



CODE SNIPPETS

☑ "todo app" + auth

Manifest

AndroidManifest.xml

```
<uses-permission android:name="android.permission.INTERNET"/>
```

Controller

MainActivity.java

```
import com.microsoft.windowsazure.mobileservices.*;

private MobileServiceClient mClient;
private MobileServiceTable<ToDoItem> mToDoTable;

public void onCreate(Bundle savedInstanceState) {
    // ...
    mClient = new MobileServiceClient(
        "https://**your-domain**.azure-mobile.net/",
        "**AZURE-MOBILE-SERVICE-KEY**",
        this
    );
    authenticate();
}

private void authenticate() {
    mClient.login(MobileServiceAuthenticationProvider.Twitter,
        new UserAuthenticationCallback() {
            @Override
            public void onCompleted(...) {
                // ...
                createTable();
            }
        });
}

private void createTable() {
    // Get the Mobile Service Table instance to use
    mToDoTable = mClient.getTable(ToDoItem.class);
    // Get the Todo items
    refreshItemsFromTable();
}
```

Model

ToDoItem.java

```
@com.google.gson.annotations.SerializedName("id")
private String mId;
public String getId() { return mId; }
public final void setId(String id) { mId = id; }
// ...
```

Azure TodoItem > Script > Insert

Insert.js

```
function insert(item, user, request) {
    item.userId = user.userId;
    request.execute();
}
```

Azure TodoItem > Script > Read

Read.js

```
function read(query, user, request) {
    query.where({userId:user.userId});
    request.execute();
}
```

AZURE MOBILE SERVICES

Start Azure free trial (📧 required to verify your identity)
http://aka.ms/azure_trial

ANDROID SDK MANAGER

Install Android Studio / Android SDK
<https://developer.android.com/sdk/installing/studio.html>

OAUTH GUIDES

Twitter

<http://azure.microsoft.com/en-us/develop/mobile/how-to-guides/register-for-twitter-authentication/>

Facebook

<http://azure.microsoft.com/en-us/develop/mobile/how-to-guides/register-for-facebook-authentication/>

Microsoft Live

<http://azure.microsoft.com/en-us/develop/mobile/how-to-guides/register-for-microsoft-authentication/>

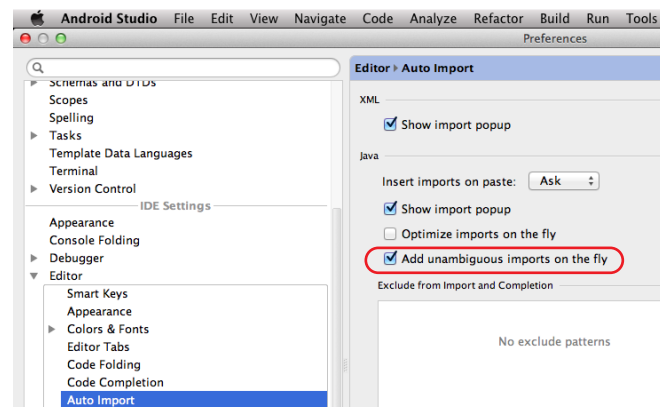
Google+

<http://azure.microsoft.com/en-us/develop/mobile/how-to-guides/register-for-google-authentication/>



Android Studio HOT TIP!

Auto Import 'Add unambiguous imports'



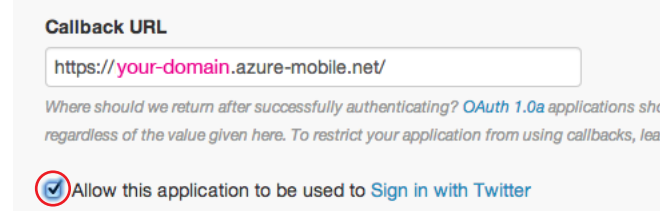
Beware of the BLOCKERS!

Import 'Eclipse' project in Android Studio

▶ File > Import Project...

Enable Twitter app Sign in setting

<https://apps.twitter.com>



▶ Check allow app to "Sign in with Twitter"



CODE SNIPPETS

push notifications

Manifest

AndroidManifest.xml

```
<permission android:name="**my_app_package**.permission.C2D_MESSAGE"
    android:protectionLevel="signature"/>
<uses-permission android:name="**my_app_package**.permission.C2D_MESSAGE"/>
<uses-permission android:name="com.google.android.c2dm.permission.RECEIVE"/>
<uses-permission android:name="android.permission.GET_ACCOUNTS"/>
<uses-permission android:name="android.permission.WAKE_LOCK"/>
```

```
<receiver
    android:name="com.microsoft.windowsazure.notifications.NotificationsBroadcastReceiver"
    android:permission="com.google.android.c2dm.permission.SEND">
    <intent-filter>
        <action android:name="com.google.android.c2dm.intent.RECEIVE" />
        <category android:name="**my_app_package**" />
    </intent-filter>
</receiver>

</application>
</manifest>
```

Controller

ToDoActivity.java

```
private static MobileServiceClient mClient;
public static MobileServiceClient getClient() { return mClient; }
```

```
public void onCreate(Bundle savedInstanceState) {
    // ...
    NotificationsManager.handleNotifications(this,
    "**google-project-number**", MyPushNotificationHandler.class);
}
```

Model

Channel.java

```
// ...
@com.google.gson.annotations.SerializedName("handle")
private String mHandle;
public String getHandle() { return mHandle; }
public final void setHandle(String handle) { mHandle = handle; }
```

Push Handler

MyPushNotificationHandler.java

```
public class MyPushNotificationsHandler extends NotificationsHandler {
    @Override
    public void onRegistered(Context context, String gcmRegistrationId)
    {
        super.onRegistered(context, gcmRegistrationId);
        // + Support push notifications to users...
        MobileServiceClient client = ToDoActivity.getClient();
        MobileServiceTable<Channel> registrations = client.getTable(Channel.class);

        // Create a new Registration
        Channel channel = new Channel();
        channel.setHandle(gcmRegistrationId);

        // Insert the new Registration
        registrations.insert(channel, new TableOperationCallback<Channel>() {
            // onCompleted ...
        });
    }
}
```

Azure TodoItem > Script > Insert

Insert.js

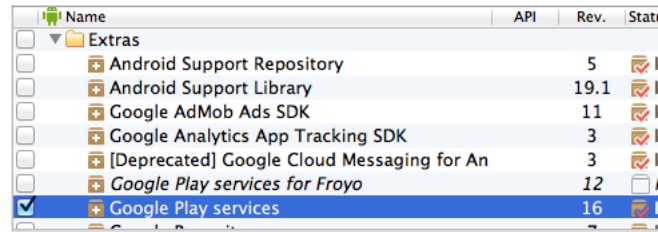
```
request.execute({
    success: function() {
        request.respond();
        sendNotifications(item.text);
    }
});
// ... function sendNotifications(item_text)
```

MOBILE SERVICES CLIENT

Download Mobile Services client libraries for Android
<http://azure.microsoft.com/en-us/develop/mobile/developer-tools/>

ANDROID SDK MANAGER

Install Google Play Services (for Push Notifications)



Beware of the BLOCKERS!

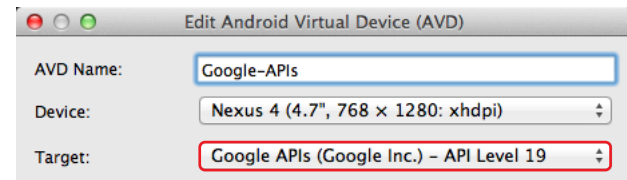
Activate API in Google Cloud Console

<https://cloud.google.com/console>



▶ Turn ON 'Google Cloud Messaging'

Enable Push Notifications on Android Virtual Device



▶ Edit AVD Target to use Google APIs

Copy Push Notifications libs



notifications-1.0.1.jar

<https://go.microsoft.com/fwlink/?LinkID=280126&clid=0x409>



google-play-services.jar

android-sdk/extras/google/google_play_services/
 libproject/google-play-services_lib/libs

▶ Copy jar files into your project 'libs' folder

Android Studio libraries not resolving?

Add Gradle dependencies

[build.gradle](#)

```
dependencies {
    compile 'com.android.support:support-v4:+'
    compile 'com.google.code.gson:gson:2.2.2'
    compile fileTree(dir: 'libs', include: ['*.jar'])
}
```

▶ Rebuild, or try quit & reopen project

Azure Mobile Service Logs – 500 Error

▶ Check your node.js script is valid format.

