Programação Orientada a Objetos

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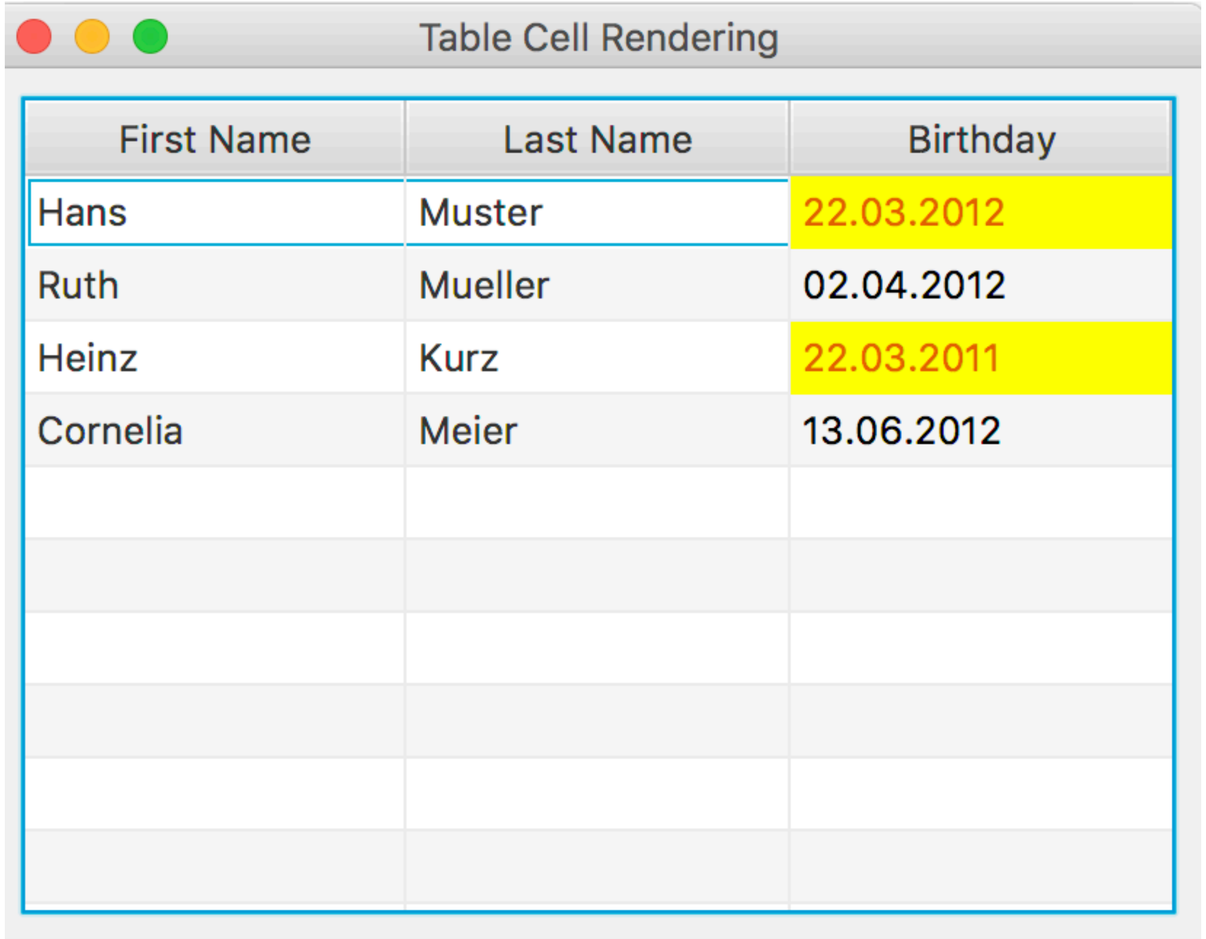
Roteiro

- Usando Tabelas

Usando Tabelas - Exemplo 1

Criaremos uma janela contendo uma TableView com 3 colunas.



Arquivos do Projeto

FXMLDocument.fxml

Main.java

Person.java

PersonTableController.j
ava

FXMLDocument.fxml

```
<?xml version="1.0" encoding="UTF-8"?>

<?import java.lang.*?>
<?import javafx.scene.control.*?>
<?import javafx.scene.layout.*?>

<AnchorPane minWidth="315.0" prefHeight="300.0" prefWidth="416.0"
xmlns="http://javafx.com/javafx/8" xmlns:fx="http://javafx.com/fxml/1"
fx:controller="exemplotabelas.PersonTableController">
  <children>
    <TableView fx:id="personTable" prefHeight="-1.0" prefWidth="-1.0"
    tableMenuButtonVisible="false" AnchorPane.bottomAnchor="10.0"
    AnchorPane.leftAnchor="10.0" AnchorPane.rightAnchor="10.0" AnchorPane.topAnchor="10.0">
      <columns>
        <TableColumn fx:id="firstNameColumn" maxWidth="5000.0" minWidth="10.0"
        prefWidth="120.0" text="First Name" />
        <TableColumn fx:id="lastNameColumn" maxWidth="5000.0" minWidth="10.0"
        prefWidth="120.0" text="Last Name" />
        <TableColumn fx:id="birthdayColumn" prefWidth="120.0" text="Birthday" />
      </columns>
    </TableView>
  </children>
</AnchorPane>
```

Main.java

```
3   import java.io.IOException;
4   import javafx.application.Application;
5   import javafx.fxml.FXMLLoader;
6   import javafx.scene.Scene;
7   import javafx.scene.layout.AnchorPane;
8   import javafx.stage.Stage;
9
10  public class Main extends Application {
11
12      @Override
13      public void start(Stage primaryStage) {
14
15          try {
16              FXMLLoader loader = new FXMLLoader(Main.class.getResource("FXMLDocument.fxml"));
17              AnchorPane page = (AnchorPane) loader.load();
18              Scene scene = new Scene(page);
19              primaryStage.setScene(scene);
20              primaryStage.setTitle("Table Cell Rendering");
21              primaryStage.show();
22          } catch (IOException e) {
23              System.err.println("Erro ao abrir a janela");
24          }
25      }
26
27      public static void main(String[] args) {
28          launch(args);
29      }
30  }
```

Person.java

```java
package tabela2;

import ...

public class Person {

    private String firstName;
    private String lastName;
    private LocalDate birthday;

    public Person(String firstName, String lastName, LocalDate birthday) {
        this.firstName = firstName;
        this.lastName = lastName;
        this.birthday = birthday;
    }

    public void setBirthday(LocalDate birthday) {
        this.birthday = birthday;
    }

    public void setFirstName(String firstName) {
        this.firstName = firstName;
    }
```

PersonTableController.java

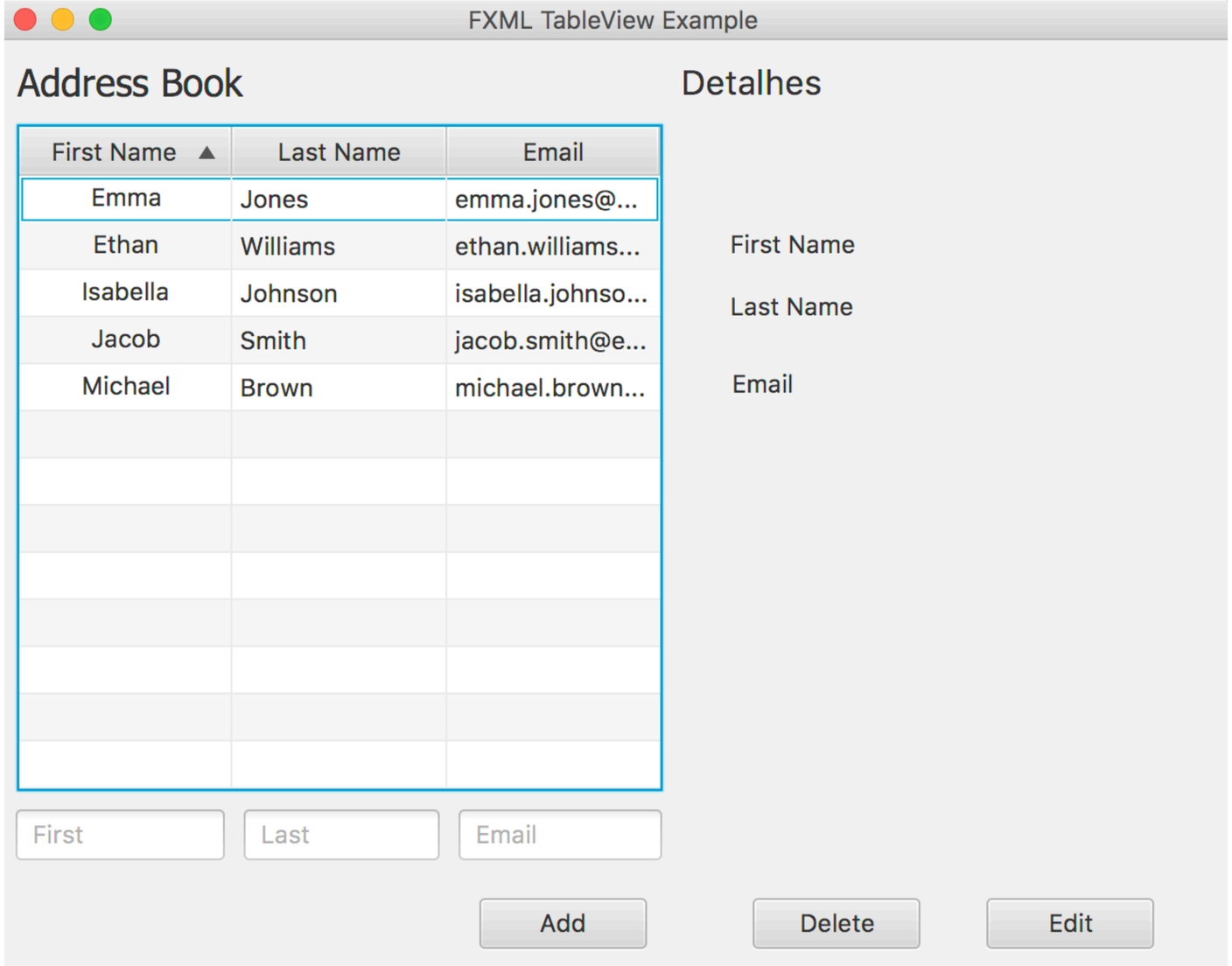
```
14  public class PersonTableController {
15
16      @FXML
17      private TableView<Person> personTable;
18      @FXML
19      private TableColumn<Person, String> firstNameColumn;
20      @FXML
21      private TableColumn<Person, String> lastNameColumn;
22      @FXML
23      private TableColumn<Person, LocalDate> birthdayColumn;
24
25      private final ObservableList<Person> personData = FXCollections.observableArrayList();
26
27      public PersonTableController() {
28          // Add some sample data.
29          personData.add(new Person("Hans", "Muster", LocalDate.of(2012, 3, 22)));
30          personData.add(new Person("Ruth", "Mueller", LocalDate.of(2012, 4, 2)));
31          personData.add(new Person("Heinz", "Kurz", LocalDate.of(2011, 3, 22)));
32          personData.add(new Person("Cornelia", "Meier", LocalDate.of(2012, 6, 13)));
33      }
```

```java
38      @FXML
39      private void initialize() {
40          personTable.setColumnResizePolicy(TableView.CONSTRAINED_RESIZE_POLICY);
41          // Initialize the columns.
42          firstNameColumn.setCellValueFactory(cellData -> new SimpleStringProperty(
43                  cellData.getValue().getFirstName()));
44          lastNameColumn.setCellValueFactory(cellData -> new SimpleStringProperty(
45                  cellData.getValue().getLastName()));
46          birthdayColumn.setCellValueFactory(cellData -> new SimpleObjectProperty<LocalDate>(
47                  cellData.getValue().getBirthday()));
48          DateTimeFormatter myDateFormatter = DateTimeFormatter.ofPattern("dd.MM.yyyy");
49
50          // Custom rendering of the table cell.
51          birthdayColumn.setCellFactory(column -> {...});
74
75          // Add data to the table
76          personTable.setItems(personData);
77      }
78
79
```

PersonTableController.java

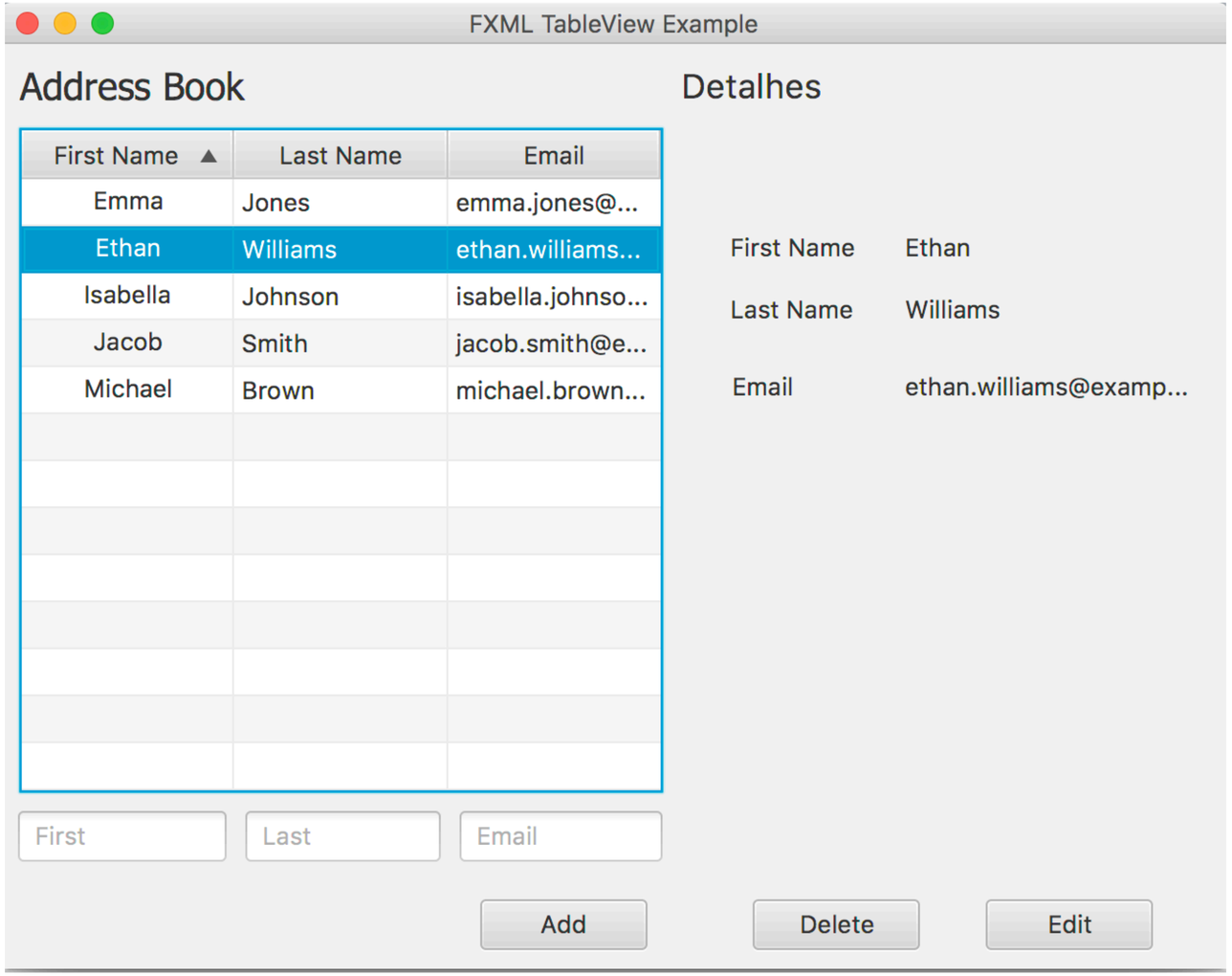
Usando Tabelas - Exemplo 2

Criaremos uma janela contendo uma TableView na qual podemos editar seu conteúdo.



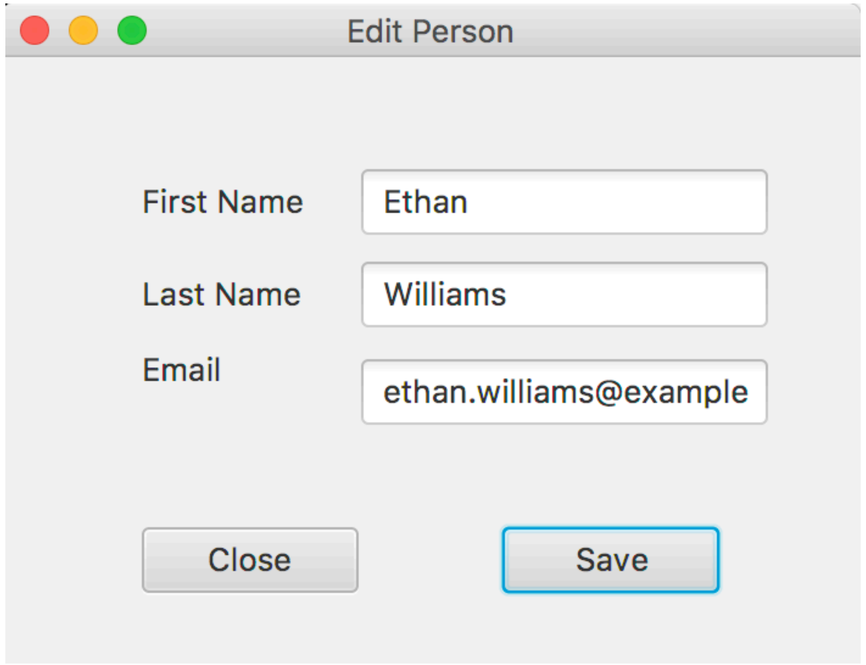
Exemplo 2

Seleção de uma pessoa.



Exemplo 2

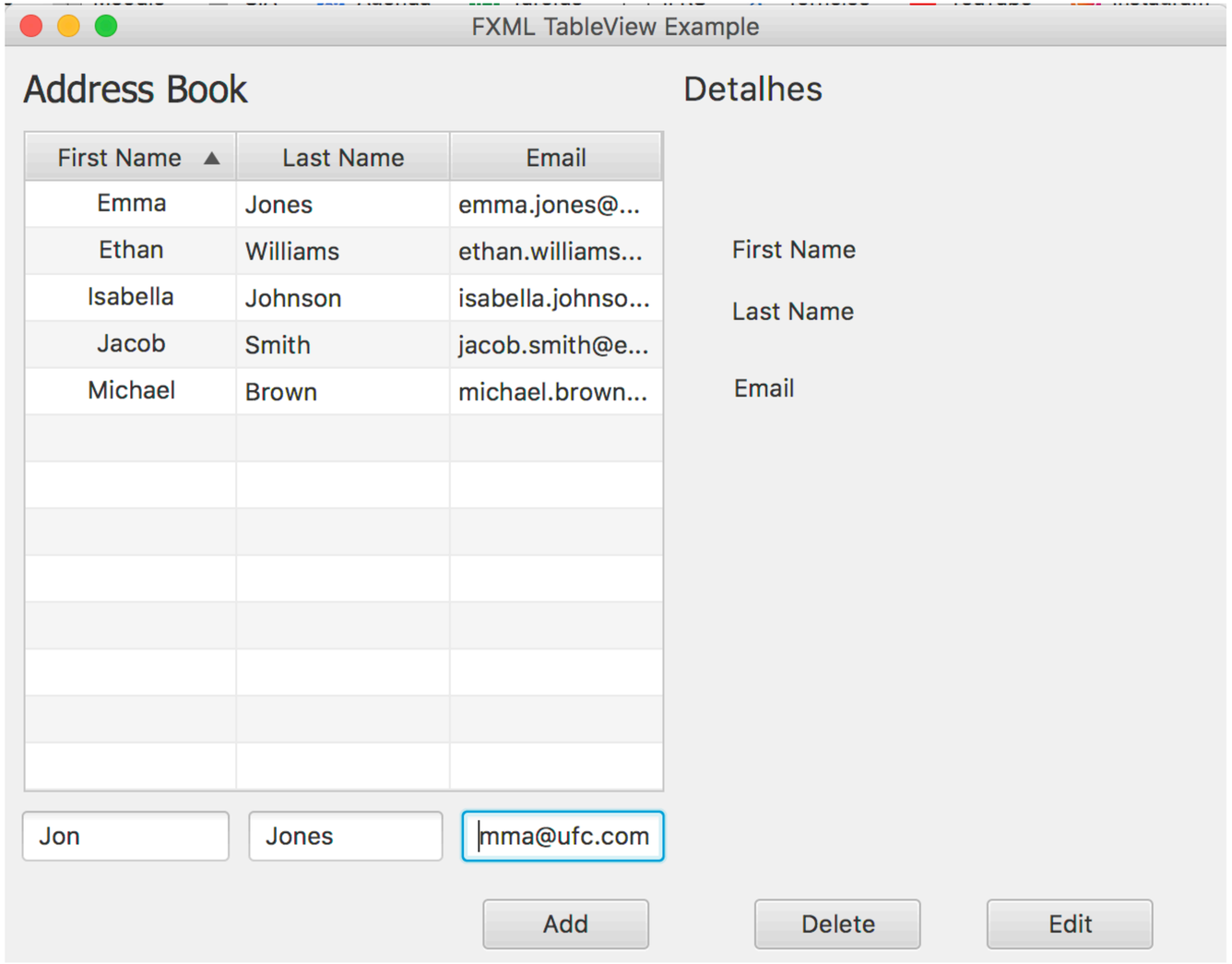
Edição de uma pessoa.



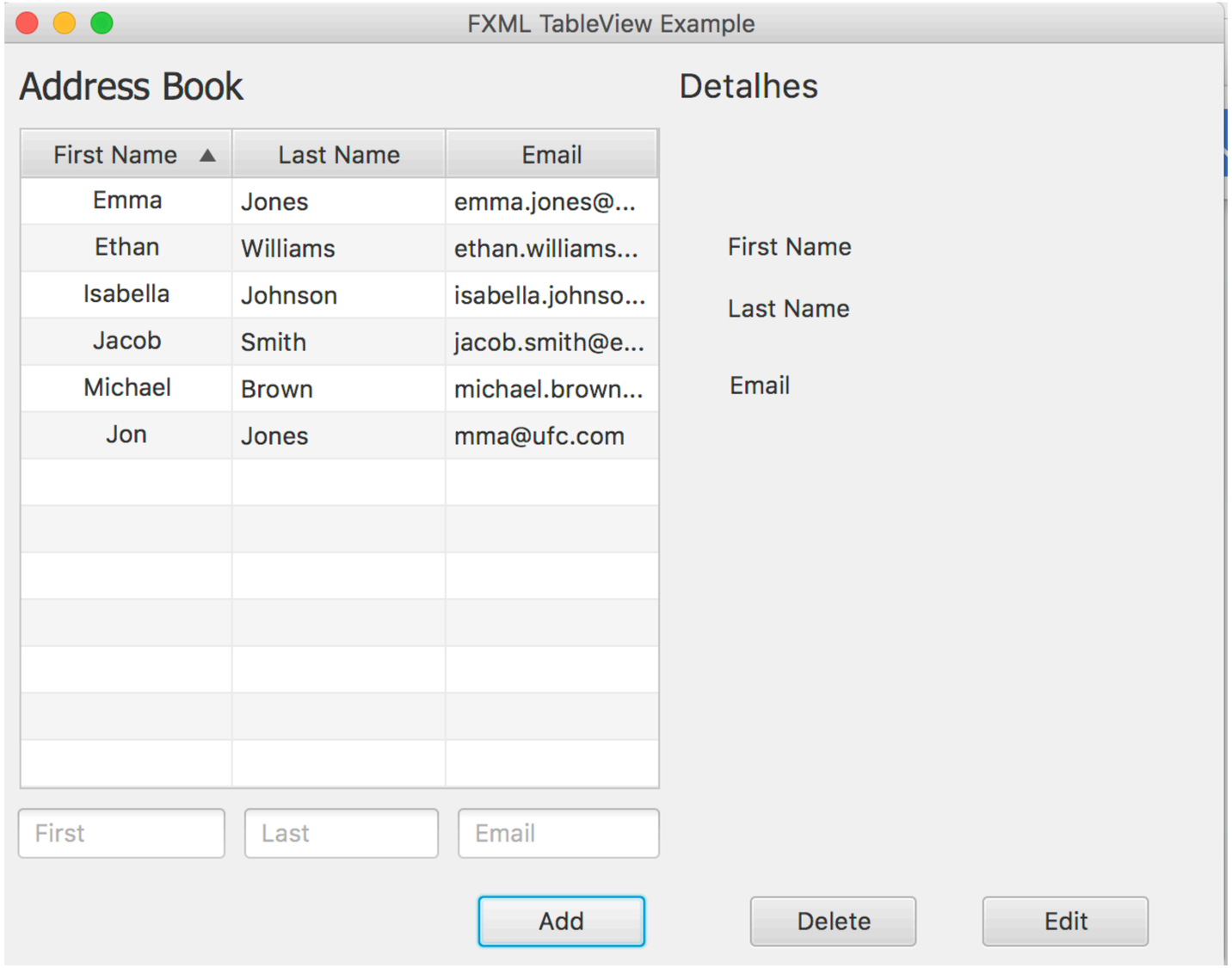
JavaFx

Exemplo 2

Inserção de uma pessoa.

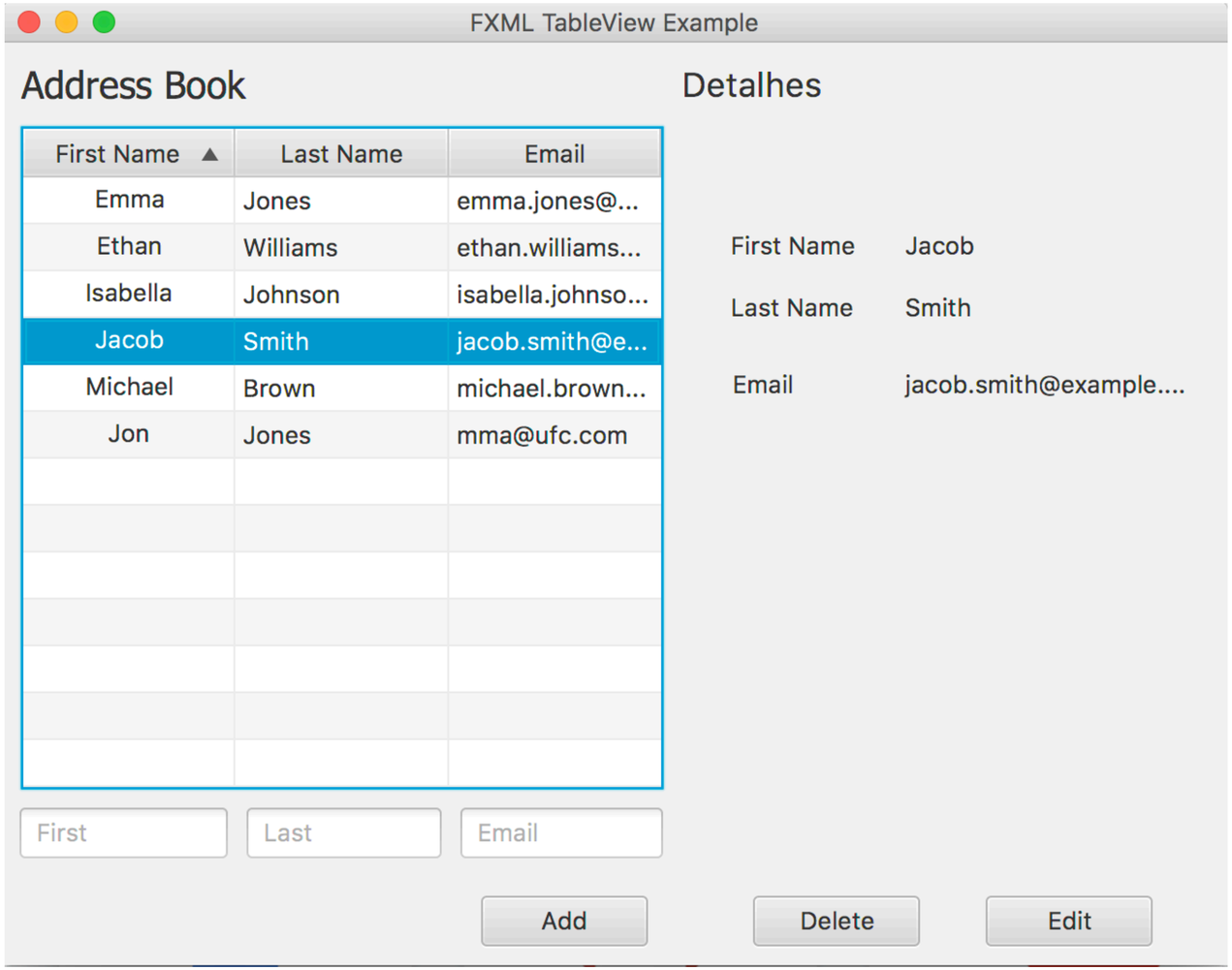


Exemplo 2

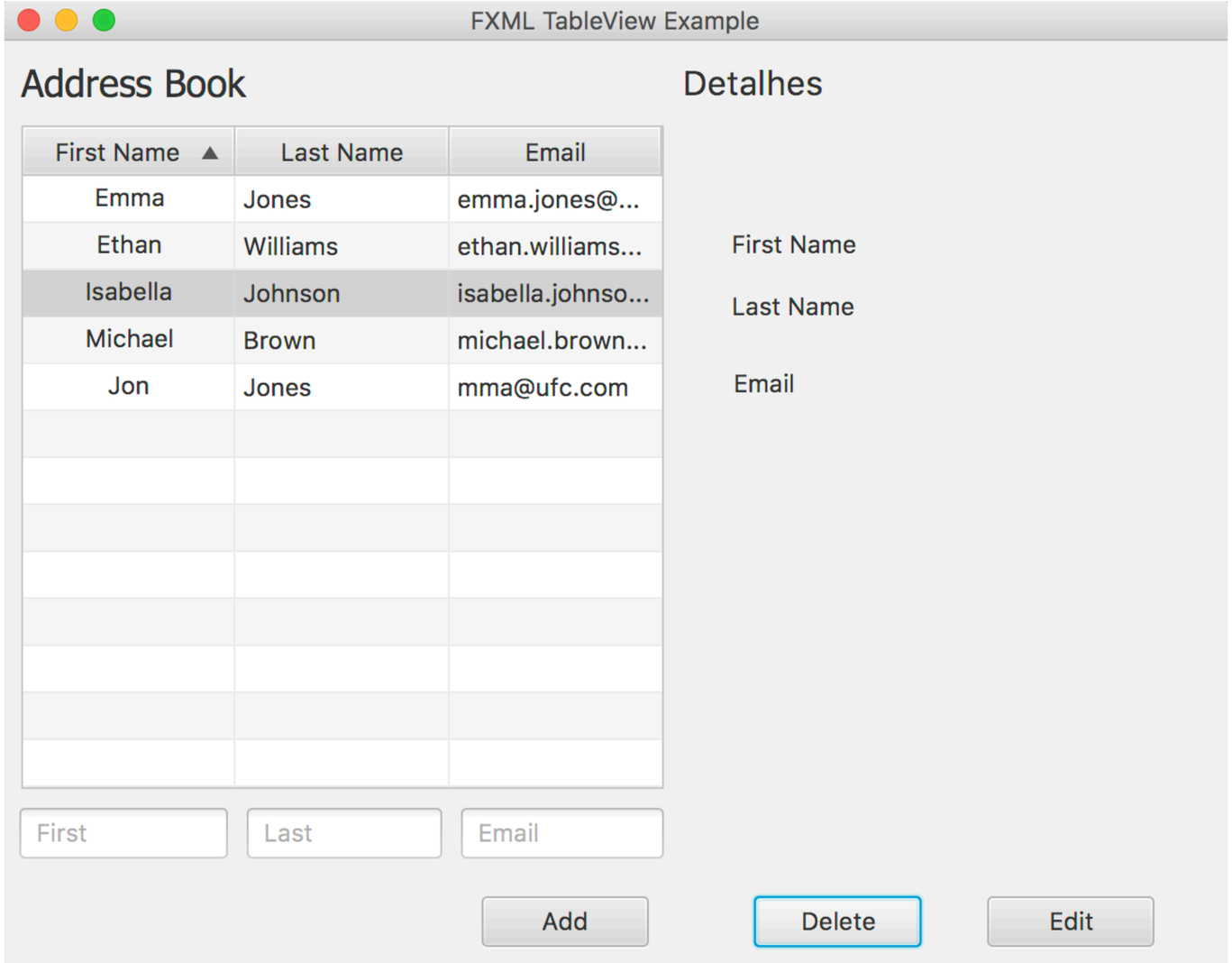

FXML TableView Example
Address Book
Detalhes
First Name
Last Name
Email
Emma Jones emma.jones@...
Ethan Williams ethan.williams...
Isabella Johnson isabella.johnso...
Jacob Smith jacob.smith@e...
Michael Brown michael.brown...
Jon Jones mma@ufc.com
First
Last
Email
Add
Delete
Edit

Exemplo 2

Remoção de uma pessoa.



Exemplo 2


FXML TableView Example
Address Book
Detalhes
First Name
Last Name
Email
Emma
Jones
emma.jones@...
Ethan
Williams
ethan.williams...
Isabella
Johnson
isabella.johnso...
Michael
Brown
michael.brown...
Jon
Jones
mma@ufc.com
First Name
Last Name
Email
First
Last
Email
Add
Delete
Edit

Arquivos do Projeto

FormattedTableCellFactory.java

fxml_editar.fxml

Fxml_editarController.java

fxml_tableview.fxml

FXMLTableView.java

FXMLTableViewController.java

Person.java

JavaFx

FXMLTableViewController

```
public class FXMLTableViewController implements Initializable {

    @FXML
    public static ObservableList<Person> data;
    @FXML
    private TableView<Person> tableView;
    @FXML
    private TextField firstNameField;
    @FXML
    private TextField lastNameField;
    @FXML
    private TextField emailField;
    @FXML
    private Label first_name;
    @FXML
    private Label last_name;
    @FXML
    private Label email;

    private Stage stage;
```

FXMLTableViewController

```
@FXML
public void addPerson(ActionEvent event) {
    data.add(new Person(firstNameField.getText(),
            lastNameField.getText(),
            emailField.getText()
    ));

    firstNameField.setText("");
    lastNameField.setText("");
    emailField.setText("");
}

@FXML
public void deletePerson(ActionEvent e) {
    Person p = tableView.getSelectionModel().getSelectedItem();

    remove_person(p);
}

private void remove_person(Person pessoa_selecionada) {
    if (pessoa_selecionada != null) {
        data.remove(pessoa_selecionada);
        first_name.setText("");
        last_name.setText("");
        email.setText("");
    }
}
```

FXMLTableViewController

```
@FXML
public void editPerson(ActionEvent e) {
    Person p = tableView.getSelectionModel().getSelectedItem();
    remove_person(p);
    try {
        FXMLLoader loader = new FXMLLoader(getClass().getResource("fxml_editar.fxml"));
        Parent root = loader.load();
        Fxml_editarController controlador = loader.getController();

        Scene scene = new Scene(root);
        Stage stage1 = new Stage();

        controlador.setPerson(p);
        controlador.setMainController(FXMLTableViewController.this);
        stage1.setTitle("Edit Person");
        stage1.setScene(scene);
        stage1.setAlwaysOnTop(true);
        stage1.show();
        tableView.getScene().getWindow().hide();
    } catch (IOException ex) {
        System.err.println("Erro ao abrir Janela de Edição");
    }
}
```

FXMLTableViewController

```java
@Override
public void initialize(URL location, ResourceBundle resources) {
    tableView.setColumnResizePolicy(TableView.CONSTRAINED_RESIZE_POLICY);

    data = tableView.getItems();

    tableView.setOnMouseClicked(e -> {
        Person pessoa_selecionada = tableView.getSelectionModel().getSelectedItem();

        if (pessoa_selecionada != null) {
            first_name.setText(pessoa_selecionada.getFirstName());
            last_name.setText(pessoa_selecionada.getLastName());
            email.setText(pessoa_selecionada.getEmail());
        } else {
            first_name.setText("");
            last_name.setText("");
            email.setText("");
        }
    });
}

public void setStage(Stage primaryStage) {
    this.stage = primaryStage;
}

public void mostrar() {
    this.stage.show();
}
```

Fxml_editarController.java

```java
public class Fxml_editarController implements Initializable {

    @FXML
    private TextField first_name;
    @FXML
    private TextField last_name;
    @FXML
    private TextField email;

    private FXMLTableViewController mainController;

    @FXML
    private void sair(ActionEvent e) {
        mainController.mostrar();
        first_name.getScene().getWindow().hide();
    }

    @FXML
    private void salvar(ActionEvent e) {
        String first = first_name.getText();
        String last = last_name.getText();
        String mail = email.getText();
        FXMLTableViewController.data.add(new Person(first, last, mail));
        mainController.mostrar();
        first_name.getScene().getWindow().hide();
    }
```

Fxml_editarController.java

```
@Override
public void initialize(URL url, ResourceBundle rb) {

}

public void setPerson(Person p) {
    first_name.setText(p.getFirstName());
    last_name.setText(p.getLastName());
    email.setText(p.getEmail());
}

void setMainController(FXMLTableViewController aThis) {
    this.mainController = aThis;
}
```

JavaFx