**7 Navigation**

# **Menu**

The Menu UI component is a panel with clickable items. A click on an item opens a drop-down menu, which can contain several submenus.

We can display Menu *items* from the [items](https://js.devexpress.com/jQuery/Documentation/ApiReference/UI_Components/dxMenu/Configuration/items/) array or a [*dataSource*](https://js.devexpress.com/jQuery/Documentation/ApiReference/UI_Components/dxMenu/Configuration/#dataSource).

**Configure the Menu**

We can use the [*orientation*](https://js.devexpress.com/jQuery/Documentation/ApiReference/UI_Components/dxMenu/Configuration/#orientation) property to specify whether the Menu has horizontal or vertical orientation.Also we can use the [*animation*](https://js.devexpress.com/jQuery/Documentation/ApiReference/UI_Components/dxMenu/Configuration/animation/) property to specify the *type, delay, duration*, and other options of [*show*](https://js.devexpress.com/jQuery/Documentation/ApiReference/UI_Components/dxMenu/Configuration/animation/#show) and [*hide*](https://js.devexpress.com/jQuery/Documentation/ApiReference/UI_Components/dxMenu/Configuration/animation/#hide) menu actions.

**Configure the Submenus**

Clicking or a hovering a Menu item opens a drop-down menu that can contain several *submenus*. To specify drop-down menu mode (‘*onClick’* |’*onHover’*), use the  [*showSubmenuMode*](https://js.devexpress.com/jQuery/Documentation/ApiReference/UI_Components/dxMenu/Configuration/showSubmenuMode/)  property.

If we need only to specify the first level of drop-down menus, use the *[showFirstSubmenuMode](https://js.devexpress.com/jQuery/Documentation/ApiReference/UI_Components/dxMenu/Configuration/showFirstSubmenuMode/" \t "_blank)* property.

If we want to hide the submenu when the mouse pointer leaves it, set the *[hideSubmenuOnMouseLeave](https://js.devexpress.com/jQuery/Documentation/ApiReference/UI_Components/dxMenu/Configuration/" \l "hideSubmenuOnMouseLeave" \t "_blank)* property to **true**.

**Customize Item Appearance**

We can define specific fields in the item data objects to change the appearance of an item. For example, use the [icon](https://js.devexpress.com/jQuery/Documentation/ApiReference/UI_Components/dxMenu/Configuration/items/#icon) property to supply items with icons. Define an *[itemTemplate](https://js.devexpress.com/jQuery/Documentation/ApiReference/UI_Components/dxMenu/Configuration/" \l "itemTemplate" \t "_blank)* to customize item appearance.

# **TreeView**

The TreeView component displays a tree of text nodes from a local or remote source.

**Bind the TreeView to Data**

We use *dataSource* or items properties to bind the data.

The TreeView supports *plain* and *hierarchical* data structures. To use plain data, set the *[dataStructure](https://js.devexpress.com/jQuery/Documentation/21_1/ApiReference/UI_Components/dxTreeView/Configuration/" \l "dataStructure)* property to "*plain*". In this case, each data object should contain the [id](https://js.devexpress.com/jQuery/Documentation/21_1/ApiReference/UI_Components/dxTreeView/Configuration/items/#id), [text](https://js.devexpress.com/jQuery/Documentation/21_1/ApiReference/UI_Components/dxTreeView/Configuration/items/#text), and [parentId](https://js.devexpress.com/jQuery/Documentation/21_1/ApiReference/UI_Components/dxTreeView/Configuration/items/" \l "parentId) fields. If objects use custom field names, use the *[keyExpr](https://js.devexpress.com/jQuery/Documentation/21_1/ApiReference/UI_Components/dxTreeView/Configuration/" \l "keyExpr), [displayExpr](https://js.devexpress.com/jQuery/Documentation/21_1/ApiReference/UI_Components/dxTreeView/Configuration/" \l "displayExpr),* and*[parentIdExpr](https://js.devexpress.com/jQuery/Documentation/21_1/ApiReference/UI_Components/dxTreeView/Configuration/" \l "parentIdExpr)* properties to specify them.

Each object in the TreeView's *hierarchical* data structure should include the following fields:

[id](https://js.devexpress.com/jQuery/Documentation/ApiReference/UI_Components/dxTreeView/Configuration/items/#id)(Unique item identifier), [text](https://js.devexpress.com/jQuery/Documentation/ApiReference/UI_Components/dxTreeView/Configuration/items/#text)(Text displayed by the item), [items](https://js.devexpress.com/jQuery/Documentation/ApiReference/UI_Components/dxTreeView/Configuration/items/#items)(Nested objects (optional))

We can respectively use *the [keyExpr](https://js.devexpress.com/jQuery/Documentation/ApiReference/UI_Components/dxTreeView/Configuration/" \l "keyExpr" \t "_blank), [displayExpr](https://js.devexpress.com/jQuery/Documentation/ApiReference/UI_Components/dxTreeView/Configuration/" \l "displayExpr" \t "_blank),* and *[itemsExpr](https://js.devexpress.com/jQuery/Documentation/ApiReference/UI_Components/dxTreeView/Configuration/" \l "itemsExpr" \t "_blank)* properties to specify custom names for the above-mentioned fields.

**Customize Node Appearance**

We can use the *[itemTemplate](https://js.devexpress.com/jQuery/Documentation/21_1/ApiReference/UI_Components/dxTreeView/Configuration/" \l "itemTemplate)* property to specify a template for all. If we want to add a template for a specific node, we can use the [template](https://js.devexpress.com/jQuery/Documentation/21_1/ApiReference/UI_Components/dxTreeView/Configuration/items/#template) node's property. This setting overrides the global template.

We can also use additional fields to customize node appearance. For example, we can enable the [*expanded*](https://js.devexpress.com/jQuery/Documentation/21_1/ApiReference/UI_Components/dxTreeView/Configuration/items/#expanded) field for those nodes that should be expanded on startup.

## **Search Data**

The TreeView can display a search bar that allows users to search nodes. Enable the *[searchEnabled](https://js.devexpress.com/jQuery/Documentation/21_1/ApiReference/UI_Components/dxTreeView/Configuration/" \l "searchEnabled)* property to add the search bar. We can use the [*searchMode*](https://js.devexpress.com/jQuery/Documentation/21_1/ApiReference/UI_Components/dxTreeView/Configuration/#searchMode) property to specify whether nodes should *contain (default), start with*, or *match the search string*.

**Select Nodes**

To configure node selection, we can use the following properties:

[*selectByClick*](https://js.devexpress.com/jQuery/Documentation/21_1/ApiReference/UI_Components/dxTreeView/Configuration/#selectByClick) : Enables selection by a click.

[*showCheckBoxesMode*](https://js.devexpress.com/jQuery/Documentation/21_1/ApiReference/UI_Components/dxTreeView/Configuration/#showCheckBoxesMode) : Adds checkboxes if we set this property to “*none”,* "*normal*" or "*selectAll*". The latter mode additionally displays the "*Select All*" checkbox at the top of the TreeView.

[*selectionMode*](https://js.devexpress.com/jQuery/Documentation/21_1/ApiReference/UI_Components/dxTreeView/Configuration/#selectionMode) : Sets the selection mode to "*single*" or "*none*" (default).

[*onItemSelectionChanged*](https://js.devexpress.com/jQuery/Documentation/21_1/ApiReference/UI_Components/dxTreeView/Configuration/#onItemSelectionChanged): Specifies a function that is executed when a single node is selected or deselected.