
Nervousnet Mobile API's

How-To build an Android Native Axon App

- **Overview**

This document specifies a How-To step-by-step guide of integrating the nervousnet Mobile Library into your Android Project to use the Mobile API's.

A Nervousnet Extension Android application is any Android App that uses the nervousnet Mobile API's to access sensor and other related data from Nervousnet Mobile application.

- **Prerequisites**

Since nervousnet Mobile APIs is based on the Android Services and Android Interface Definition Language (AIDL) it would be good to read and understand how it works at:

<https://developer.android.com/guide/components/services.html>

<https://developer.android.com/guide/components/aidl.html>

For using the nervousnet mobile API's requires calling a remote interface defined with AIDL

<https://developer.android.com/guide/components/aidl.html#Calling>

- **Tools**

- Eclipse
- Android ADT Plugin for Eclipse
- Android Studio (not tested, but importing the project should work)

- **JavaDoc**

<https://github.com/nervousnet/nervousnet-android/tree/master/Documents/Technical/Android/APIs>

- Click on index.html to launch the API documentation in your browser.
- NervousnetRemote Interface lists all API's that can be used by External Apps.

- **Source Code**

- 1) Nervousnet Project

<https://github.com/nervousnet/nervousnet-android>

- 2) Nervousnet Library Project (nervousnetLIB)

3) Sample Extension Project (LightMeter, Accelerometer & Noisemeter)

(Inside GitHub project -> Mobile Clients -> Android -> Sample Extensions -> *)

<https://github.com/nervousnet/nervousnet-android/tree/master/MobileClients/Android/SampleExtensions/Lightmeter>

<https://github.com/nervousnet/nervousnet-android/tree/master/MobileClients/Android/SampleExtensions/Accelerometer>

<https://github.com/nervousnet/nervousnet-android/tree/master/MobileClients/Android/SampleExtensions/Noisemeter>

• Steps

- 1) Include the *nervousnetLIB* project as a library project of your base project.
- 2) Declare an instance of the *NervousnetRemote* Interface

```
protected NervousnetRemote mService
```

- 3) Implement *ServiceConnection*.

```
private ServiceConnection mServiceConnection;  
mServiceConnection = new ServiceConnection() {  
  
    @Override  
    public void onServiceDisconnected(ComponentName name) {  
        mService = null;  
        mServiceConnection = null;  
    }  
  
    @Override  
    public void onServiceConnected(ComponentName name, IBinder service) {  
        mService = NervousnetRemote.Stub.asInterface(service); // Step 5  
    }  
};
```

- 4) Call Context.bindService(), passing in your ServiceConnection implementation.

```
Intent it = new Intent();  
it.setClassName("ch.ethz.coss.nervousnet.hub", "ch.ethz.coss.nervousnet.hub.NervousnetHubApiService");  
  
bindService(it, mServiceConnection, 0);
```

- 5) In your implementation of onServiceConnected(), you will receive an IBinder instance (called service). Call YourInterfaceName.Stub.asInterface((IBinder)service) to cast the returned parameter to YourInterface type.

```
mService = NervousnetRemote.Stub.asInterface(service);
```

- 6) Call the methods that you defined on your interface. You should always trap DeadObjectException exceptions, which are thrown when the connection has broken; this will be the only exception thrown by remote methods.

```
LightReading lReading = mService.getLightReading();
```

Check JavaDoc for a complete list of APIs.. NervousnetRemote interface are current supported functions.

- 7) To disconnect, call Context.unbindService() with the instance of your interface.

```
unbindService(mServiceConnection);
```

- **Google Play Store Links:**

- 1) Nervousnet Mobile App

<https://play.google.com/store/apps/details?id=ch.ethz.coss.nervousnet.hub>

- 2) Nervousnet – Sample Native Axon App List

LightMeter: <https://play.google.com/store/apps/details?id=ch.ethz.coss.nervousnet.extensions.lightmeter>

NoiseMeter: <https://play.google.com/store/apps/details?id=ch.ethz.coss.nervousnet.extensions.noisemeter>

Accelometer: <https://play.google.com/store/apps/details?id=ch.ethz.coss.nervousnet.extensions>.