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Rocksta Music App



Rocksta Music App

Upcoming Novel



Upcoming Novel

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Saturday, June 1, 2013

Scheduling Task Using Alarm Manager

AlarmManager

Many a times we want some task to be performed at some later time in future.

For Example: In SMS Scheduler we want a SMS to be send at some later time, or Task Reminder in which we want to be reminded about a task at a particular time, to implement all these things we use AlramManager class.

AlarmManager class provides access to the system alarm services. These allow you to schedule your application to be run at some point in the future. When an alarm goes off, the [Intent](#) that had been registered for it is broadcast by the system, automatically starting the target application if it is not already running. Registered alarms are retained while the device is asleep (and can optionally wake the device up if they go off during that time), but will be cleared if it is turned off and rebooted.

The Alarm Manager holds a CPU wake lock as long as the alarm receiver's onReceive() method is executing. This guarantees that the phone will not sleep until you have finished handling the broadcast. Once onReceive() returns, the Alarm Manager releases this wake lock. This means that the phone will in some cases sleep as soon as your onReceive() method completes. If your alarm receiver called [Context.startService\(\)](#), it is possible that the phone will sleep before the requested service is launched. To prevent this, your BroadcastReceiver and Service will need to implement a separate wake lock policy to ensure that the phone continues running until the service becomes available.

AlarmManager Example

In the example I will schedule an alarm to send SMS at a particular time in future.

We have two classes

1: MainActivity: in this class, we will schedule the alarm to be triggered at particular time .

2: AlarmReciever: when the alarm triggers at scheduled time , this class will receive the alarm, and send the SMS.

AlarmReciever class extends BroadcastReceiver and overrides onRecieve() method. inside onReceive() you can start an activity or service depending on your need like you can start an activity to vibrate phone or to ring the phone

Permission Required

we need `<uses-permission android:name="com.android.alarm.permission.SET_ALARM"/>` permission to use the AlarmManger in our application, so do not forget to declare the permission in manifest file

AndroidManifest file

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.learnandroideasily.blogspot"
    android:versionCode="1"
    android:versionName="1.0" >

    <uses-sdk android:minSdkVersion="8"
        android:targetSdkVersion="17" />

    <!-- permission required to use Alarm Manager -->
    <uses-permission android:name="com.android.alarm.permission.SET_ALARM"/>
    <!-- permission required to Send SMS -->
    <uses-permission android:name="android.permission.SEND_SMS"/>

    <application
        android:icon="@drawable/ic_launcher"
        android:label="Demo App" >
        <activity
            android:name=".MainActivity"
```

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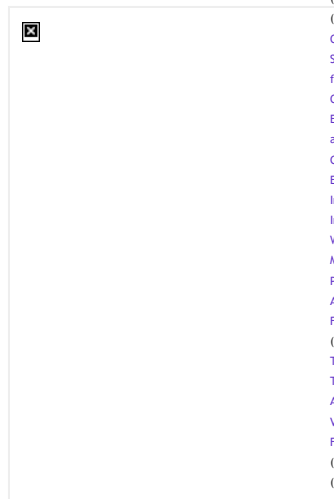
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```
        android:label="Demo App" >
        <intent-filter>
            <action android:name="android.intent.action.MAIN" />
            <category android:name="android.intent.category.LAUNCHER" />
        </intent-filter>
    </activity>
    <!-- Register the Alarm Receiver -->
    <receiver android:name=".AlarmReciever" />

</application>
</manifest>
```

main.xml



```
<LinearLayout
    android:layout_width="fill_parent"
    android:layout_height="fill_parent"
    android:orientation="vertical"
    android:gravity="center_vertical"
    xmlns:android="http://schemas.android.com/apk/res/android">

    <TextView
        android:id="@+id/textView1"
        android:gravity="center_horizontal"
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:text="Alarm Manager Example"
        android:textAppearance="?android:attr/textAppearanceLarge" />

    <Button
        android:id="@+id/button1"
        android:layout_marginTop="25dp"
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:text="Schedule The Alarm"
        android:onClick="scheduleAlarm" />

</LinearLayout>
```

MainActivity.java

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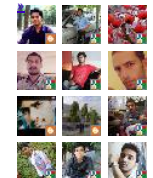
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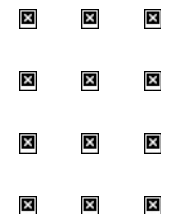


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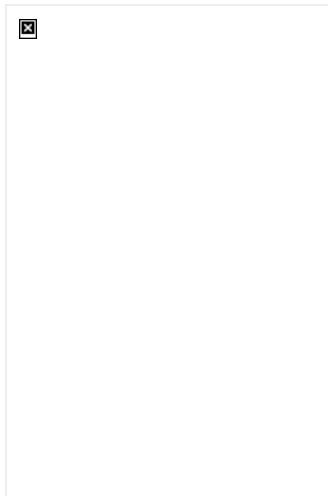
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```
public class MainActivity extends Activity
{
    @Override
    public void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.main);
    }

    public void scheduleAlarm(View V)
    {
        // time at which alarm will be scheduled here alarm is scheduled at 1 day from current time,
        // we fetch the current time in milliseconds and added 1 day time
        // i.e. 24*60*60*1000= 86,400,000 milliseconds in a day
        Long time = new GregorianCalendar().getTimeInMillis()+24*60*60*1000;

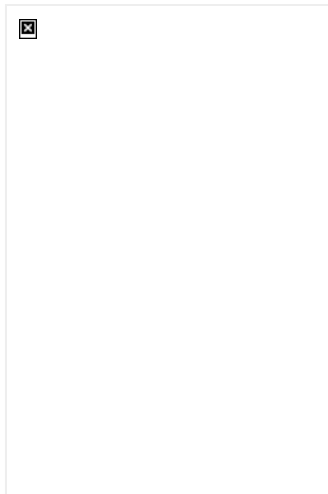
        // create an Intent and set the class which will execute when Alarm triggers, here we have
        // given AlarmReceiver in the Intent, the onRecieve() method of this class will execute when
        // alarm triggers and
        //we will write the code to send SMS inside onRecieve() method pf Alarmreceiver class
        Intent intentAlarm = new Intent(this, AlarmReceiver.class);

        // create the object
        AlarmManager alarmManager = (AlarmManager) getSystemService(Context.ALARM_SERVICE);

        //set the alarm for particular time
        alarmManager.set(AlarmManager.RTC_WAKEUP,time, PendingIntent.getBroadcast(this,1,
        intentAlarm, PendingIntent.FLAG_UPDATE_CURRENT));
        Toast.makeText(this, "Alarm Scheduled for Tommrow", Toast.LENGTH_LONG).show();

    }
}
```

AlarmReceiver.java



```
public class AlarmReciever extends BroadcastReceiver
{
    @Override
    public void onReceive(Context context, Intent intent)
    {
        // TODO Auto-generated method stub

        // here you can start an activity or service depending on your need
        // for ex you can start an activity to vibrate phone or to ring the phone

        String phoneNumberReciver="9718202185";// phone number to which SMS to be send
        String message="Hi I will be there later, See You soon";// message to send
        SmsManager sms = SmsManager.getDefault();
        sms.sendTextMessage(phoneNumberReciver, null, message, null, null);
        // Show the toast like in above screen shot
        Toast.makeText(context, "Alarm Triggered and SMS Sent", Toast.LENGTH_LONG).show();
    }
}
```



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Posted by [Kamlesh Yadav](#) at 10:49 PM

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Labels: [Alarm](#), [Alarm Manager](#)

15 comments:



rekha July 8, 2013 at 9:44 PM

Hi kamlesh..
what should we use if we want to schedule the alarm at specific date and time..for eg. alarm trigger on 10th july 2013, 12:00:00

[Reply](#)

[Replies](#)



Kamlesh Yadav July 9, 2013 at 1:01 AM

Hi Rekha
With following code you will get the current time in Miliseconds.
Long time = new GregorianCalendar().getTimeInMillis();
You can some value like 24*60*60*1000 to schedule the alarm for tommorrow.

1: The other way is Use time picker and date picker and schedule the alarm at User Selected date or

Time.

2: `GregorianCalendar gc=new GregorianCalendar(year, month, day, hour, minute, second);` you can pass the arguments here.
Like schedule at 10th july 2013, 12:00:00
`GregorianCalendar gc=new GregorianCalendar(2013, 6, 10, 12, 00, 00);`

You can also set the time as
`gc.set(Calendar.DAY_OF_MONTH, 10);`
`gc.set(Calendar.YEAR, 2013);` and so on

Let me know any more concern.



PAWAN SHAHANI December 21, 2013 at 10:21 PM

@Kamlesh: Dear Admin, I tried `GregorianCalendar gc=new GregorianCalendar(year, month, day, hour, minute, second);`

Then the error comes at `AlarmManger.set()`, it says to change the type of `gc` to `Long`. (i.e. `gc` cannot be `GregorianCalendar`).

So if i do change the above mentioned thing, then `gc` cannot be `Long`.

I cant even try casting here....

So pls give a solution
Thanks in Advance.



PAWAN SHAHANI December 22, 2013 at 2:56 AM

Admin I removed all the errors, I was missing `getTimelnMillis()`.

Bt the code is still not getting invoked @ 12:00:00.....pls guide.

Or atleast tell where can i paste my code, such that u can give a chk.

[Reply](#)



GAURAV KUMAR September 14, 2013 at 5:53 AM

i am new to Android and working on a app which take a int value from "if statements". Now the 1st prob is m not getting how to send value to broadcastReceiver and second is int value changes on "if " condition, now how can i send the value that is stored according to the condition

[Reply](#)



Vishvendra Singh November 10, 2013 at 11:45 PM

Nice tutorial dude.... It helps me lot..

[Reply](#)



PAWAN SHAHANI December 18, 2013 at 5:04 AM

Hi Admin....Nice Tutorial. Thanks.

But i have a doubt. Your code work awesome once.

What if i want to do it again & again.

I mean u did it for 1 day. What if i want to do it EveryDay that too Dynamically....

Please Reply.....Thanks in Advance.

[Reply](#)



PAWAN SHAHANI December 18, 2013 at 5:09 AM

Dear Admin, Nice Tutorial.

But could u pls guide me that how to execute this code everyDay.....pls.

i.e. a msg shud go everyday. Dynamically.

I need this code. Thanks in advance.

[Reply](#)



Unknown February 11, 2014 at 8:05 AM

You are a LIFE-SAVER!

Oh man been looking around for an example on how to trigger an event in future and all examples I came across are so unnecessarily complicated and convoluted!

Your code rocks! I love it!
Thanks a lot for sharing this!

[Reply](#)



Prasad Bhat [March 19, 2014 at 5:56 AM](#)

Thank you very much. We were trying to make a similar app, but were not able to schedule the events. Now , thanks to you, we know :) Thanks again...

[Reply](#)



Anonymous [January 24, 2015 at 10:44 PM](#)

Wah!!! Thank you so much for this... This is the best and most simplest example of AlarmManager I could find on the net....
Kudos.....!!!

[Reply](#)



Alex Kogan [February 2, 2015 at 11:13 AM](#)

I tried following your tutorial, however it refuses to work unless I make the AlarmReciever class static, which leads to a bunch of other problems for me :). How did you manage to avoid that? Thanks!!!

[Reply](#)



Alex Kogan [February 2, 2015 at 11:14 AM](#)

I tried following your tutorial, however it refuses to work unless I make the AlarmReciever class static, which leads to a bunch of other problems for me :). How did you manage to avoid that? Thanks!!!

[Reply](#)



cBeast [October 15, 2015 at 6:26 AM](#)

Nice one, but what happens, if the app stop working on the background?


[Reply](#)



cBeast [October 15, 2015 at 6:37 AM](#)

Never mind it works like a charm!!! Love you!

[Reply](#)

Comment as: Tuan Pham (G 

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