

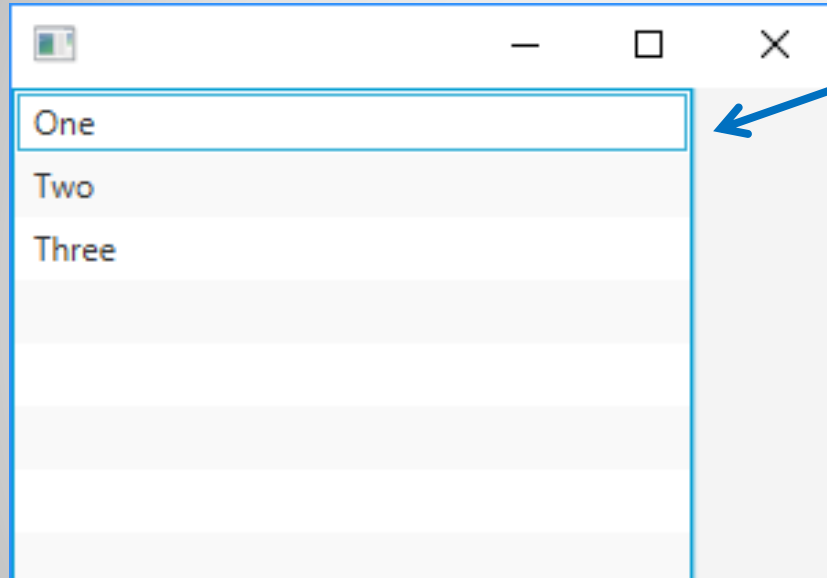
Java Programming

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- JavaFX
- Various control descriptions
 - ListView

Today's Lecture

- Display a collection of data.
- Users can select item(s).



ListView

**In Scene Builder you
can drag and drop a
ListView control on
to the window**

ListView

ListView

- Component used to display data.
- Does not inherently hold data itself.
- Uses another class to actually hold its data.

ListView

Does not hold data on
its own

ListView

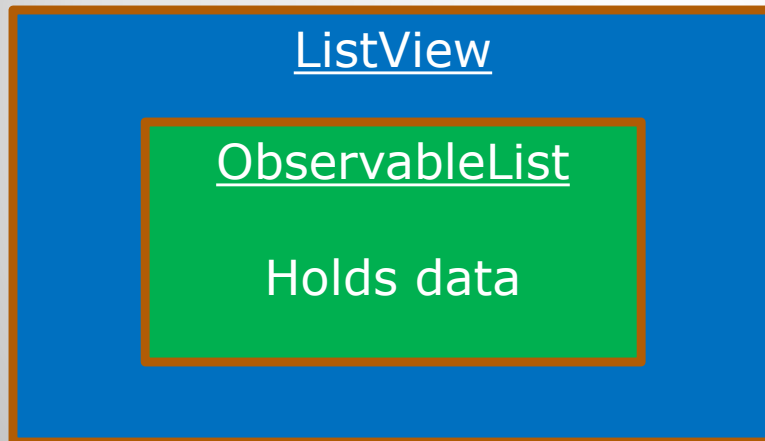
ObservableList

- Used by ListView to store data.
- Just a collection of data.
- Does not display data on its own (it is a member of the ListView class).



ObservableList

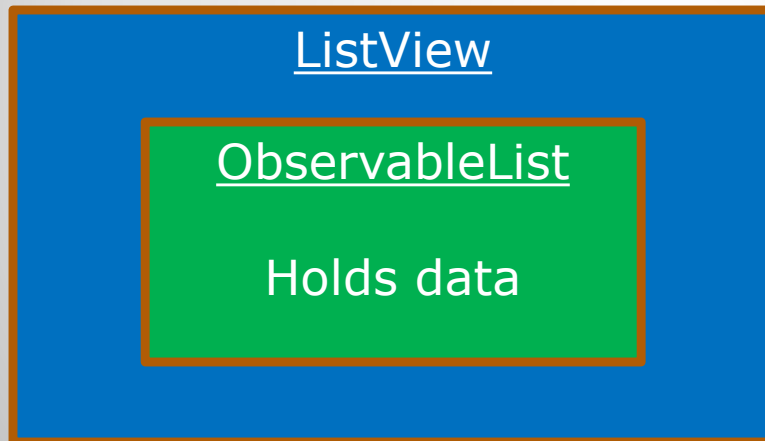
- ListView needs to be associated with an ObservableList.
- The ObservableList will hold the data for the ListView.
- ListView "has an" ObservableList (aggregation relationship).



**How do we
associate a
ObservableList
with a ListView?**

ListView "has a" ObservableList

- There is an Items member inside of the ListView.
- This Items member stores data that the ListView displays.
- For example:



**The
ObservableList
has the
ListView's data**

ListView "has an" ObservableList

- You must add data to the ListView's background collection to have it displayed in the ListView.
- First, get the background item collection from the ListView (an ObservableList).
- Second, add data to the background item collection.

```
@FXML
private ListView lv;

ObservableList<String> items = lv.getItems();

items.add("I love Java");
```

Must have a ListView member variable that is associated with the ListView in the FXML file

The getItems method will return the ListView's background item collection

Add the string "I love Java" to the ListView background item collection

Add Data to a ListView in Code

- Handle ListView Item Selection (controller code)

@FXML


private ListView<String> listViewItems;  **ListView FXML Id**

@FXML

protected void handleListViewItemsMouseClicked(MouseEvent event) {

ObservableList<String> observableList =

(ObservableList<String>) listViewItems.getItems();

**Get the background
collection**


**Get the selected item
index**


int selectedIndex = **listViewItems.getSelectionModel().getSelectedIndex();**

**Get the selected item
from the collection**


if (selectedIndex >= 0 && selectedIndex < observableList.size()) {

System.out.println("Selected Item: " + **observableList.get(selectedIndex)**);

}

}

ListView Selected Item

- Handle ListView Item Selection (FXML code)

FXML Id



ListView selection
event handler
method



```
<ListView fx:id="listViewItems" onMouseClicked="#handleListViewItemsMouseClicked">
```

```
</ListView>
```

ListView Selected Item

End of Slides