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# What is Android Install Referrer?

**Android Install Referrer** implements [Google Play Install Referrer API](#) that securely retrieve referral content from Google Play, such as:

- The referrer URL of the installed package;
- The timestamp, of when a referrer click happened (both client- and server-side);
- The timestamp, of when an installation began (both client- and server-side);
- The app's version at the time when the app was first installed;
- Whether the user has interacted with your app's instant experience in the past 7 days.

Also referrer URL is often used to provide rewards to the users.

This works on Personal/Plus/Pro/Enterprise Unity, suitable for Android with any firmwares, that Unity supports.

The Install Referrer API is exposed by the Google Play Store app on a device. Devices with a Google Play app version of 8.3.73 or later automatically have access to the API. You must also have a Google Play Console account to use the Install Referrer API.

## InstallReferrer class

**InstallReferrer** is static class that requests install referrer data using android library (AndroidInstallReferrer.jar).

**InstallReferrer** class has method:

`public static void GetReferrer(Action<InstallReferrerData> callback)` - requests install referrer data and returns it into callback parameter.

## InstallReferrerData class

**InstallReferrerData** is class that contains install referrer data.

**InstallReferrerData** class has fields:

`public string InstallReferrer` - the referrer URL of the installed package;  
`public string InstallVersion` - the app's version at the time when the app was first installed;

`public bool GooglePlayInstant` - indicates whether your app's instant experience was launched within the past 7 days;

`public DateTime InstallBeginTime` - the client-side timestamp, when app installation began;

`public DateTime InstallBeginServerTime` - the server-side timestamp, when the referrer click happened;

`public DateTime ReferrerClickTime` - the client-side timestamp, when the referrer click happened;

`public DateTime ReferrerClickServerTime` - the server-side timestamp, when the referrer click happened;

`public string Error` - error while getting install referrer data;

`public bool IsSuccess` - returns whether the data was received successfully.

**InstallReferrerData** class has methods:

`public string[] SplitParameters()` - returns InstallReferrer parameters, splitted by '&' and '?' characters, for example:

Install referrer URL:

`utm_source=google&utm_medium=cpc&utm_term=1&utm_content=2&utm_campaign=3&anid=admob`

Splitted parameters:

`[utm_source=google, utm_medium=cpc, utm_term=777, utm_content=123, utm_campaign=456, anid=admob]`

`public Dictionary<string, string> ParseParameters()` - returns Dictionary of the parsed InstallReferrers parameters, for example:

Install referrer URL:

`utm_source=google&utm_medium=cpc&utm_term=1&utm_content=2&utm_campaign=3&anid=admob`

Parsed parameters:

`[utm_source, google], [utm_medium, cpc], [utm_term, 777], [utm_content, 123], [utm_campaign, 456], [anid, admob]`

## Implementation

To invoke request to get install referrer data, invoke method:

```
InstallReferrer.GetReferrer(OnGetData);
```

Also add callback method that will process install referrer data:

```
//Process referrer data
private void OnGetData(InstallReferrerData data)
{
    if (data.IsSuccess)
    {
        //Getting referrer data was succeed, print it to console
        Debug.Log(data.InstallReferrer);
        Debug.Log(data.InstallVersion);
        Debug.Log(data.GooglePlayInstant);
        Debug.Log(data.InstallBeginTime);
        Debug.Log(data.ReferrerClickTime);
    }
    else
        //Error while getting referrer data
        Debug.Log(data.Error);
}
```

# Testing in Unity Editor

As Unity Editor can't run Android Java code, `InstallReferrer.GetReferrer(...)` will contain code in the method body only on Android device. For testing in Unity Editor, fill `InstallReferrerData` as done in `AndroidInstallReferrerDemo.Awake()` method, for emulating the received referral data:

```
InstallReferrer.GetReferrer(OnGetData);

//Emulating install referrer data in Unity Editor:

#if UNITY_EDITOR

    OnGetData(new

InstallReferrerData("utm_source=google&utm_medium=cpc&utm_term=1&utm_content=2&utm_campaign=3&anid=admob", "1.0", false, DateTime.Now,
DateTime.Now, DateTime.Now));

#endif
```

## Testing on Android Device

Install referrer can be tested by uploading .apk to Google Play Console.

Also there is another way to test it on development stage:

1. Create a link using Google Play URL Builder: <https://developers.google.com/analytics/devguides/collection/android/v3/campaigns#google-play-url-builder>.

Generated link example:

[https://play.google.com/store/apps/details?id=com.intellijoy.sightwords&referrer=utm\\_source%3Dgoogle%26utm\\_medium%3Dcpc%26utm\\_term%3D777%26utm\\_content%3D1%26utm\\_campaign%3D2%26anid%3Dadmob](https://play.google.com/store/apps/details?id=com.intellijoy.sightwords&referrer=utm_source%3Dgoogle%26utm_medium%3Dcpc%26utm_term%3D777%26utm_content%3D1%26utm_campaign%3D2%26anid%3Dadmob)

2. Open it using Google Play (don't tap on Install button)
3. Install app using adb (`adb install -r <path_to_apk>`)
4. Open app on android device, it will return install referrer data

Please let me know if you have any questions.

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