COBOL Android Technical Preview AddPack

Readme

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Overview

This AddPack includes a demo application, the COBOL Android Demo, which shows how you can run COBOL code directly on an Android emulator or on an Android device. The application does an interest calculation to provide a quote for a loan. The quote can optionally be sent back to a Web page using URL query syntax.

Important: The demo is provided only as a technology preview of COBOL code operating on an Android emulator or real device. Micro Focus cannot commit to providing support for the Android platform in the future. The demo was created exclusively for the Micro Focus Community to use and provide feedback for the Android platform. Limitations include:

- The COBOL File Handler is not supplied so it is not possible to use COBOL files. You can use Android's storage APIs to save data, and the demo application uses the Settings API to store its configuration.
- Some COBOL statements may not work correctly.
- If you change the code, you may receive Dalvik verifier or other run-time exceptions. Though we do not provide technical support for bugs with COBOL on Android, please post on the *Micro Focus Community Web site* any issues you may encounter.

This demo consists of the following Eclipse projects:

- InterestCalculatorClient - a Java project created with the Android Developer Toolkit for Eclipse. It consists of the UI code for the application, and because it is an Android project it makes it easier to package up the application for deployment to an Android emulator or device.
- InterestCalculator - a COBOL JVM project which has a small procedural program which can carry out an interest calculation using high-precision decimal arithmetic. This project also has a COBOL class which interfaces between the procedural COBOL code and the Java client which provides the UI.
- QuoteCommunicator - a COBOL JVM project with some code for sending a quote back to a Web server, an Azure instance hosting a service written in COBOL. It also has code that can access a device's GPS to send back location information.

Prerequisites

You must have the following software installed:

- Micro Focus Visual COBOL for Eclipse 2010 R4 for Windows - download it from the *Micro Focus Web site*.
- Java Platform (JDK) 6 (updates 27 or 29) - download it from *Oracle*. You might need to add the path to the `bin` directory in the JDK installation to your `PATH` environment variable.

  

  Note: This demo does not work with the latest version of Java Platform, JDK 7.
- Android SDK - download it from the *Android Developers Web site*.

  

  Note: The Android demo was written for Android SDK 2.2 (API 8) which is used by most Android devices. You may encounter problems if you target a newer version of the SDK.
- The ADT Plugin for Eclipse (Android Developer Tools) - *click here* for instructions on how to download and install the plugin in your Eclipse IDE.
- USB device drivers - only if you are running the demo on a real Android device and use a USB cable to connect to your Windows computer. Download the drivers from the *Motorola developer network*.

Installing the Prerequisite Software

1. Install Android SDK on your machine and use Android Download Manager to download and install version 2.2 (API 8) of the SDK - *click here* for instructions.
2. Add the ADT plugin to your Eclipse installation - *click here* for instructions.
3. Use the Android Virtual Device Manager to create a new Android emulator that targets Android 2.2 (API Level 8) - *click here* for instructions.

Configuring the Eclipse IDE and Importing the Projects

1. Download the demo archive and expand it in a directory on your machine.

   You should see a `CobolAndroidDemo` directory with the following subfolders - `Android`, `InterestCalculator`, `QuoteCalculator` and `RTE`.
2. Start Eclipse and create a new workspace.

   It is recommended to start with a clean workspace to make it easier to diagnose any problems.
3. Specify the location of the Android SDK on your machine by going to **Window** > **Preferences**.
4. Click the **Android** tab and browse to the folder that contains the Android SDKs (such as `C:\Program Files\Android\android-sdk` on a 32-bit machine).
5. Select **Android 2.2** and click **Apply**.
6. While on the **Preferences** dialog, select **Java** > **Build Path** > **Classpath Variables** and add a new workspace classpath variable to point to the `CobolAndroidDemo` directory with `CobolAndroidDemoRoot` as the **Name** and with the full path to the `CobolAndroidDemo` directory as its value.
7. Click **OK** twice.
8. To import the demo projects into the workspace click **File** > **Import**.
9. Select **Existing Projects into Workspace**.
10. Click **Browse** next to **Select root directory** and navigate to the folder which contains the demo projects.
11. Ensure all three projects are selected and click **Finish**.

    By default, Eclipse builds the projects automatically. You should have no build errors.

Running the application on an Android Virtual Device

1. In the Navigator view, right-click **InterestCalculatorClient** project and click **Run As > Android Application**.

   This launches the Android emulator and uploads the `InterestCalculatorClient.apk` package file to it. It might take up to 30 seconds for the emulator to start and for the package to be uploaded. If you display the Android console (available from the Display Selected Console icon on the right-hand side of the Eclipse console window), messages will show you the progress.
2. Enter different values in the fields and click **Illustration** to see the result.
3. Click **Save Quote**.
4. Click **Send to cloud**.

   The application makes an HTTP request to the Web page specified in the application's settings and appends a query string with all the parameters for the quote, as well as the longitude and latitude from the GPS device if one is available.
5. If you need to change the settings for the application, click the emulator's **Menu** button and then click **Settings** which appears at the bottom of the screen.

   You can change the URL for saving quotes and also select the name of a different loan advisor from the drop down list.
6. Click **Apply** to save your changes and return to the application screen.

   These changes persist until you delete the application from the emulator.

Running the Application on a Real Android Device

You use a USB cable to connect your PC to an Android phone or tablet in order to install the demo on it.

On Windows computers, you need to follow their instructions on installing the USB which can differ slightly from one device to another. On the device itself, you need to enable USB Debugging. Read *Using Hardware Devices* for instructions on how to set up your device.

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