

Android Notifications

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Notes are based on:

Android Developers

<http://developer.android.com/index.html>





Notifications

What is a Notification?

A *notification* is a short message briefly displayed on the *status line*.

It typically announces the happening of an special event for which a trigger has been set.

After opening the *Notification Panel* the user may choose to click on a selection and execute an associated activity.

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What is a Notification?

Notification shown on the status line

Drag down

Click on *Notification Panel* to execute associated application

555-4

5554: Remember to buy bread and milk
Sent: 8:27PM

5554: Golfing at Manakiki sat. at 1:00pm
Sent: 8:29PM

Type to compose Send



Notifications

Notification Manager

This class notifies the user of events that happen in the background.

Notifications can take different forms:

1. A **persistent icon** that goes in the status bar and is accessible through the launcher, (when the user selects it, a designated Intent can be launched),
2. Turning on or **flashing LEDs** on the device, or
3. Alerting the user by flashing the **backlight**, playing a **sound**, or **vibrating**.



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Notification Manager

You do not instantiate this class directly; instead, retrieve it through **`getSystemService (String)`**.

Example:

```
String servName = Context.NOTIFICATION_SERVICE;  
  
notificationManager = (NotificationManager) getSystemService (servName);
```



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Notification

This class represents how a persistent notification is to be presented to the user using the NotificationManager.

```
public Notification (int icon, CharSequence tickerText, long when)
```

Parameters

- | | |
|-------------------|--|
| <i>icon</i> | The resource id of the icon to put in the status bar. |
| <i>tickerText</i> | The text that flows by in the status bar when the notification first activates. |
| <i>when</i> | The time to show in the time field.
In the System.currentTimeMillis timebase. |



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Notification - Methods

```
public void notify (int id, Notification notification)
```

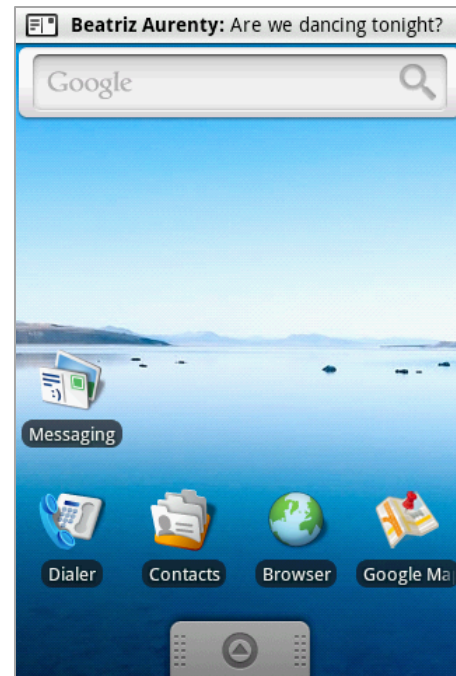
Places a persistent notification on the status bar.



Parameters

id An identifier for this notification unique within your application.

notification A Notification object describing how to notify the user, other than the view you're providing. Must not be null.





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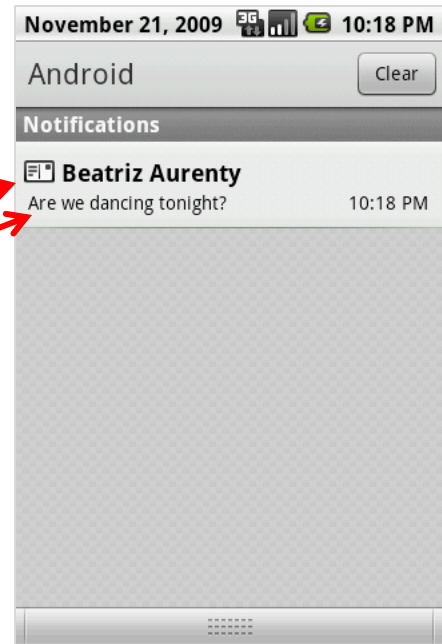
Notification – Methods

```
public void setLatestEventInfo (
    Context context, CharSequence contentTitle,
    CharSequence contentText, PendingIntent contentIntent)
```

Sets the contentView field to be a view with the standard "Latest Event" layout.

Parameters

context	The context for your application / activity.
contentTitle	The title that goes in the expanded entry.
contentText	The text that goes in the expanded entry.
contentIntent	The intent to launch when the user clicks the expanded notification.





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Notification – Methods

```
public void cancel ( int id )  
public void cancelAll ( )
```

Cancel a previously shown notification. If it's transient, the view will be hidden. If it's persistent, it will be removed from the status bar.

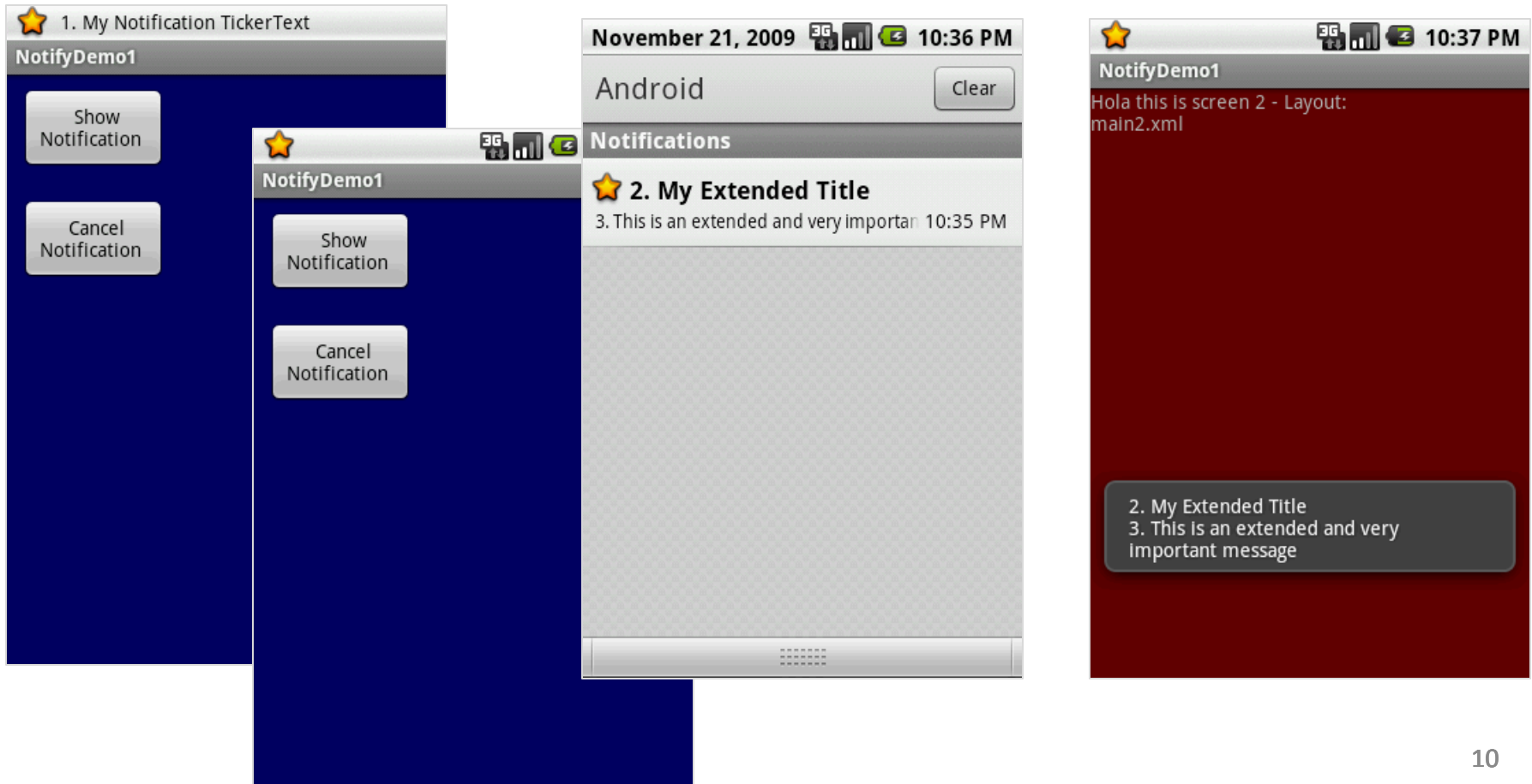
Parameters

Id An identifier for this notification unique within your application.

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Example.

Produce a notification. Allow the user to click on the Notification Panel and execute appropriate activity to attend the message.





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Example - Layouts

main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    android:id="@+id/myLinearLayout1"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent"
    android:background="#ff000066"
    android:orientation="vertical"
    xmlns:android="http://schemas.android.com/apk/res/android" >

    <Button
        android:id="@+id/btnGo"
        android:layout_width="106px"
        android:layout_height="61px"
        android:layout_margin="10px"
        android:text=" Show Notification " >
    </Button>
    <Button
        android:id="@+id/btnStop"
        android:layout_width="106px"
        android:layout_height="61px"
        android:layout_margin="10px"
        android:text=" Cancel Notification " >
    </Button>
</LinearLayout>
```

main2.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    android:id="@+id/main2LinLayout"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent"
    android:background="#ff660000"
    android:orientation="vertical"
    xmlns:android="http://schemas.android.com/apk/res/
    android"
    >
    <TextView
        android:id="@+id/widget29"
        android:layout_width="251px"
        android:layout_height="69px"
        android:text="Hola this is screen 2 - Layout:main2.xml"
    >
    </TextView>
</LinearLayout>
```



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Example – Manifest

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="cis493.demos"
    android:versionCode="1"
    android:versionName="1.0">

    <application android:icon="@drawable/icon"
        android:label="@string/app_name">

        <activity android:name=".NotifyDemo1"
            android:label="@string/app_name">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>

        <activity android:name=".NotifyHelper" >
        </activity>

    </application>

    <uses-sdk android:minSdkVersion="4" />

</manifest>
```

/drawable



btn_star_big_on_selected.png

Note:

Obtain the icon from the folder

C:\Android\platforms\android-1.x\data\res\drawable



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Example – Create & Cancel a Notification

```
package cis493.demos;

import android.app.Activity;
import android.app.Notification;
import android.app.NotificationManager;
import android.app.PendingIntent;
import android.content.Context;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.*;

////////////////////////////////////

public class NotifyDemo1 extends Activity {
    Button btnGo;
    Button btnStop;
    int notificationId = 1;
    NotificationManager notificationManager;

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



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Example – Create & Cancel a Notification

```

btnGo = (Button) findViewById(R.id.btnGo);
btnGo.setOnClickListener(new OnClickListener() {

    public void onClick(View v) {
        //define a notification manager
        String serName = Context.NOTIFICATION_SERVICE;
        notificationManager = (NotificationManager) getSystemService(serName);

        //define notification using: icon, text, and timing.
        int icon = R.drawable.btn_star_big_on_selected;
        String tickerText = "1. My Notification TickerText";
        long when = System.currentTimeMillis();
        Notification notification = new Notification(icon, tickerText, when);

        //configure appearance of the notification
        String extendedTitle = "2. My Extended Title";
        String extendedText = "3. This is an extended and very important message";

        // set a Pending Activity to take care of the potential request the user
        // may have by clicking on the notification asking for more explanations
        Intent intent = new Intent(getApplicationContext(), NotifyHelper.class);
        intent.putExtra("extendedText", extendedText);
        intent.putExtra("extendedTitle", extendedTitle);
        PendingIntent launchIntent =
            PendingIntent.getActivity(getApplicationContext(), 0, intent, 0);
    }
});

```



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Example – Create & Cancel a Notification

```
notification.setLatestEventInfo(getApplicationContext(),
                                extendedTitle, extendedText, launchIntent);

//trigger notification
notificationId = 1;
notificationManager.notify(notificationId, notification);

} //click
});

////////////////////////////////////
btnStop = (Button) findViewById(R.id.btnStop);
btnStop.setOnClickListener(new OnClickListener() {
    public void onClick(View v) {
        //canceling a notification
        notificationId = 1;
        notificationManager.cancel(notificationId);
    }
});

} //onCreate

} //NotifyDemo1
```



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Example - SubActivity – Attending the Notification

```
package cis493.demos;

import android.app.Activity;
import android.content.Intent;
import android.os.Bundle;
import android.widget.Toast;

public class NotifyHelper extends Activity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.main2);

        Intent myData = getIntent();
        // extract the extra-data in the Notification
        String msg = myData.getStringExtra("extendedTitle") + "\n"
            + myData.getStringExtra("extendedText");

        Toast.makeText(getApplicationContext(), msg, 1).show();
    }
}
```




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Questions

