IBM Worklight Foundation V6.2.0
Getting Started

Creating your first Native Android Worklight application
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For more information

- For more information about developing native Android applications, see the Worklight user documentation topic: "Developing native applications for Android"
Agenda

- Creating a Worklight native API
- Creating and configuring an Android native application
Creating a Worklight native API (1 of 4)

- IBM Worklight® Foundation provides the ability for the native Android applications to communicate with a Worklight Server by using the Worklight native API library.
- To serve a native Android application, the Worklight Server must be aware of it.
- The Worklight native API is in the apps folder of your Worklight project.
- The Worklight native API folder serves two purposes:
  - It contains a native API library and configuration file that you must copy to your native Android project.
  - It contains the application-descriptor.xml file, which you must deploy to a Worklight Server as an entry point, similar to a Worklight application.
- In this module, you learn how to create a Worklight native API and how to use its components in your native Android application.
Creating a Worklight native API (2 of 4)

1. In Worklight Studio, create a Worklight project, and add a Worklight Native API.

2. In the **New Worklight Native API** dialog, enter your application name, and select **Android** for the **Environment** field.

3. Right-click the **Worklight native app** folder and select **Run As > Deploy Native API**.
   - This action is required in order for the Worklight Server to recognize the application if it attempts to connect to the server, similar to Hybrid applications.
Creating a Worklight native API (3 of 4)

A Worklight native API contains several components:

- You use the `application-descriptor.xml` file to define application metadata and to configure security settings that the Worklight Server enforces.

- The `wlclient.properties` file contains the connectivity settings that a native Android application uses.

- The `worklight-android.jar` is the Worklight API library.

- You use the `gcm.jar` and `push.png` files for Google push notification services.

- The JSONStore folder is for optional JSONStore support in native applications.

- The armabi, armabi-v7a, mips, and x86 folders are for optional Application Authenticity Protection in native applications.

- Like with any Worklight project, you can create server configuration by modifying the files that are in the `server\conf` folder.
Creating a Worklight native API (4 of 4)

- Edit the `wlclient.properties` file, which holds server configuration:
  - `wlServerProtocol` – The communication protocol to the Worklight Server, which can be either `http` or `https`.
  - `wlServerHost` – The hostname of the Worklight Server.
  - `wlServerPort` – The port of the Worklight Server.
  - `wlServerContext` – The context root path of the application on the Worklight Server.
  - `wlAppId` – The application ID as defined in the `application-descriptor.xml` file.
  - `wlEnvironment` – The target environment of the native application (Android/iOS).
  - `wlUid` – This property is used by MTWW to identify this as a Worklight application.
  - `languagePreferences` – List of preferred locales.
  - `GcmSenderId` – This property defines the GCM Sender ID to be used for push notifications. By default, this property is commented.
Agenda

- Creating a Worklight native API
- Creating and configuring an Android native application
Creating and configuring an Android native application

- Create a native Android application or use an existing one.
  - Copy the `worklight-android.jar`, `uicandroid.jar`, `bcprov.jar`, and `android-async-http.jar` files from the Worklight native API folder to the new native Android application, in the `/libs` directory.
  - Copy the file `wlclient.properties` from the Worklight native API folder to the new native Android application, in the `/assets` directory.
  - Add the following permissions to the `AndroidManifest.xml` file:
    - `<uses-permission android:name="android.permission.INTERNET"/>`
    - `<uses-permission android:name="android.permission.ACCESS_WIFI_STATE"/>`
    - `<uses-permission android:name="android.permission.GET_TASKS"/>`
  - Add the Worklight UI activity:
    - `<activity android:name="com.worklight.wlclient.ui.UIActivity" />`

For more information, see the Worklight user documentation topic “Developing native applications for Android”.
Creating and configuring an Android native application

- After you run the application in Eclipse, the final result will be a native application that contains the Worklight API library.
- In the next training module, Native Worklight API will be implemented and demonstrated.
- A sample project with pre-defined Worklight API library is supplied for this training module.
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