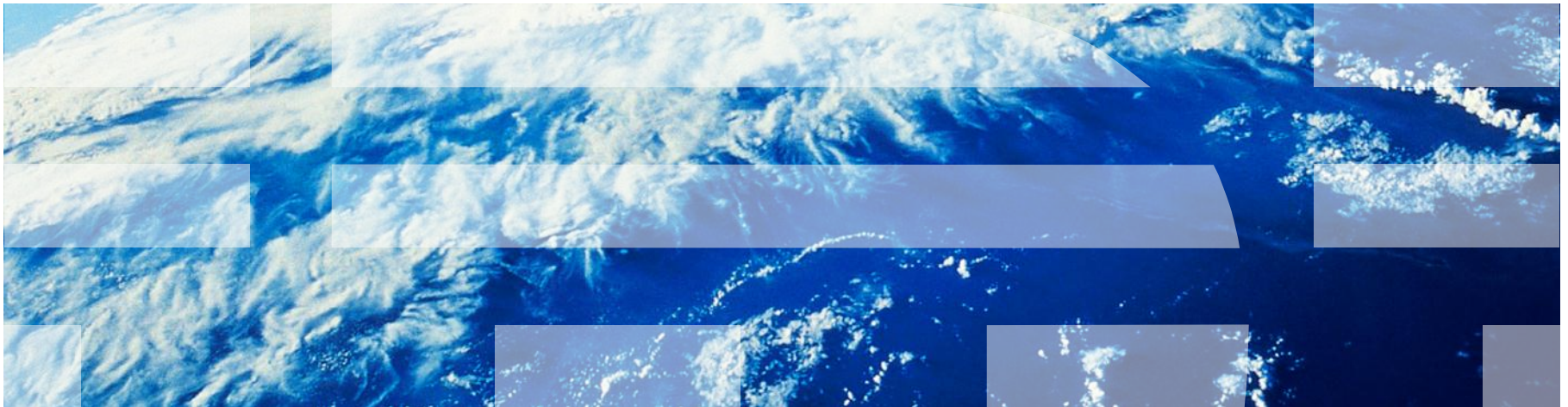# IBM Worklight Foundation V6.2.0
Getting Started

Using Direct Update to quickly update your application

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- About Direct Update

- Advantages

- Restrictions

- Under the hood

- User experience

- Disabling old application versions

About Direct Update

- With Direct Update, hybrid Android, iOS, and Windows Phone 8 applications can be updated automatically with new versions of their web resources.

- Hybrid applications are written in HTML, JavaScript, and CSS and can access native device features. The application web resources can be downloaded on the users' device, like mobile web applications.

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Advantages

- Organizations can ensure that users always use the latest version of the application.

- Better control of application versions, by notifying users of pending updates or preventing the use of obsolete versions.

- Updates that are deployed to the Worklight® Server are automatically pushed to user devices.

- Possible to push an update silently without user interaction.

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Restrictions

- Direct update of application web resources:
  - Support for Android, iOS, and Windows Phone 8.
  - Update is for the app **web resources** only.
    - To update native resources, you must upload a new version to the respective app store.

- OS-specific restrictions:
  - Android: no restrictions.
  - Windows Phone 8: no restrictions.
  - iOS:
    - B2C: according to the terms of service of your company; usually at least bug fixes are allowed.
    - B2E: through the iOS Developer Enterprise Program.

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Under the hood

- Direct Update is based on the Worklight Authentication Framework.

- Comes with pre-defined authentication realm and challenge handler.

- Can be adjusted in `authenticationConfig.xml` to the following modes:
  - `perSession`
  - `perRequest`
  - `disabled`

- UI/UX of the Direct Update process can be fully customized by using simple interfaces.

Under the hood – continued
Server-side customization

▪ By default, the `<mobileSecurityTest>` has Direct Update enabled in `perSession` mode:

```
<mobileSecurityTest name="mobileTests">

    <testAppAuthenticity/>

    <testDeviceId provisioningType="none" />

    <testUser realm="myMobileLoginForm" />

    <testDirectUpdate mode="perSession" />

</mobileSecurityTest>
```

▪ To Disable Direct Update, change its mode to `disabled`, and similarly to override it to other modes.

```
<testDirectUpdate mode="disabled" />
```

Under the hood – continued
Server-side customization

- By default, the `<customSecurityTest>` does not have any realms.

- To add a Direct Update realm to a custom security test, add a `<test>` element with the realm name `wl_directUpdateRealm` and define the required `mode` property:
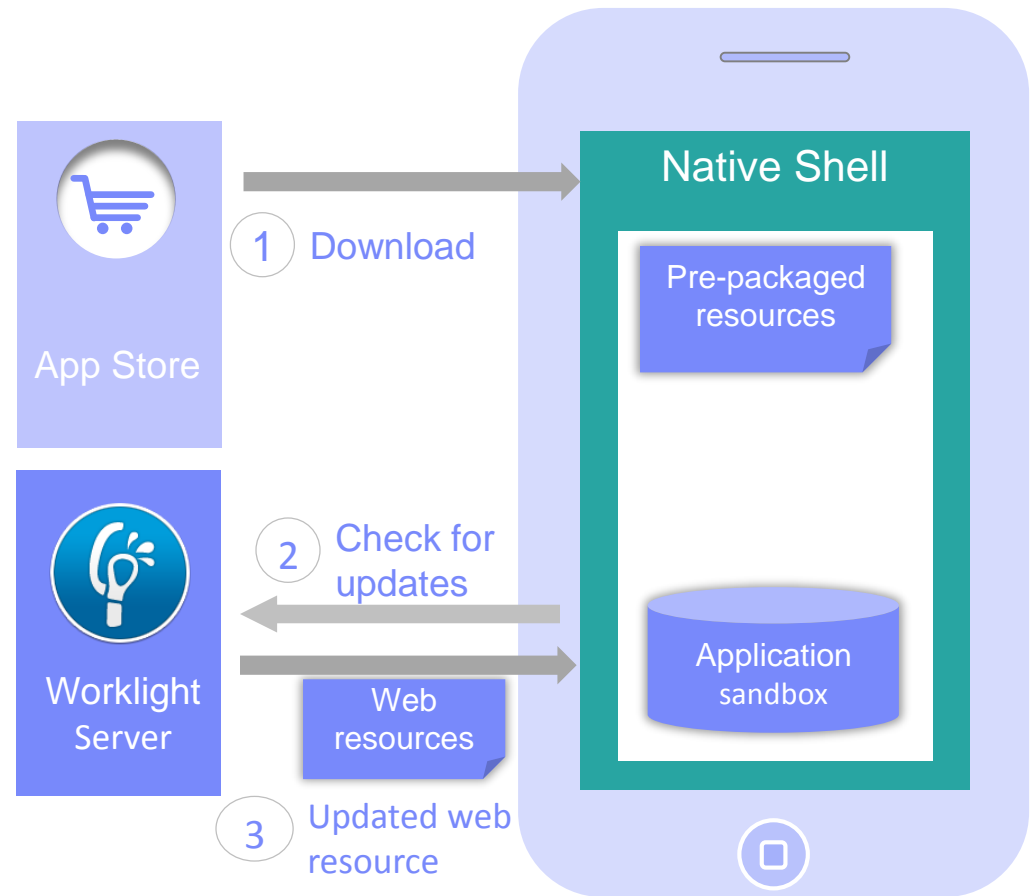
```
<customSecurityTest name="customTests">

    <test realm="wl_directUpdateRealm" mode="perRequest"/>

</customSecurityTest>
```

- For more information, see the Worklight user documentation topic: "**Direct Update as a security realm**".

Under the hood – continued
Internal function

- Web resources are initially packaged with the application to ensure first offline availability.

- The application checks for updates based on user configuration:

  – Per session, per request (can also be disabled).

- Updated web resources are downloaded when necessary.

- After Direct Update, the application will no longer use pre-packaged resources but those resources in the application sandbox.

App Store

1 Download

Native Shell

Pre-packaged resources

Worklight Server

2 Check for updates

Web resources

Application sandbox

3 Updated web resource

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User experience
Default behavior

- By default, once a Direct Update is received a **pop-up dialog** is displayed and the user is asked whether to start the update process.

- Once the user approves, a **progress bar** dialog is displayed and web resources begin downloading.

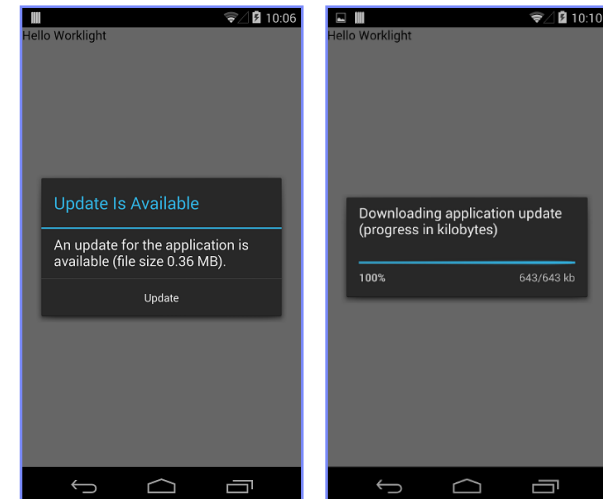- The web part of the application is automatically reloaded once the update is complete.

iOS
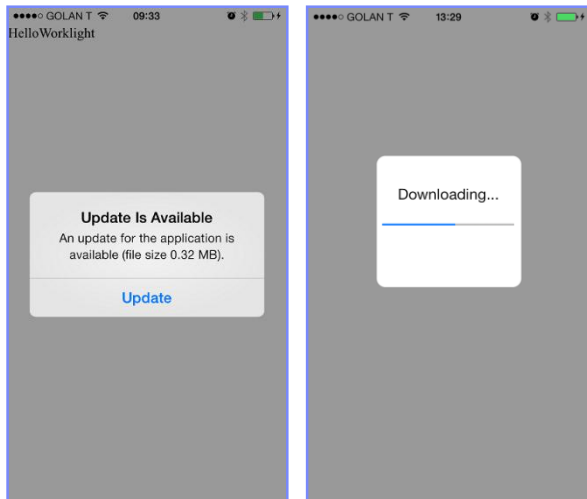
Windows Phone 8
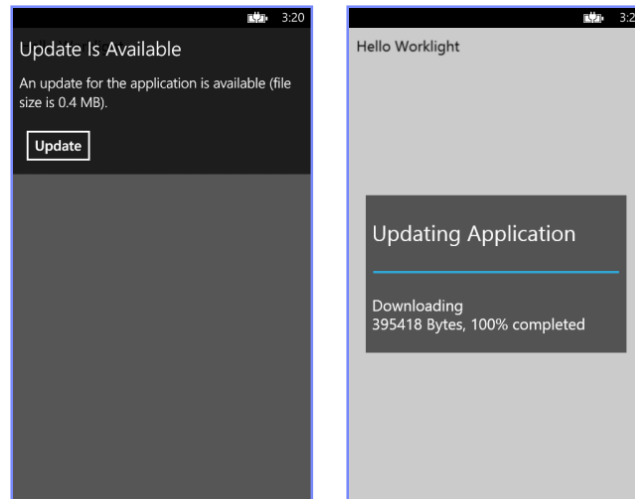
Android

User experience – continued
Customizing the UI/UX

- It is possible to override the default UI/UX and create a custom Direct Update behavior altogether.

- To do so, override the `handleDirectUpdate` function:

```
wl_DirectUpdateChallengeHandler.handleDirectUpdate = function(directUpdateData,
directUpdateContext) {

    // custom Direct Update logic

};
```

- `directUpdateData`

  - A JSON object containing the `downloadSize` property that represents the files size in bytes of the update package to be downloaded from the Worklight Server.

- `directUpdateContext`

  - A JavaScript object exposing `.start()` and `.stop()` functions that start and stop the Direct Update flow.

User experience – continued
Customizing the UI/UX

- In the example code in the next slide, a custom Direct Update dialog is presented to user, allowing to either continue with the update process or dismiss it.

- A customized new Direct Update UI can be, for example, either:

  - A `WL.SimpleDialog.`

  - A dialog that is created by using a third-party JavaScript framework (such as Dojo or jQuery Mobile).

  - Fully native UI by executing a Cordova plug-in.

  - An alternate HTML file that is presented to the user with options.

  - And so on…

User experience – continued
Customizing the UI/UX

```javascript
wl_directUpdateChallengeHandler.handleDirectUpdate = function(directUpdateData,
directUpdateContext) {
    // custom WL.SimpleDialog for Direct Update
    var customDialogTitle = 'Custom Title Text';
    var customDialogMessage = 'Custom Message Text';
    var customButtonText1 = 'Update Application';
    var customButtonText2 = 'Not Now';

    WL.SimpleDialog.show(customDialogTitle, customDialogMessage,
        [{
            text : customButtonText1,
            handler : function() {
                directUpdateContext.start();
            }
        },
        {
            text : customButtonText2,
            handler : function() {
                wl_directUpdateChallengeHandler.submitFailure();
            }
        }]
    );
};
```
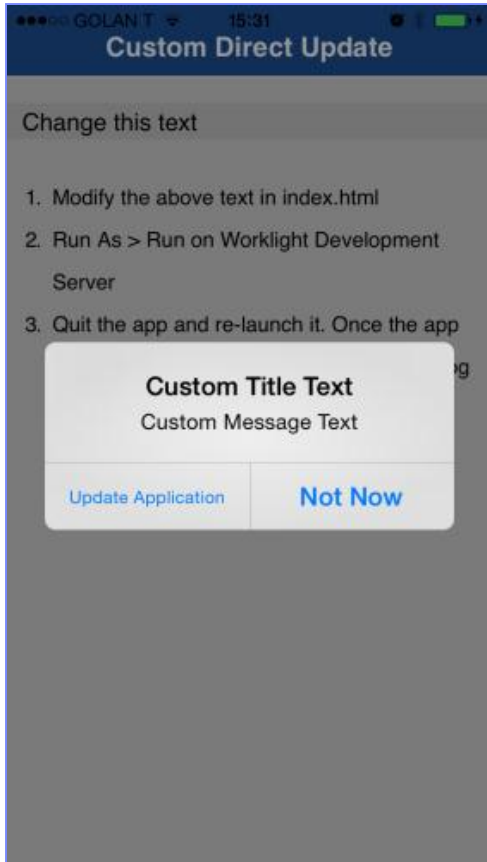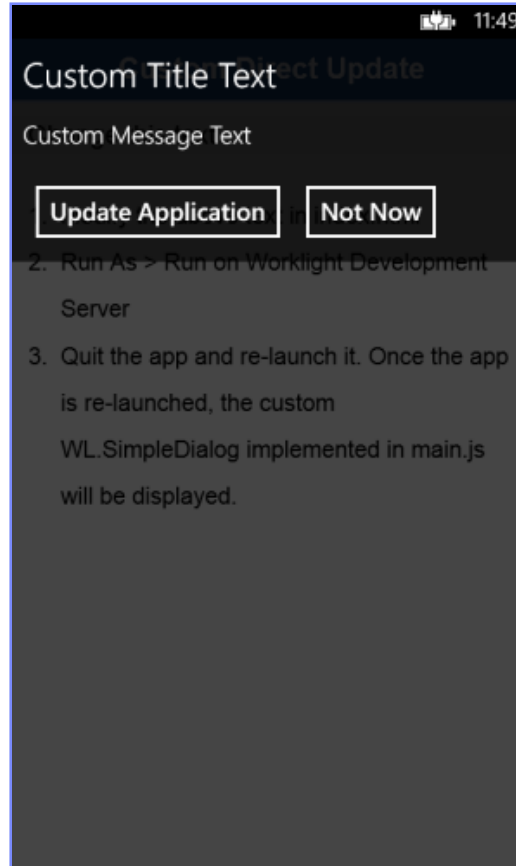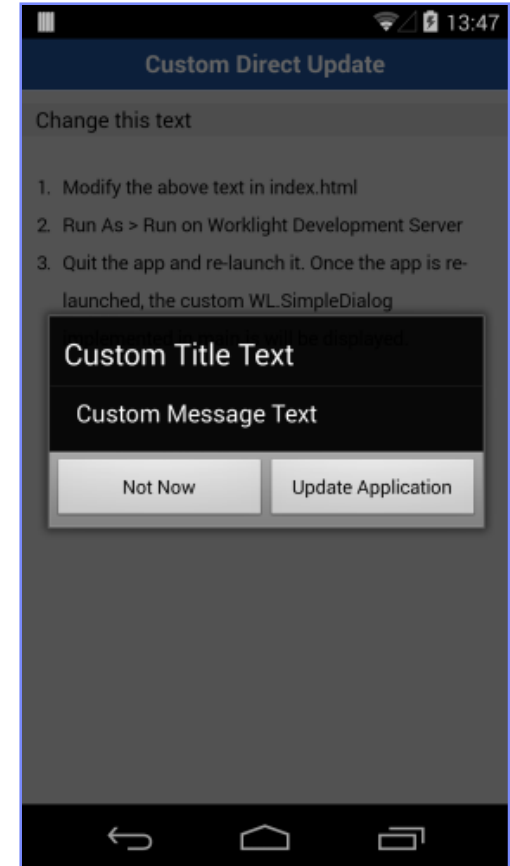
User experience – continued
Customizing the UI/UX

iOS   **Windows Phone 8**   **Android**

User experience – continued
Customizing the UI/UX

- In the example code in the previous slide, `submitFailure` was used to dismiss the Direct Update:

  `wl_directUpdateChallengeHandler.submitFailure();`

- As mentioned, when the developer creates a customized Direct Update experience, the responsibility for its flow now belongs to the developer.

- As such, it is important to call `submitFailure`() to notify the Worklight framework that the process completed with a "failure". The Worklight framework in turn invokes `onFailure` callback of the invocation that triggered the Direct Update.

  – Because the update process did not take place, it will occur again the next time it is triggered.

User experience – continued
Customizing the UI/UX

- Optionally, a developer can also supply a Direct Update *listener* to fully control a Direct Update's lifecycle.

```
directUpdateContext.start(directUpdateCustomListener);
```

- For more information, see the Worklight user documentation topic: "**Customizing the direct update interface**".

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Distribution
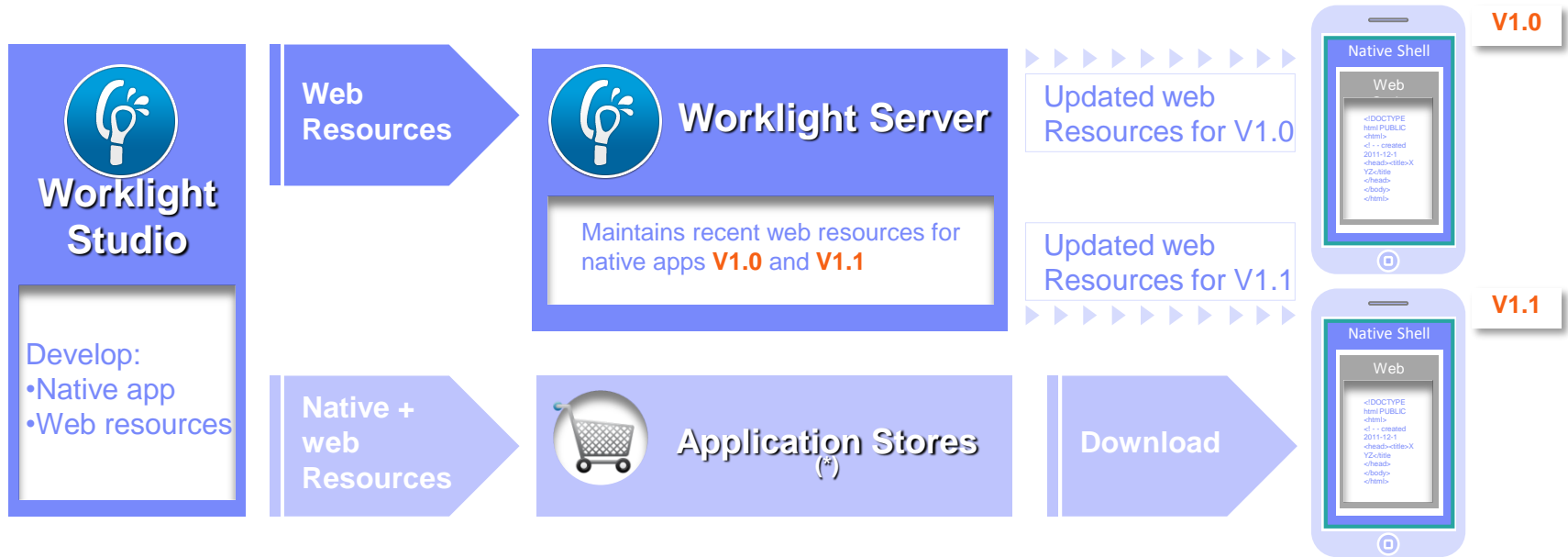
(*) During development cycles, testers automatically get recent web resources through internal distribution mechanisms and not through application stores.

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Disabling old application versions

- You can use the Worklight Console to prevent users from using obsolete versions and to notify users about available updates.

- Clarification: The Remote Disable feature prevents users from interacting with the Worklight Server only; that is, it prevents the app from fetching new data. The application itself is still accessible.

  – Any action in the application that requires server connectivity is blocked.
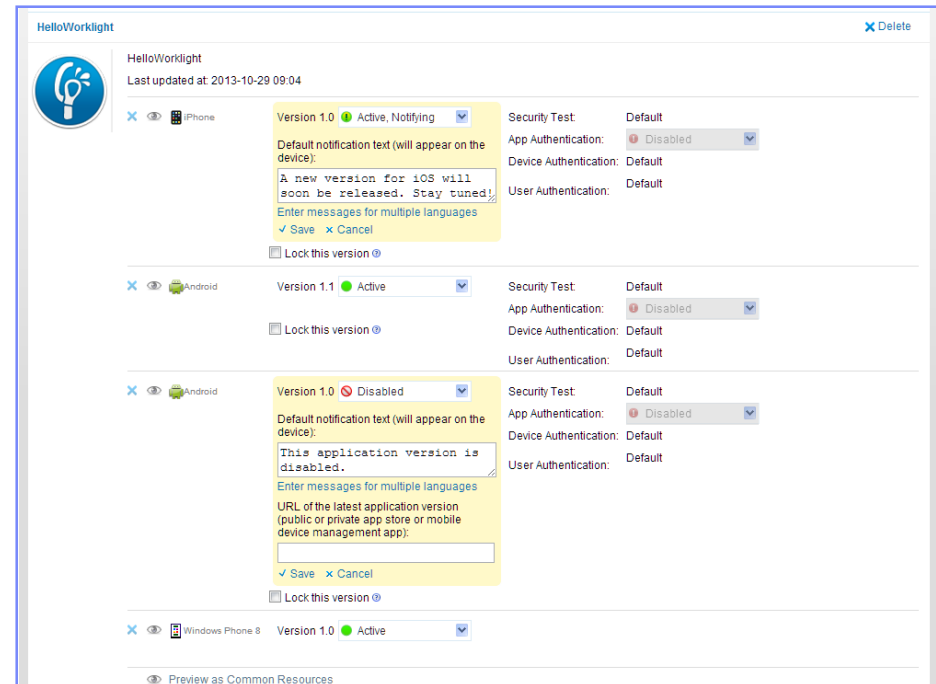
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