



Politecnico
di Torino



e-Lite



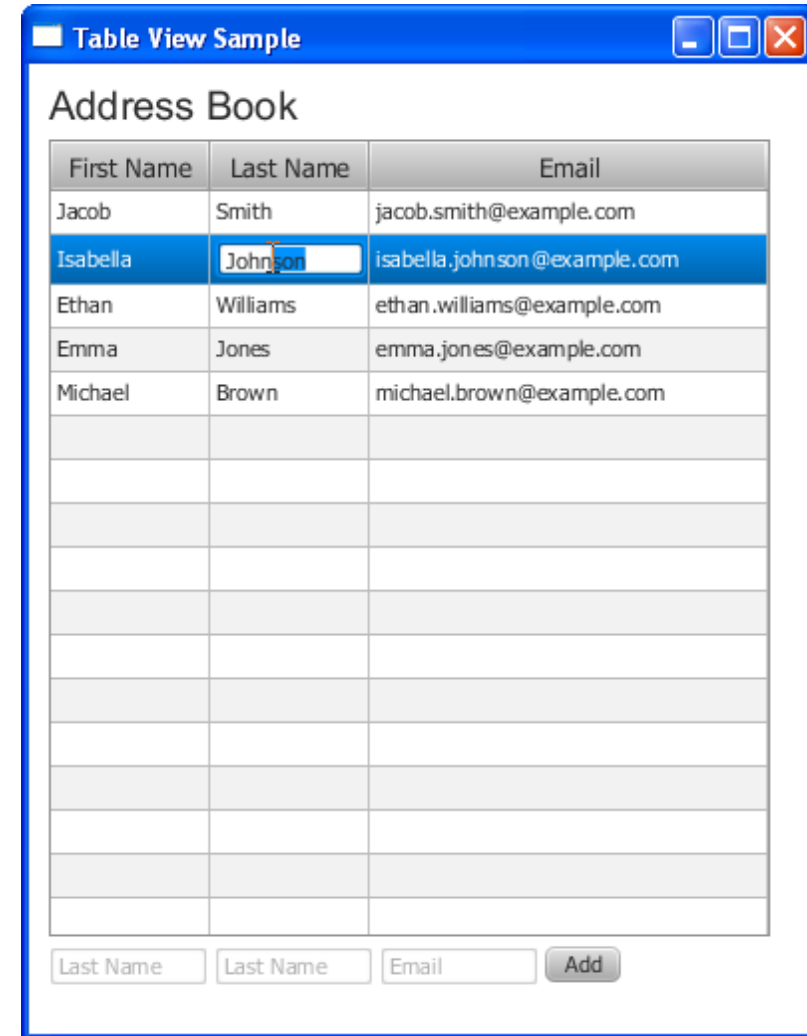
JavaFX – Tables

Tecniche di Programmazione – A.A. 2021/2022



Goal

- ▶ Display a set of data records in a tabular form
- ▶ Use the TableView JavaFX node
- ▶ Understand the object-oriented patterns used in TableView



TableView Object structure

TableView

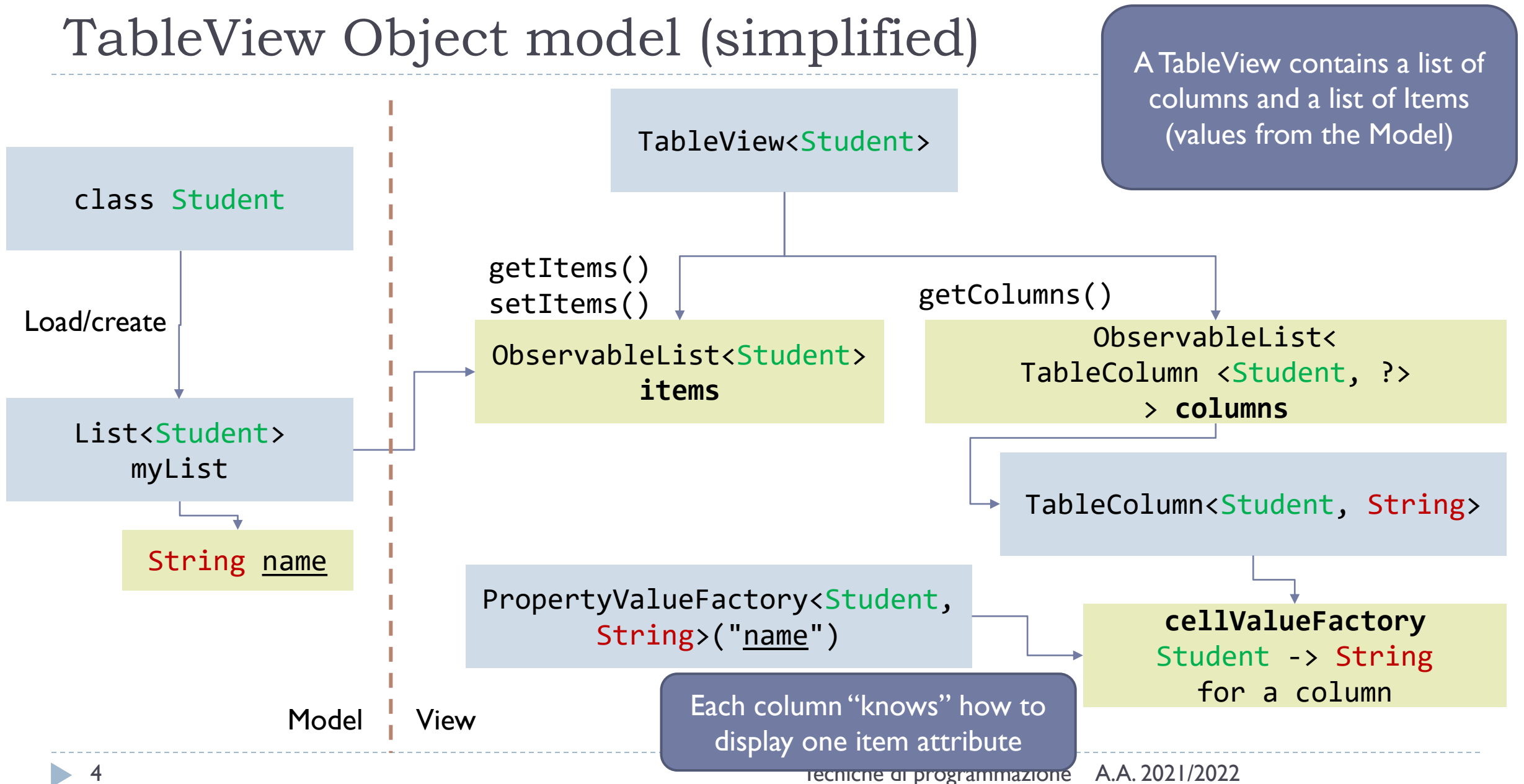
User Name	Email	Full Name		Active	
		First Name	Last Name		
smith	smith@gmail.com	Susan	Smith	true	
mcneil	mcneil@gmail.com	Anne	McNeil	true	
white	white@gmail.com	Kevin	White	false	

TableColumn

TableCell

<https://o7planning.org/11079/javafx-tableview>

TableView Object model (simplified)



Design steps (1 / 2)

- ▶ **FXML: Create a TableView with a suitable number of columns**
 - ▶ Give a `fx:id` to the TableView a
 - ▶ Give a `fx:id` to *each of the columns*

- ▶ **Controller: define the Generic types**
 - ▶ TableView: `<ModelObjectType>`
 - ▶ TableColumn: `<ModelObjectType, ColumnValueType>`
 - ▶ The column value type reflects the type of displayed information: String, Integer, Double, ...

Design steps (2/2)

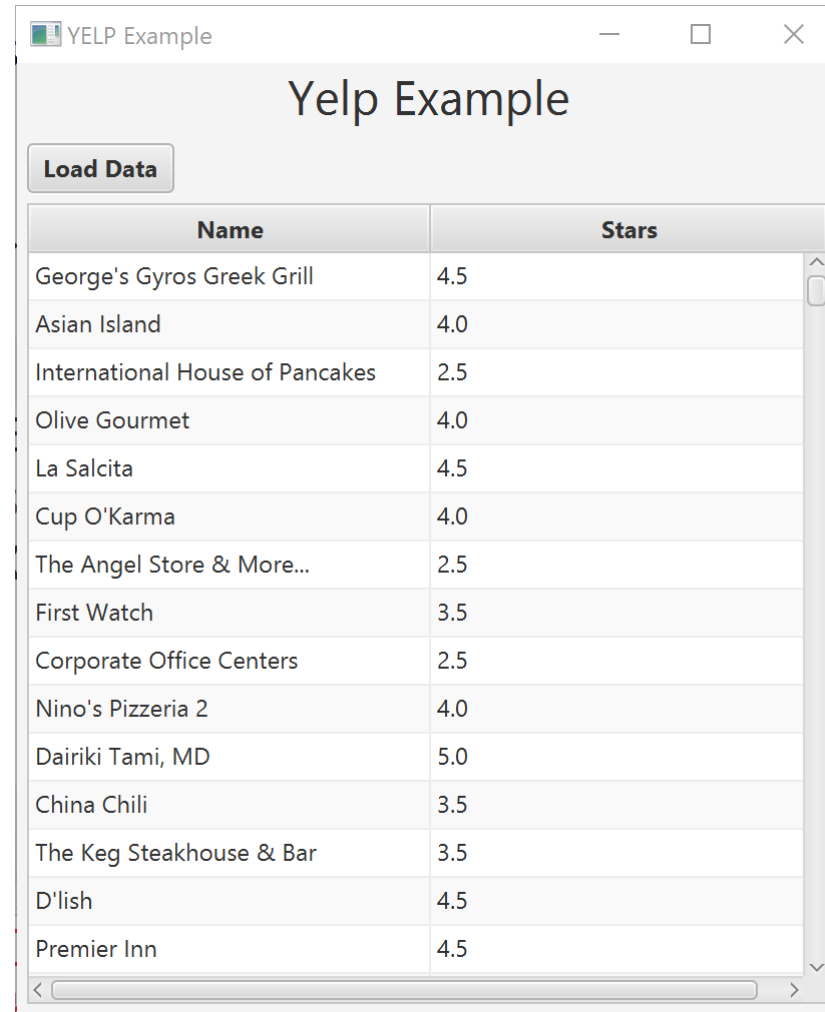
▶ Controller: define the Cell Value Factories

- ▶ `colName.setCellValueFactory(new PropertyValueFactory<Student, String>("name"));`
- ▶ Maps an Object (Student) to a Value (String)
- ▶ Extracts the attribute value “name” with `Student.getName()`
- ▶ Otherwise, create your own Value Factory
 - ▶ <https://docs.oracle.com/javase/9/docs/api/javafx/scene/control/TableCell.html#cellValueFactory>

▶ Controller+Model: define the items collection

- ▶ `tblStudents.setItems(FXCollections.observableArrayList(students));`
- ▶ `setItems` requires an “ObservableList”, that may be created from an `ArrayList` using a factory from `FXCollections`

Result



The screenshot shows a window titled "Yelp Example" with a "Load Data" button and a table of restaurant data. The table has two columns: "Name" and "Stars".

Name	Stars
George's Gyros Greek Grill	4.5
Asian Island	4.0
International House of Pancakes	2.5
Olive Gourmet	4.0
La Salcita	4.5
Cup O'Karma	4.0
The Angel Store & More...	2.5
First Watch	3.5
Corporate Office Centers	2.5
Nino's Pizzeria 2	4.0
Dairiki Tami, MD	5.0
China Chili	3.5
The Keg Steakhouse & Bar	3.5
D'lish	4.5
Premier Inn	4.5

References

- ▶ Tables Tutorial: https://docs.oracle.com/javafx/2/ui_controls/table-view.htm
- ▶ TableView Reference:
<https://docs.oracle.com/javase/8/javafx/api/javafx/scene/control/TableView.html>

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