# Tag and Broadcast Notifications in Native Windows 8 Applications

## Overview

**Prerequisite:** Make sure that you read the Push notifications in native Windows 8 applications (../) tutorial first.

Tag notifications are notification messages that are targeted to all the devices that are subscribed to a particular tag.
Tags represent topics of interest to the user and provide the ability to receive notifications according to the chosen interest.

Broadcast notifications are a form of tag push notifications that are targeted to all subscribed devices. Broadcast notifications are enabled by default for any push-enabled MobileFirst application by a subscription to a reserved `Push.all` tag (auto-created for every device). This ability can be disabled by by unsubscribing from the reserved `Push.all` tag.

### Agenda

- Notifications configuration
- Notifications API
- Sample application

## Notifications configuration

### Tag Notifications configuration

#### Setting up tags

Tags are defined in the `application-descriptor.xml` file:

```
<nativeWindows8App xmlns="http://www.worklight.com/native-windows8-descriptor" id="NativeWin8TagNotifications" platformVersion="7.0.0.00.20150312-0731" version="1.0"></p>
<pushSender clientSecret="WNS_CLIENT_SECRET" packageSID="WNS_PACKAGE_SID"/>
...
...
...
<tags>
  <tag>
    <name>my tag 1</name>
    <description>About my tag 1</description>
  </tag>
  <tag>
    <name>my tag 2</name>
    <description>About my tag 2</description>
  </tag>
</tags>
```

# Notifications API

## API methods for tag notifications

### Client-side API

- `WLPush.subscribeTag(tagName,options)` - Subscribes the device to the specified tag name.
- `WLPush.unsubscribeTag(tagName,options)` - Unsubscribes the device from the specified tag name.
- `WLPush.isTagSubscribed(tagName)` - Returns whether the device is subscribed to a specified tag name.

## Common API methods for tag and broadcast notifications

### Client-side API

- `WLNotificationListener`
  Defines the callback method to be notified when the notification arrives.
- `WLPush.notificationListener = new MyNotificationListener();`
  Sets the implementation class of the `WLNotificationListener` interface.
- `WLPush.onReadyToSubscribeListener`
  This method registers a listener to be used for push notifications. This listener should implement the `onReadyToSubscribe()` method.
- The `onMessage(props,payload)` method of `WLNotificationListener` is called when a push notification is received by the device.
  - **props** - A JSON block that contains the notifications properties of the platform.
  - **payload** - A JSON block that contains other data that is sent from MobileFirst Server. The JSON block also contains the tag name for tag-based or broadcast notification. The tag name appears in the "tag" element. For broadcast notification, the default tag name is `Push.ALL`.

### Server-side API

`WL.Server.sendMessage(applicationId,notificationOptions)`
This method submits a notification based on the specified target parameters and takes two mandatory parameters:

- `applicationId` - (mandatory) The name of the MobileFirst application
- `notificationOptions` - (mandatory) A JSON block containing message properties

> For a full list of message properties, see the `WL.Server.sendMessage` API in the API reference of the user documentation.

# Sample application

Click to download (https://github.com/MobileFirst-Platform-Developer-Center/TagNotifications/tree/release71) the MobileFirst project.
Click to download (https://github.com/MobileFirst-Platform-Developer-Center/TagNotificationsWin8/tree/release71) the Native project.

- The `TagNotifications` project contains a MobileFirst native API that you can deploy to your MobileFirst Server instance.

- The `TagNotificationsWin8` project contains a native Windows 8 Universal application that uses a MobileFirst native API library to subscribe to push notifications and receive notifications from Windows Notification Services (WNS).
- Make sure to update the `wlclient.properties` file in the native project with the relevant server settings.

## Sending a notification

To test the application is able to receive a push notification you can perform one of the following:

1. From MobileFirst Studio, right-click the adapter folder, select **Call MobileFirst Adapter** and:
   - If selecting the "sendBroadcastNotification" procedure, provide the application ID and notification text in quotation marks.
   - If selecting the "sendTagNotification" procedure, provide the application ID, notification text and tag name in quotation marks.
   - The application ID can be determined from the `id` attribute in `application-descriptor.xml`:

     ```
     <application ... id="NativeWin8TagNotifications" ...>
     ```

2. If using the CLI:

   ```
   $ mfp adapter call
   [?] Which endpoint do you want to use? PushAdapter/sendBroadcastNotification
   [?] Enter the comma-separated parameters: "NativeWin8TagNotifications","hello"
   [?] How should the procedure be called? GET
   ```

   Or:

   ```
   $ mfp adapter call
   [?] Which endpoint do you want to use? PushAdapter/sendTagNotification
   [?] Enter the comma-separated parameters: "NativeWin8TagNotifications","hello","sample-tag1"
   [?] How should the procedure be called? GET
   ```