Broadcast Receivers

Introduction

- The `BroadcastReceiver` class is the base class for code that is capable of receiving intents, sent by calling the `sendBroadcast()` method.

Registering a Receiver

- Registering a `BroadcastReceiver` object can be done either dynamically by calling the `Context.registerReceiver()` method or statically by using the `<receiver>` tag in the applications `AndroidManifest.xml` file.

Receiver Life Cycle

- The receiver is valid for the duration of the call to the `onReceive(Context,Intent)` method only.
- When the execution returns from this function, the receiver is no longer active.
- It is common to have our receiver tied with a service that will be notified each time the receiver `onReceive(Context,Intent)` method is called.

Code Sample

- The following code sample includes a broadcast receiver that is capable of receiving SMS messages.
- The PDU (Protocol Description Unit) industry protocol defines a standard way for representing an SMS message.
- The incoming message was be read and hand-held quick.
- The broadcast receiver doesn't have any foreground the user can see. Therefore, it isn't possible to display any user interface.

Code Sample

```
public class MySMSReceiver extends BroadcastReceiver
{
    private static final String SMS_RECEIVE_ACTION =
        "android.provider.Telephony.SMS_RECEIVED";

    @Override
    public void onReceive(Context context, Intent intent)
    {
        Log.i("sms_receiver","within the onReceive method");
        if (intent != null
            && intent.getAction() != null
            && intent.getAction().compareToIgnoreCase(SMS_RECEIVE_ACTION) == 0)
        {
            Object[] vec = (Object[]) intent.getExtras().get("pdus");
            SmsMessage[] messages = new SmsMessage[vec.length];
            for (int i = 0; i < vec.length; i++)
            {
                messages[i] = SmsMessage.createFromPdu((byte[]) vec[i]);
                Log.i("sms_receiver", messages[i].getMessageBody());
            }
        }
    }
}
```

Code Sample

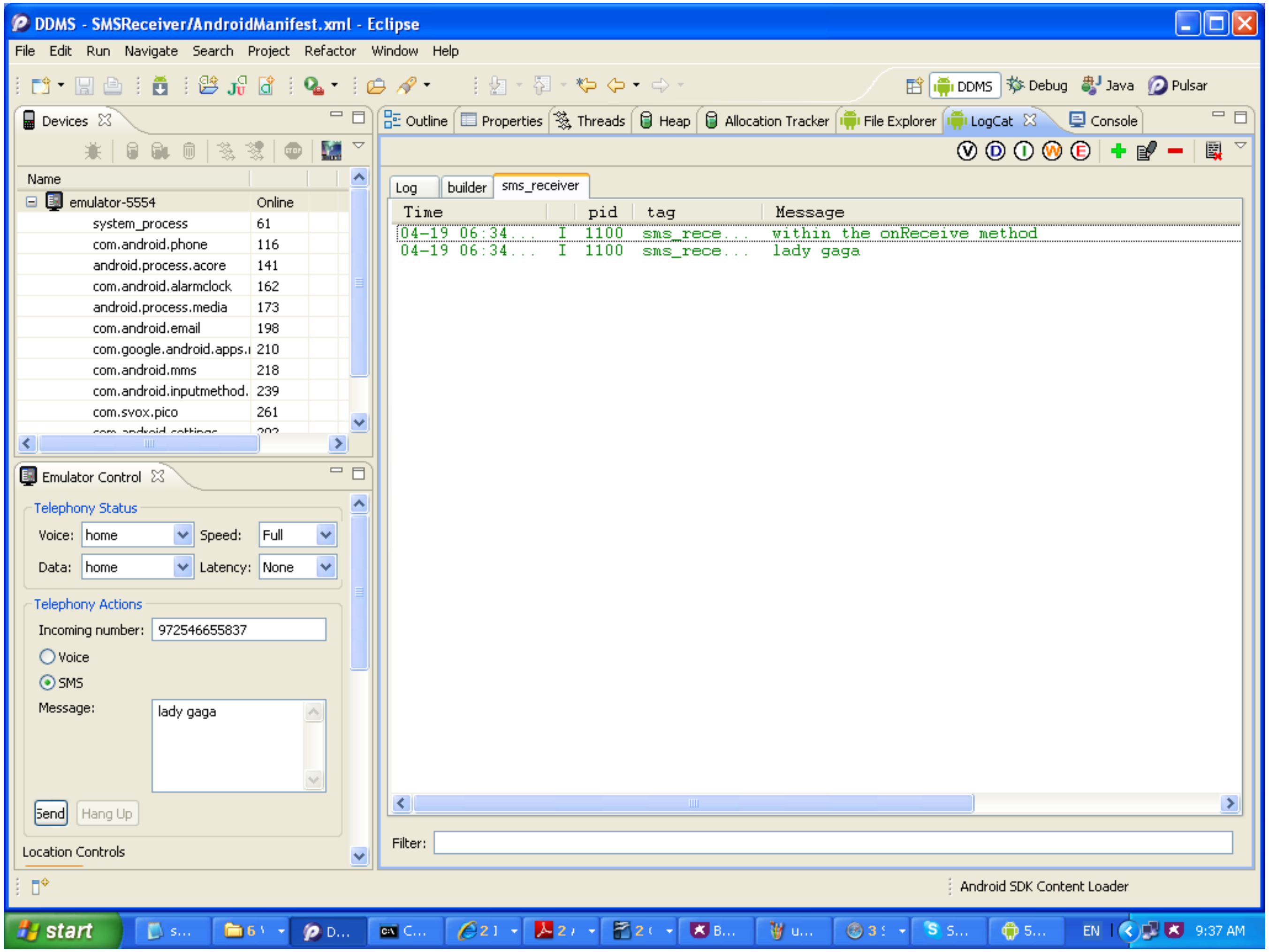
```
<?xml version="1.0" encoding="utf-8"?>

<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.abelski.samples" android:versionCode="1"
    android:versionName="1.0">

    <application android:icon="@drawable/icon" android:label="@string/app_name">
        <activity android:name=".SMSReceiverActivity"
            android:label="@string/app_name">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
        <receiver android:name=".MySMSReceiver">
            <intent-filter>
                <action android:name="android.provider.Telephony.SMS_RECEIVED" />
            </intent-filter>
        </receiver>
    </application>

    <uses-sdk android:minSdkVersion="7" />
    <uses-permission android:name="android.permission.RECEIVE_SMS" />
</manifest>
```

Code Sample



DDMS - SMSReceiver/AndroidManifest.xml - Eclipse
File Edit Run Navigate Search Project Refactor Window Help
DDMS Debug Java Pulsar
Devices
Outline Properties Threads Heap Allocation Tracker File Explorer LogCat Console
Log builder sms_receiver
Emulator Control
Send Hang Up
Location Controls
Filter:
Android SDK Content Loader
start
EN 9:37 AM

Name	
emulator-5554	Online
system_process	61
com.android.phone	116
android.process.acore	141
com.android.alarmclock	162
android.process.media	173
com.android.email	198
com.google.android.apps.i	210
com.android.mms	218
com.android.inputmethod.	239
com.svox.pico	261

Telephony Status

Voice: home Speed: Full

Data: home Latency: None

Telephony Actions

Incoming number: 972546655837

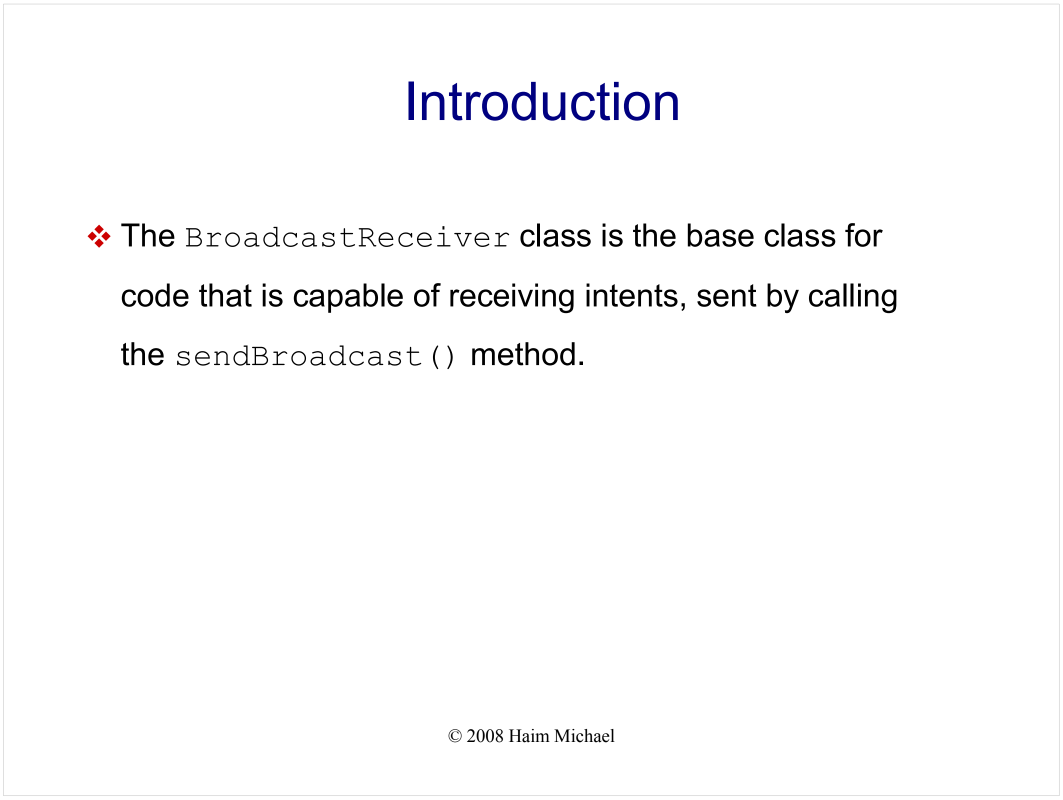
○ Voice

● SMS

Message: lady gaga

```
 Time           pid   tag          Message
04-19 06:34...  I  1100  sms_rece...  within the onReceive method
04-19 06:34...  I  1100  sms_rece...  lady gaga
```

Broadcast Receivers



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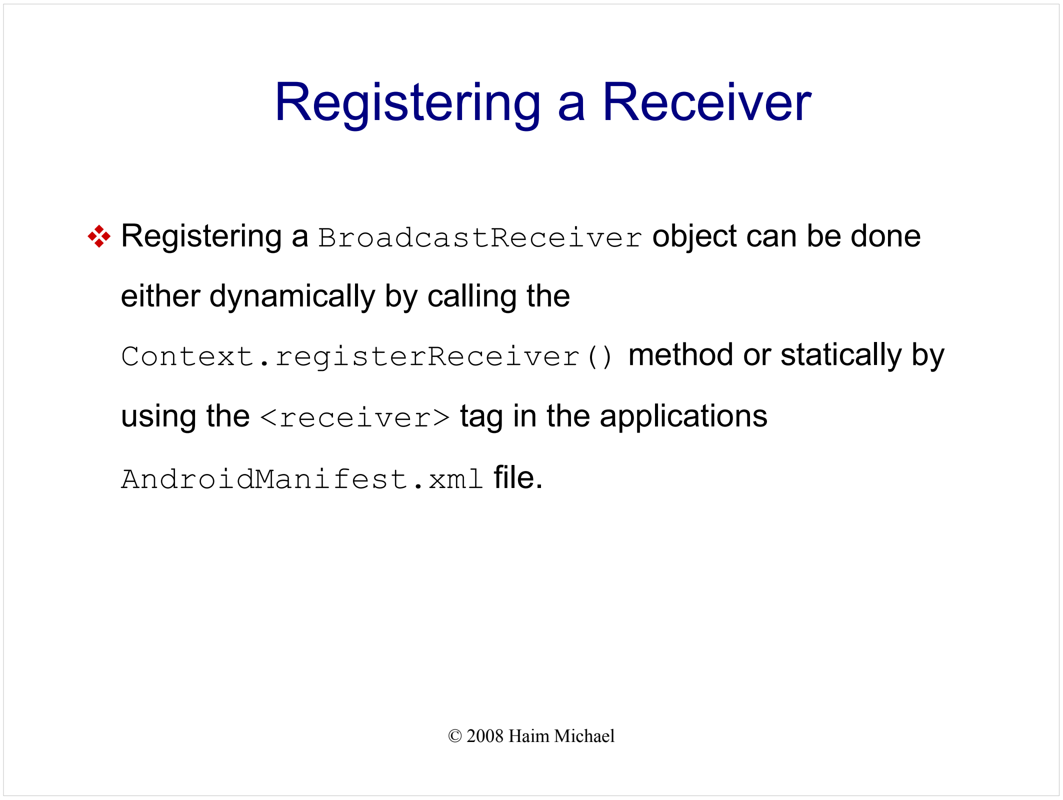

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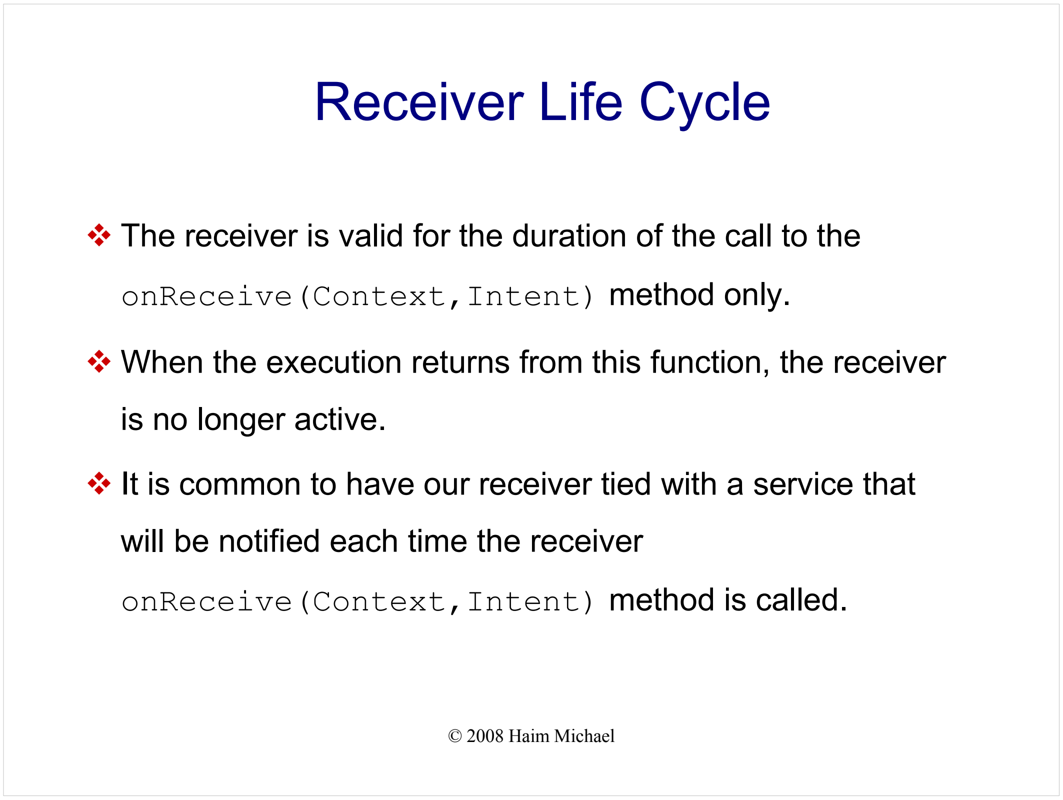

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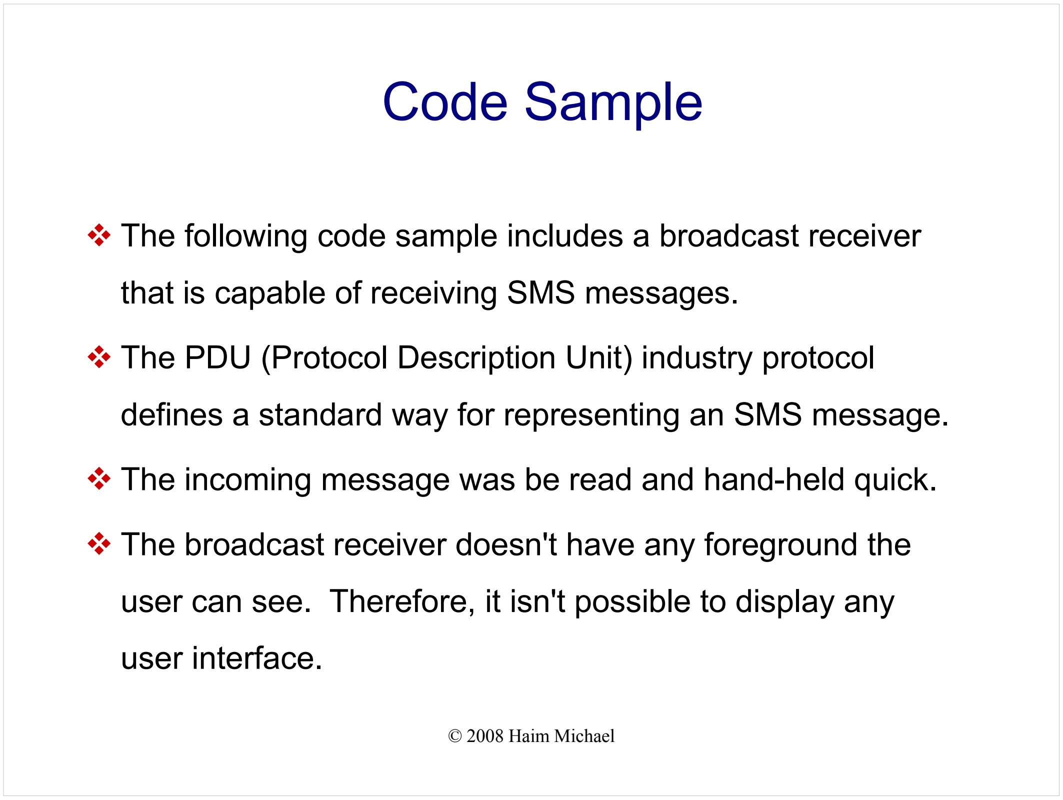

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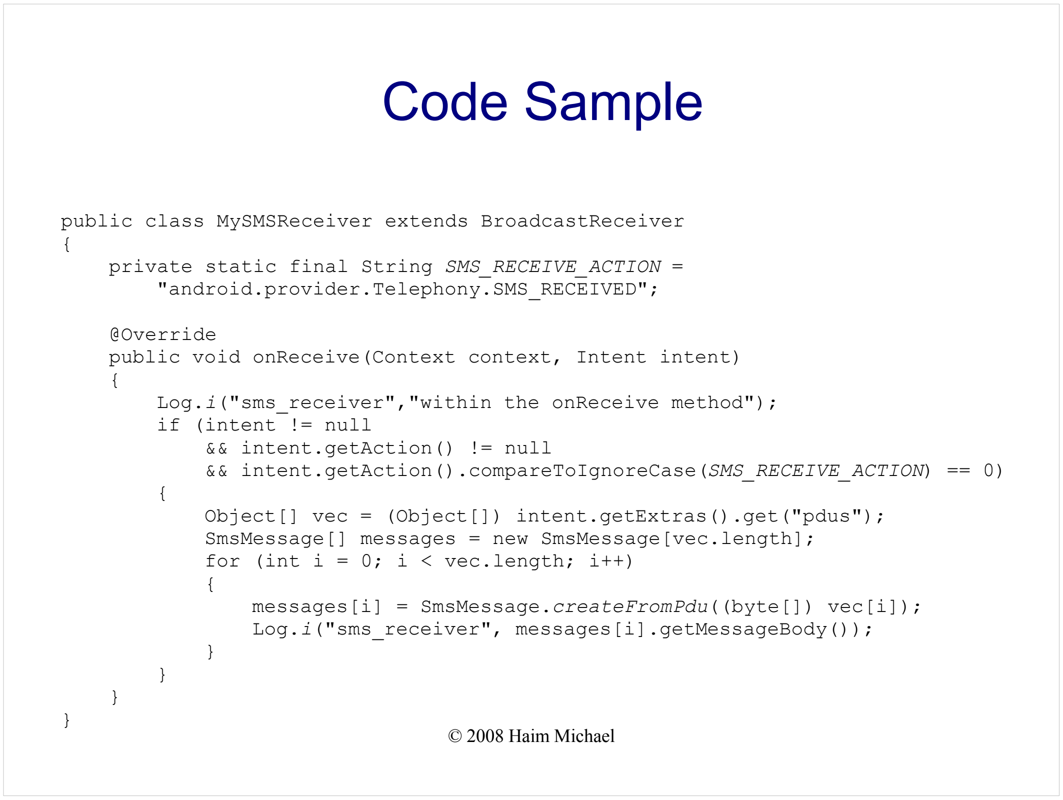

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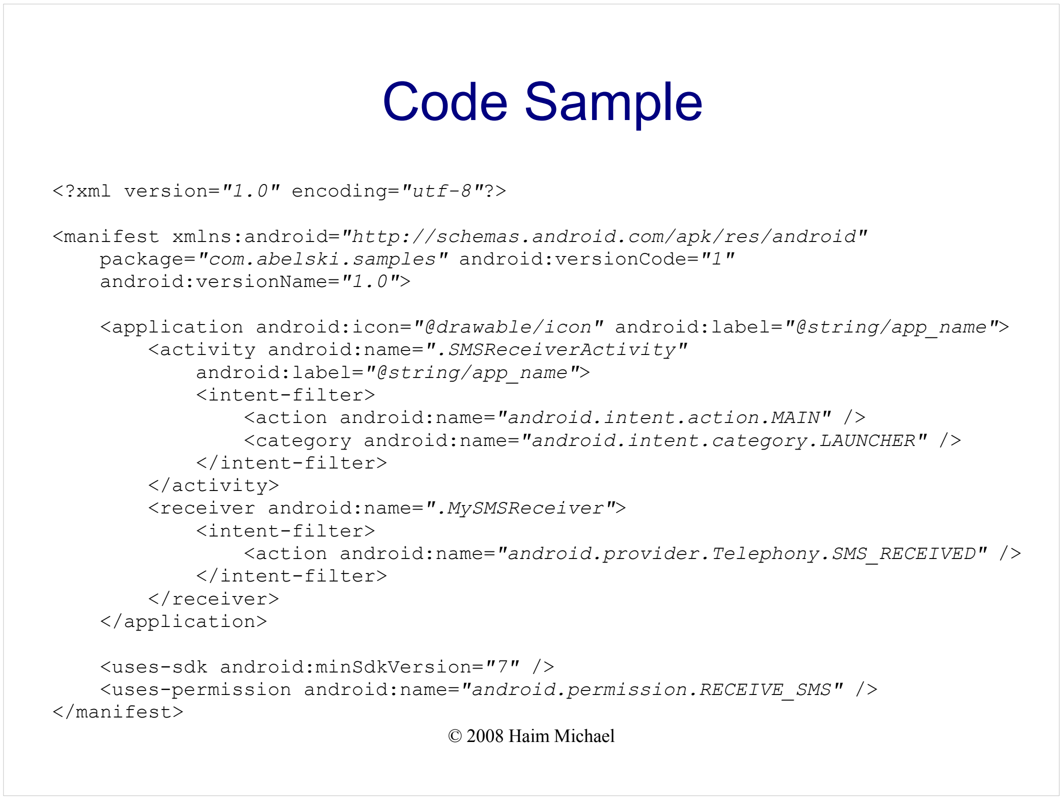

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        </activity>
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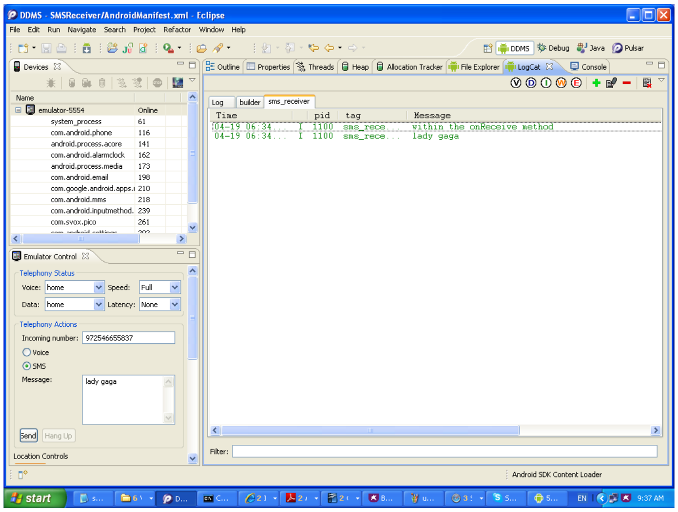

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○ Voice

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