this event are *controlId*, *dragObject*.
- **OnDragQuery**
This event is invoked when a target node is being queried for its status and information during drag operation. This event is very suitable to be consumed for customizing the **Effect** or **EffectText** of the drag session when it queries for a specific target node. The parameters available to this event are *controlId*, *dragEventArgs*, *dropContext*.
- **OnDragDrop**
This event is invoked when a drag session has ended with valid drop status. This means the event will only be invoked when the dragged node is dropped to a valid target node. This is a perfect event for developer to perform additional logic upon a successful drag drop session. For instance, you can perform some AJAX callbacks to save a certain state of data when a node is moved successfully to another node. The parameters available to this event are *controlId*, *dragData*, *dropContext*.

Auto Postback on DragDrop

By default all drag and drop actions are performed in client side. The hierarchy structure changes are stored in client side for best performance rather than post back on each drag drop operation. The node hierarchy changes will be submitted to the server side on the next Webform postback. In response, the OnDragDrop server side event will be raised followed by OnNodeMove for each moved nodes.

Despite the default behavior, in certain scenarios you may require complex server side operation to be executed upon successful drag drop operation. WebTreeView provides the feature that allows you to automatically perform full page postback upon each successful drag drop operation. This can be easily achieved by setting *AutoPostBackSettings.OnDragDrop* property to *True*.

Using this feature, you can also perform AJAX callback instead of full page postback during the drag drop operation. This feature is compatible with other AJAX Manager such as ASP.NET AJAX and WebFlyPostbackManager.

How-To: Set auto postback on drag drop operation

How-To: Handle server side OnDragDrop event

Integration with WebDragDropExtender component

Thanks to the powerful *Intersoft DragDrop Framework 2007* architecture, it enables the drag and drop feature in WebTreeView to be interoperable with other controls that implement the framework such as **WebDragDropExtender** control (a new family in WebDesktop.NET 2.5).

Since WebTreeView contains full implementation of drag drop at its product level, it doesn't require WebDragDropExtender component. In other words, the drag drop feature in WebTreeView can be used in standalone mode without the need of WebDragDropExtender.

In brief, WebTreeView allows you to perform drag and drop in consistent and reliable fashion with the same object model and event life cycle across various scenarios such as listed in the following:

- Perform drag and drop within the WebTreeView control itself.
- Perform drag operation from WebTreeView control and drop it to other control through WebDragDropExtender.
- Perform drag operation from other control through WebDragDropExtender and drop it to WebTreeView.

With the comprehensive drag and drop support in WebTreeView, you can build innovative Web application with many advanced scenarios that utilize drag and drop feature. For instance, you can allow your users to drag some items from WebGrid and drop it to the node of the WebTreeView.

In order to allow WebTreeView to accept drag from other controls, you simply need to set the **AllowDropFromOtherControls** property to *True*. The other drop behaviors will be determined by the **DragDropSettings** in the WebTreeView control itself.

How-To: Enable drag behavior in WebTreeView with ability to drop into Panel control using WebDragDropExtender.

Walkthrough: Enable WebTreeView to accept data items from WebGrid control.