Konfigurieren eines JavaFx Projekts als Web-Projekt

mit JPRO

Java in the Browser

TWS

POS
Informatik

SYP
Informatik

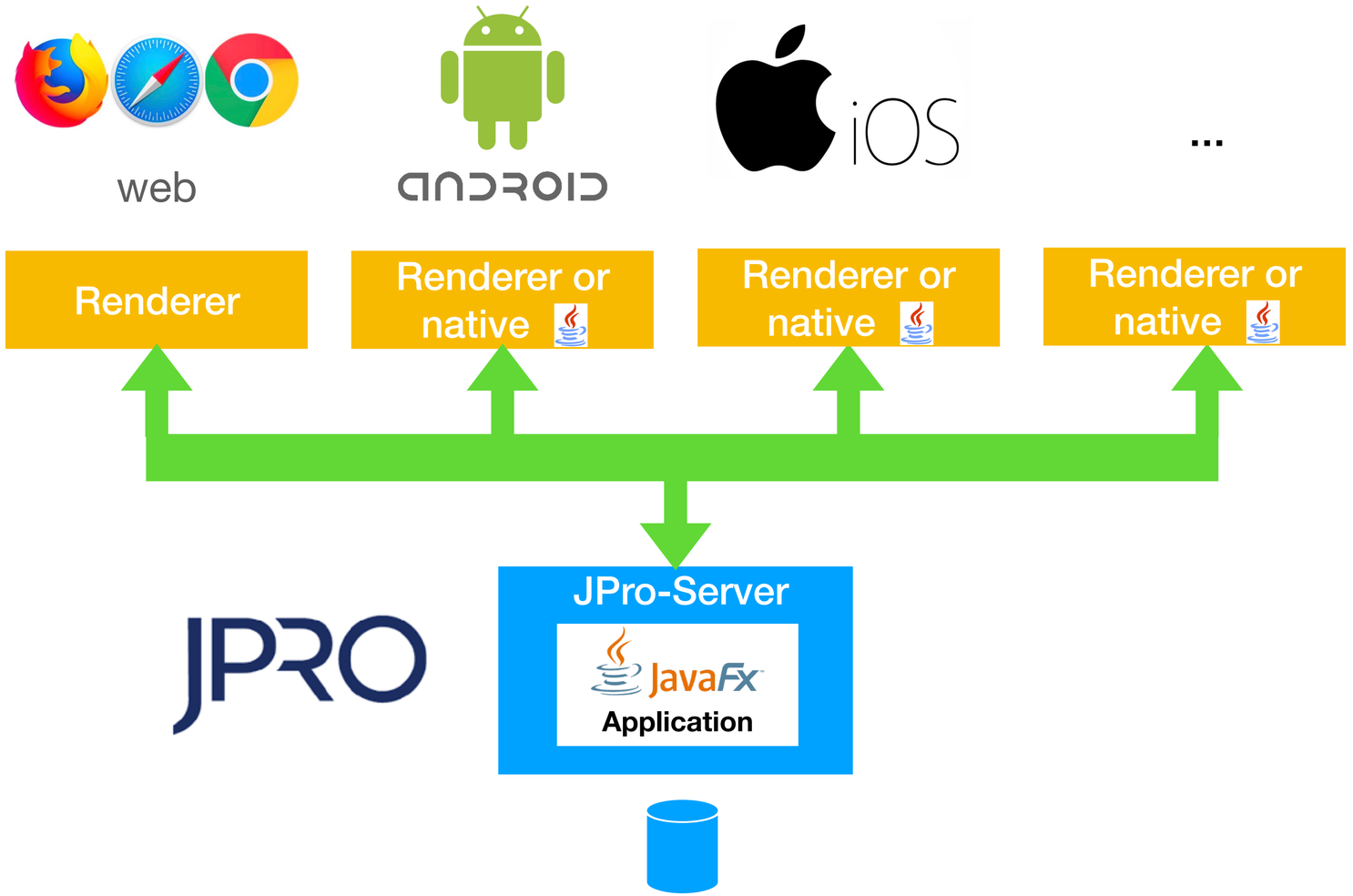
ITP3
IT-Medientechnik

SEW3
IT-Medientechnik

Mit JPro können JavaFX-Anwendungen als Webseiten gehostet werden

https://www.jpro.one

JPro Architecture



Rendering of the Scene Graph

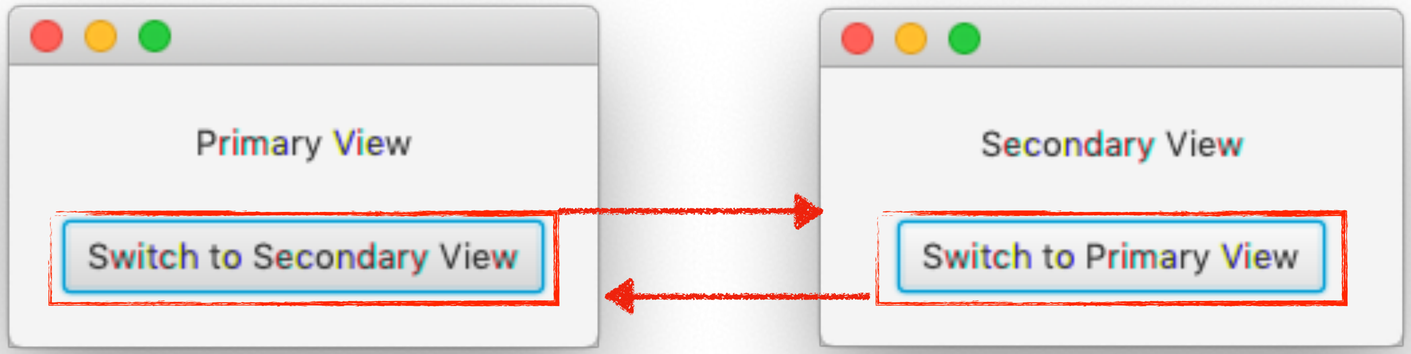
Build Tool

- Grundsätzlich wird **gradle** empfohlen.
- Verwendung von **maven** ebenfalls möglich.

First Application

- Erstellen Sie anhand der Präsentation „05a_JavaFX-create-new-project-modular“ eine erste Anwendung

- Starten Sie die Anwendung: rechte Maustaste auf App - Run ‘App.main()’



Adaptieren der Anwendung für JPro

https://gist.github.com/htl-leonding/4e420ef1e99b524f927e0944386f4cd5

Im Programmcode sind KEINE Änderungen durchzuführen

```xml
<project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.
         xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.
    <modelVersion>4.0.0</modelVersion>

    <groupId>at.htl.demo</groupId>
    <artifactId>javafx-demo</artifactId>
    <version>1.0-SNAPSHOT</version>
    <packaging>jar</packaging>

    <properties>
        <jpro.version>2019.2.2</jpro.version>
        <project.build.sourceEncoding>UTF-8</project.build.sourceEncoding>
        <maven.compiler.source>11</maven.compiler.source>
        <maven.compiler.target>11</maven.compiler.target>
        <javafx.version>14.0.1</javafx.version>
    </properties>
    <dependencies>
        <dependency>
            <groupId>org.openjfx</groupId>
            <artifactId>javafx-controls</artifactId>
            <version>${javafx.version}</version>
            <scope>compile</scope>
        </dependency>
        <dependency>
            <groupId>org.openjfx</groupId>
            <artifactId>javafx-web</artifactId>
            <version>${javafx.version}</version>
            <scope>compile</scope>
        </dependency>
        <dependency>
            <groupId>org.openjfx</groupId>
            <artifactId>javafx-swing</artifactId>
            <version>${javafx.version}</version>
            <scope>compile</scope>
        </dependency>
```

fxml-Dependencies

```xml
        <dependency>
            <groupId>org.openjfx</groupId>
            <artifactId>javafx-fxml</artifactId>
            <version>${javafx.version}</version>
            <scope>compile</scope>
        </dependency>
        <dependency>
            <groupId>org.openjfx</groupId>
            <artifactId>javafx-media</artifactId>
            <version>${javafx.version}</version>
            <scope>compile</scope>
        </dependency>
```

JPro-Dependency

```xml
        <dependency>
            <groupId>com.sandec.jpro</groupId>
            <artifactId>jpro-webapi</artifactId>
            <version>${jpro.version}</version>
            <scope>compile</scope>
        </dependency>
    </dependencies>
```

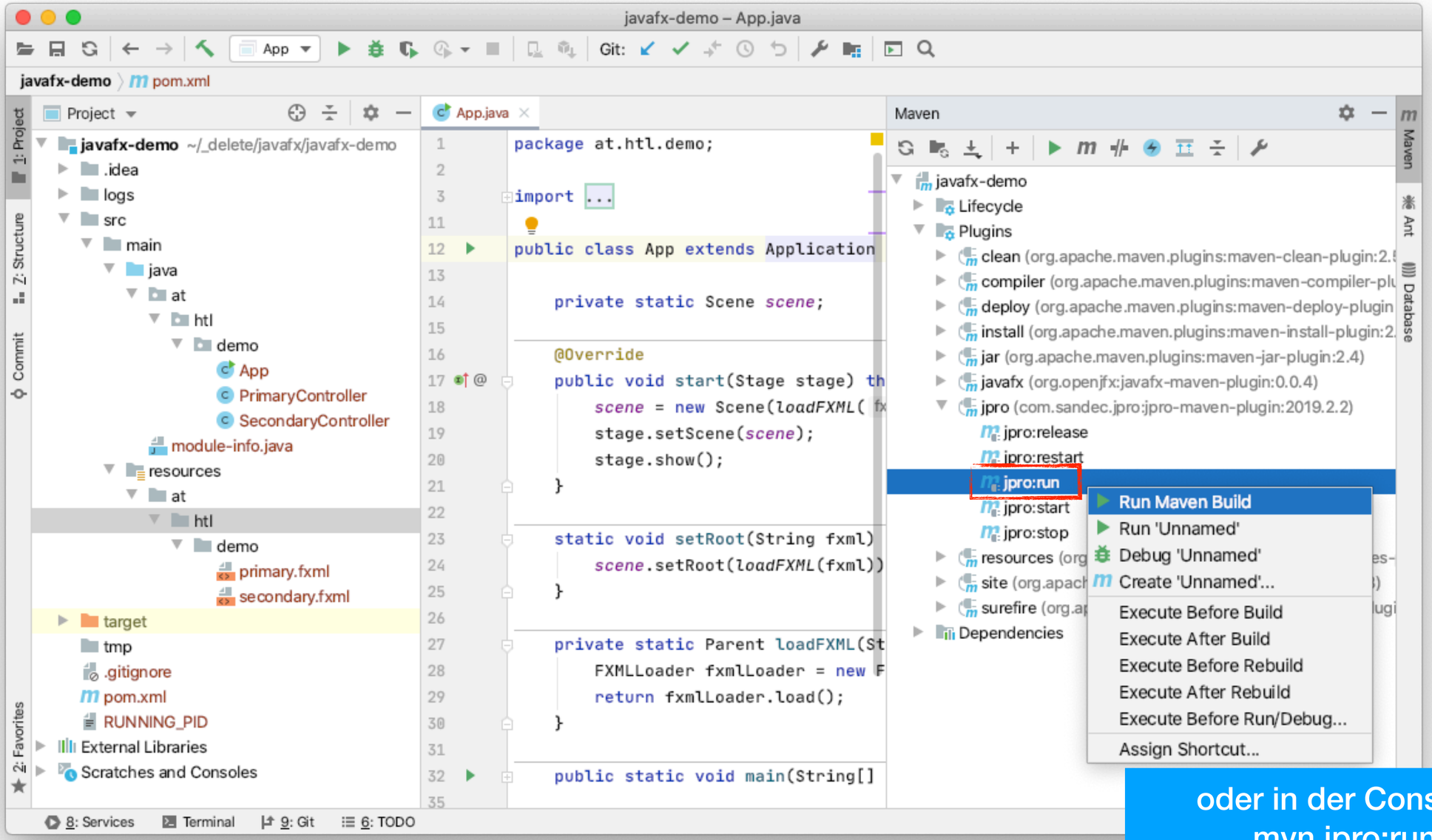
JPro-maven-plugin

```xml
    <build>
        <plugins>
            <plugin>
                <groupId>com.sandec.jpro</groupId>
                <artifactId>jpro-maven-plugin</artifactId>
                <version>${jpro.version}</version>
                <configuration>
                    <visible>false</visible>
                    <JVMArgs>
                        <!-- <JVMArg>your-args</JVMArg> -->
                    </JVMArgs>
                    <mainClassName>at.htl.demo.App</mainClassName>
                    <openingPath>/</openingPath>
                </configuration>
            </plugin>
            <plugin>
                <groupId>org.apache.maven.plugins</groupId>
                <artifactId>maven-compiler-plugin</artifactId>
                <version>3.8.1</version>
                <configuration>
                    <release>11</release>
                </configuration>
            </plugin>
            <plugin>
                <groupId>org.openjfx</groupId>
                <artifactId>javafx-maven-plugin</artifactId>
                <version>0.0.4</version>
                <configuration>
                    <mainClass>at.htl.demo.App</mainClass>
                </configuration>
            </plugin>
        </plugins>
    </build>
```

jpro-repositories

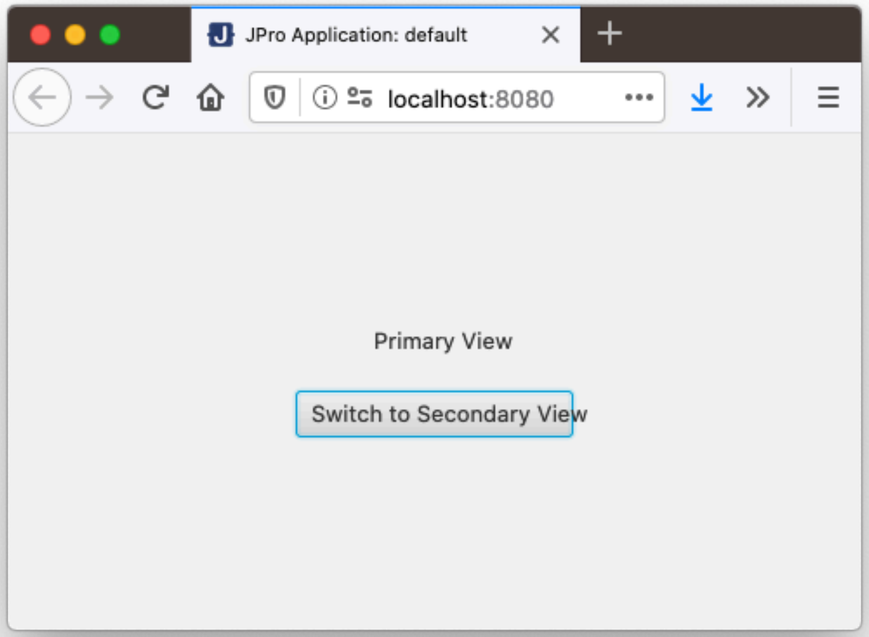
```xml
    <pluginRepositories>
        <pluginRepository>
            <id>jpro - sandec repository</id>
            <url>https://sandec.bintray.com/repo</url>
        </pluginRepository>
    </pluginRepositories>

    <repositories>
        <repository>
            <id>jpro - sandec repository</id>
            <url>https://sandec.bintray.com/repo</url>
        </repository>
    </repositories>

</project>
```

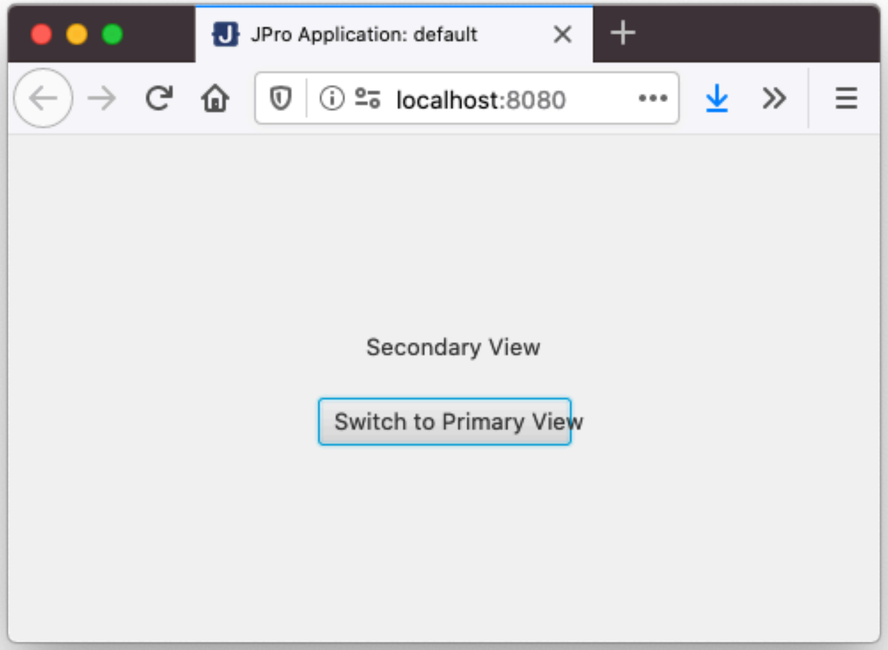
Starten der Anwendung



oder in der Console:
mvn jpro:run

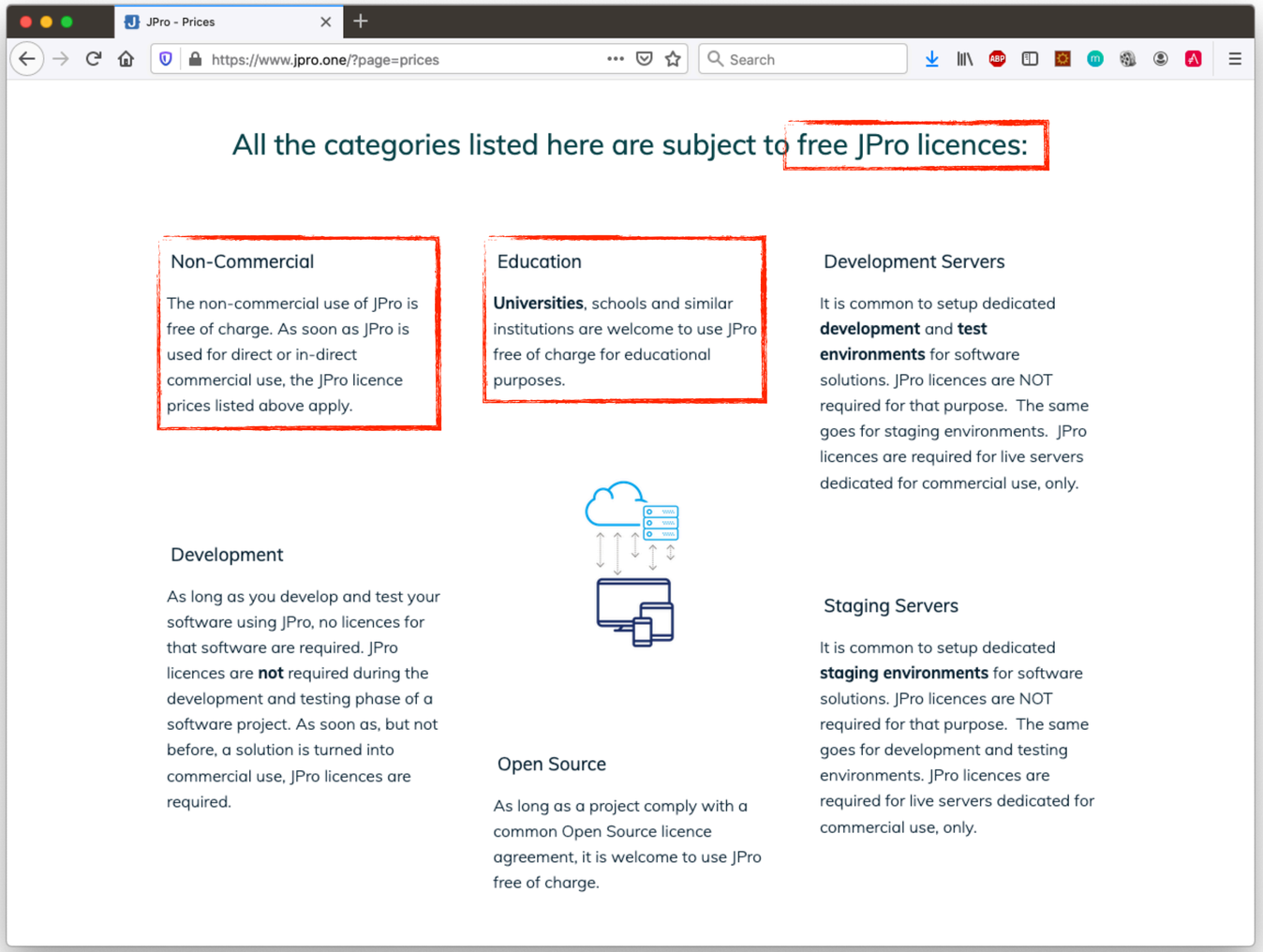
Output im Browser





Lizenzen

leider kein open-source-projekt



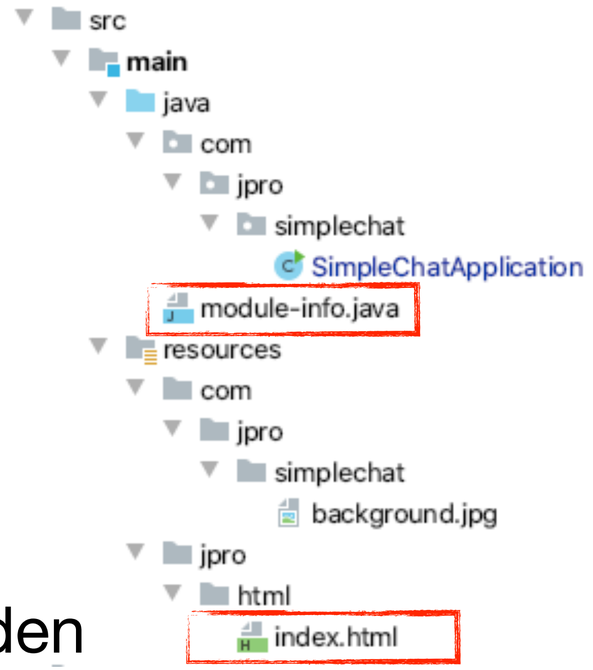
Ein zweites Projekt

JProSimpleChat

https://github.com/htl-leonding/jpro-javafx-gradle-simple-chat

Technische Daten

- In Gradle geschrieben
- verwendet modulares Java
- Nachrichten werden in einer ListView gespeichert
- Die JavaFX-Applikation wird in ein html-Seite eingebunden



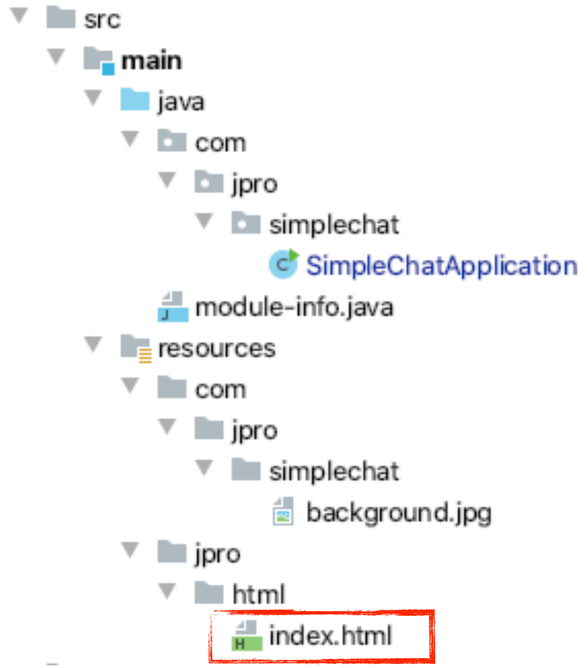
build.gradle

- hat die gleiche Funktion wie pom.xml
- verwendet die Programmiersprache Groovy als „gradle build language“
- es könnte auch Kotlin als „gradle build language“ verwendet werden
- Man konfiguriert
  - die Repositories
  - Java
  - JPro
- https://bit.ly/34LvEbC

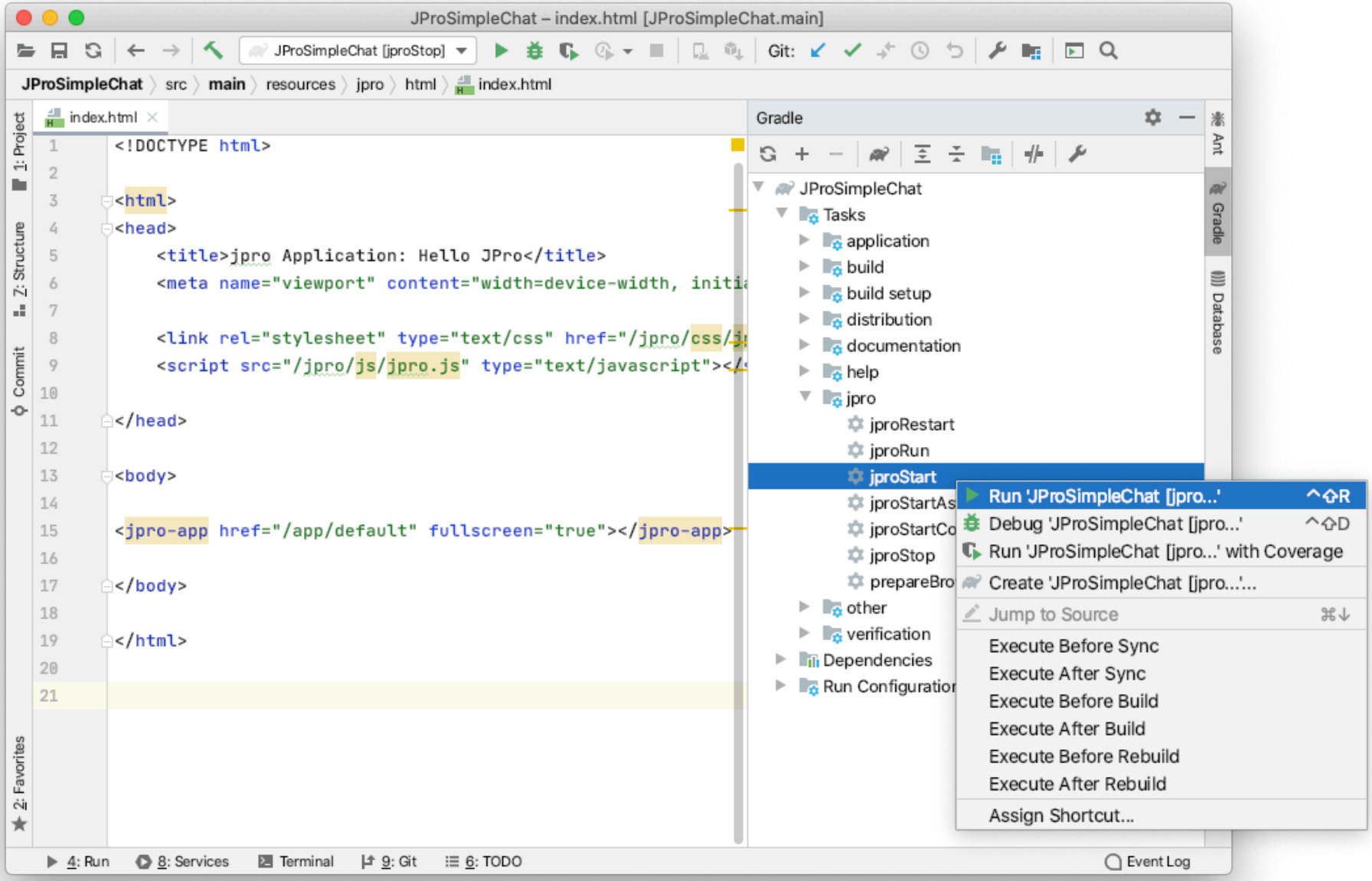
```
public class SimpleChatApplication extends Application {

    static public ObservableList<String> messages = FXCollections.observableArrayList();

    @Override
    public void start(Stage stage) throws Exception {

        ListView<String> messagesView = new ListView<String>(messages);
        TextField input = new TextField();
        input.setPromptText("Your Message");
        Button button = new Button("send");
        HBox.setHgrow(input, Priority.ALWAYS);

        VBox vbox = new VBox(messagesView, new HBox(input,button));
        vbox.setMaxHeight(500);
        vbox.setMaxWidth(400);

        EventHandler<ActionEvent> handler = (e) -> {
            if(!input.getText().isEmpty()) {
                messages.add(input.getText());
                input.setText("");
            }
        };
        input.setOnAction(handler);
        button.setOnAction(handler);

        StackPane container = new StackPane(vbox);
        container.setAlignment(Pos.CENTER);
        container.setStyle("-fx-background-image: url('/com/jpro/simplechat/background.jpg');" +
                "-fx-background-size: cover;");

        stage.setScene(new Scene(container, 800, 800));
        stage.show();
    }
}
```

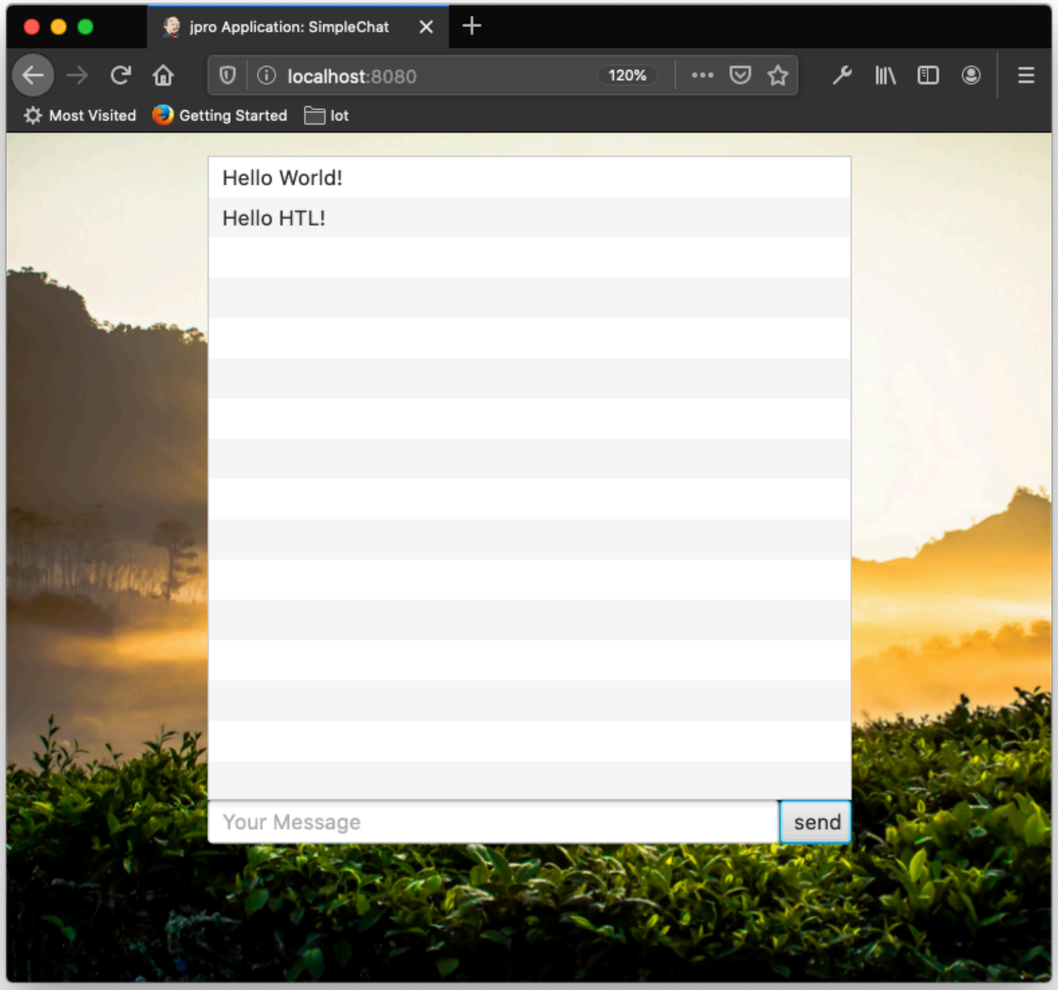
index.html

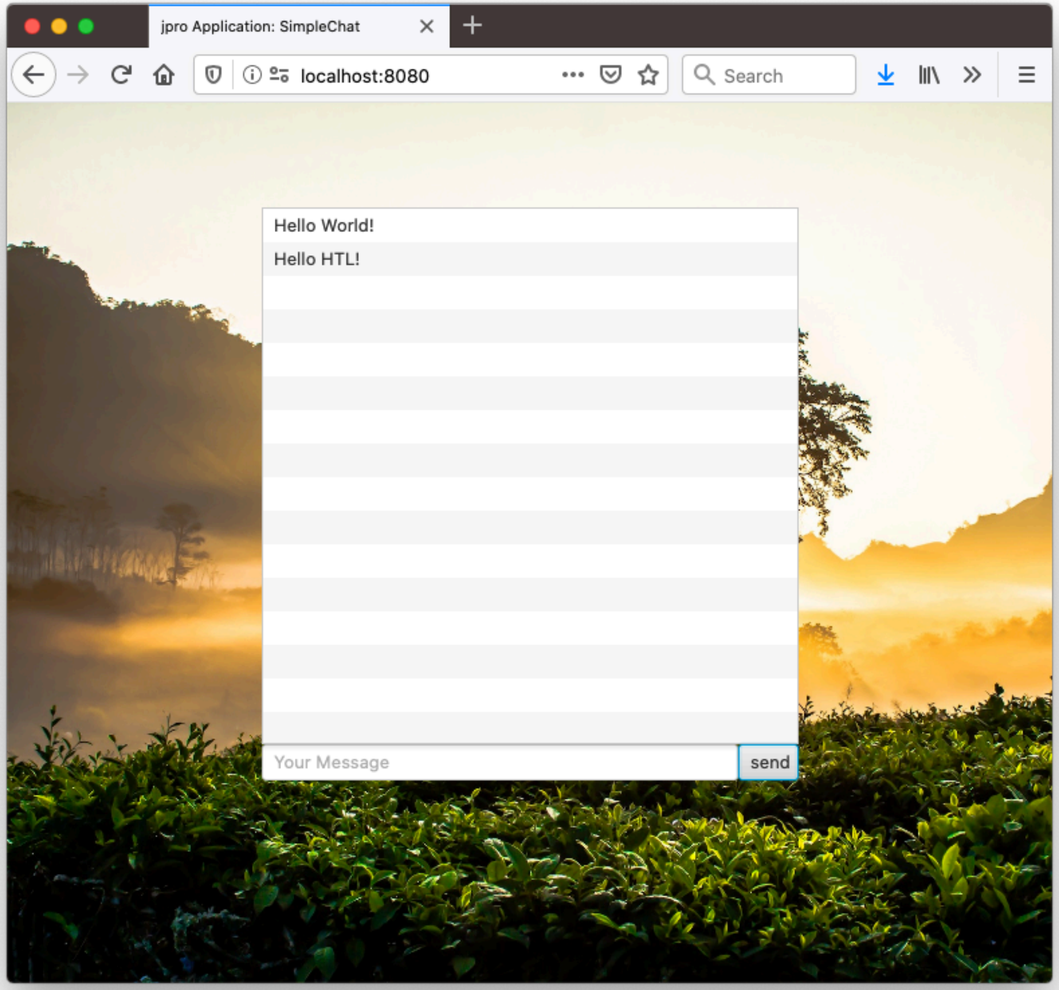
```
<!DOCTYPE html>

<html>
<head>
    <title>jpro Application: SimpleChat</title>
    <meta name="viewport" content="width=device-width, initial-scale=1.0, user-scalable=no">

    <link rel="stylesheet" type="text/css" href="/jpro/css/jpro.css">
    <script src="/jpro/js/jpro.js" type="text/javascript"></script>

</head>

<body>

<jpro-app href="/app/default" fullscreen="true"></jpro-app>

</body>

</html>
```



Starten der Anwendung




jpro Application: SimpleChat
localhost:8080
120%
Most Visited
Getting Started
Iot
Hello World!
Hello HTL!
Your Message
send


jpro Application: SimpleChat
localhost:8080
Search
Hello World!
Hello HTL!
Your Message
send

Nachteile von Pro

Not yet supported JavaFX features

(this list refers to version 2019.2.2)

- MediaPlayer
- The following Effect classes
  - Bloom
  - BoxBlur
  - ColorInput
  - DisplacementMap
  - DropShadow (Supported, but slow)
  - Glow
  - ImageInput
  - InnerShadow (Supported, but slow)
  - Lighting
  - MotionBlur
  - PerspectiveTransform
  - Reflection
  - Shadow
- 3D
- SwingNode
- javafx.stage.FileChooser, please take a look at our WebAPI and our sample project for an alternative.
- Clipboard
- WebView (Supported in it's basic form, only. We recommend to use the HTMLView, instead.)

https://www.jpro.one/?page=docs/current/2.10/JPRO_CHECKLIST

Sources

- https://github.com/JPro-one/JProSimpleChat/blob/master/src/main/java/com/jpro/simplechat/SimpleChatApplication.java

- https://www.youtube.com/watch?v=xvEhp-1kyWg

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Noch
Fragen?

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Schön, hier zu lernen