



# Accelerating Information Technology Innovation

<http://aiti.mit.edu>

India Summer 2012  
Review Session – Android and Web



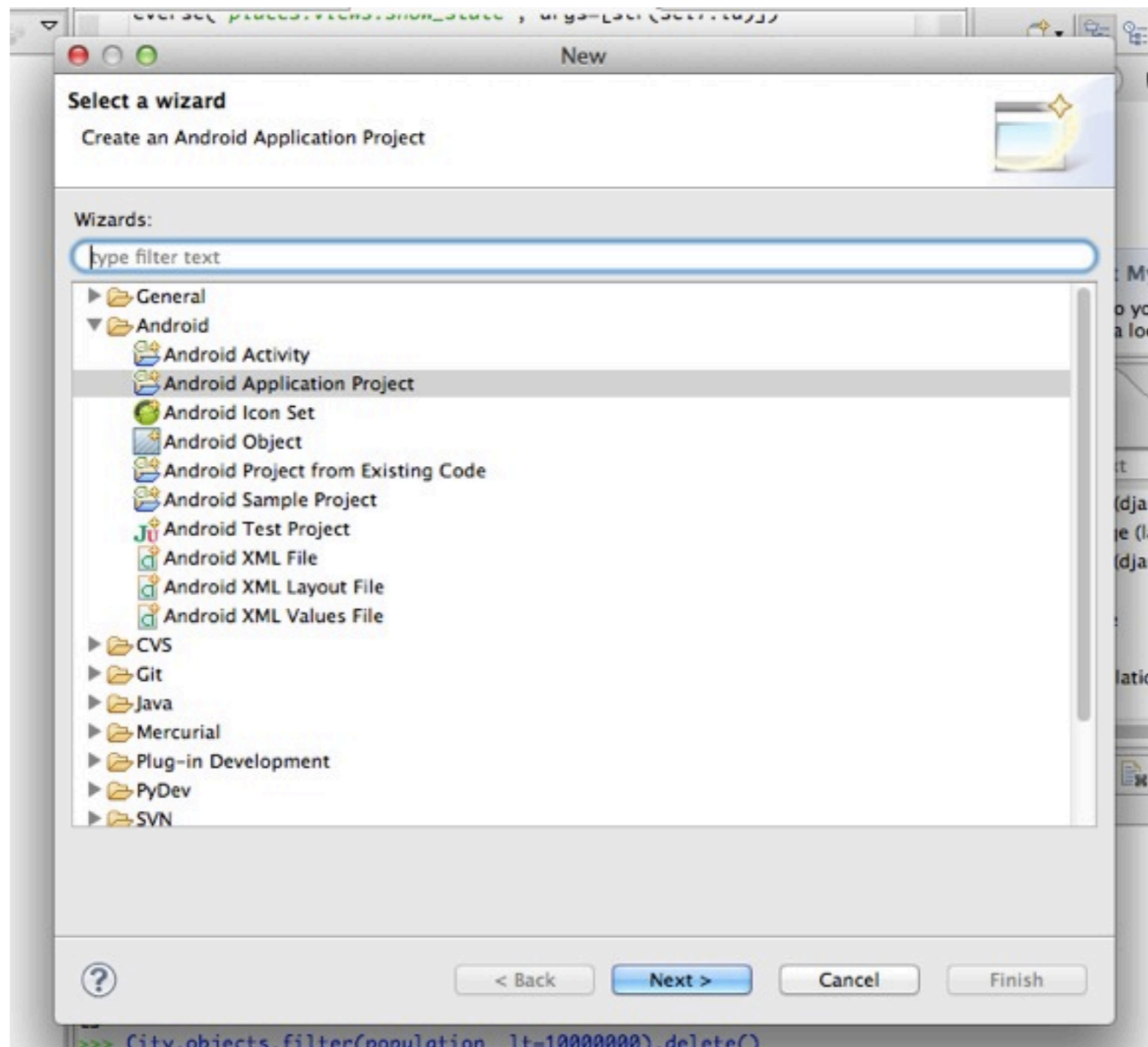
# Working with Views

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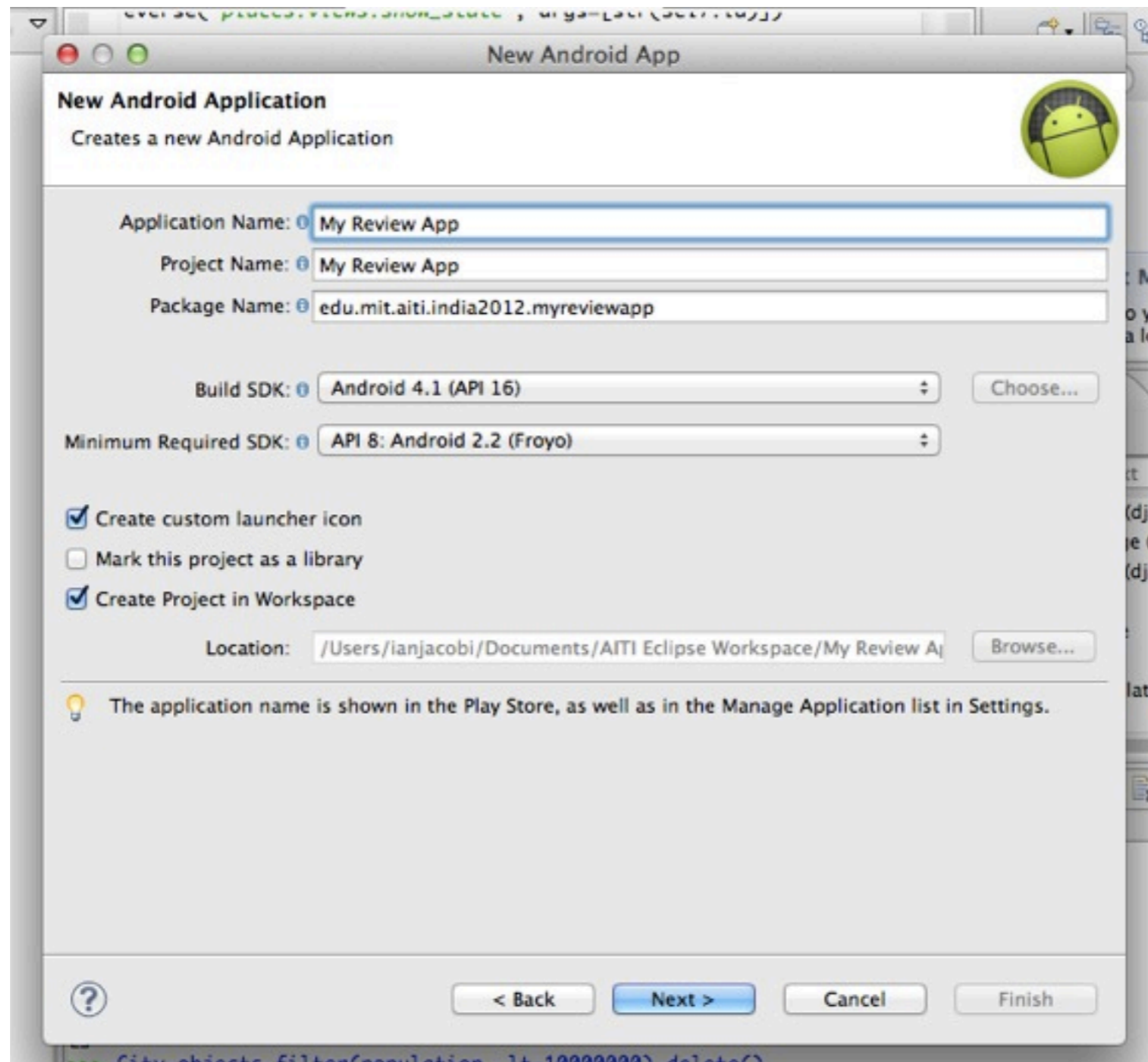
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*Create a new Android project.  
The app name should be “My Review App”.*

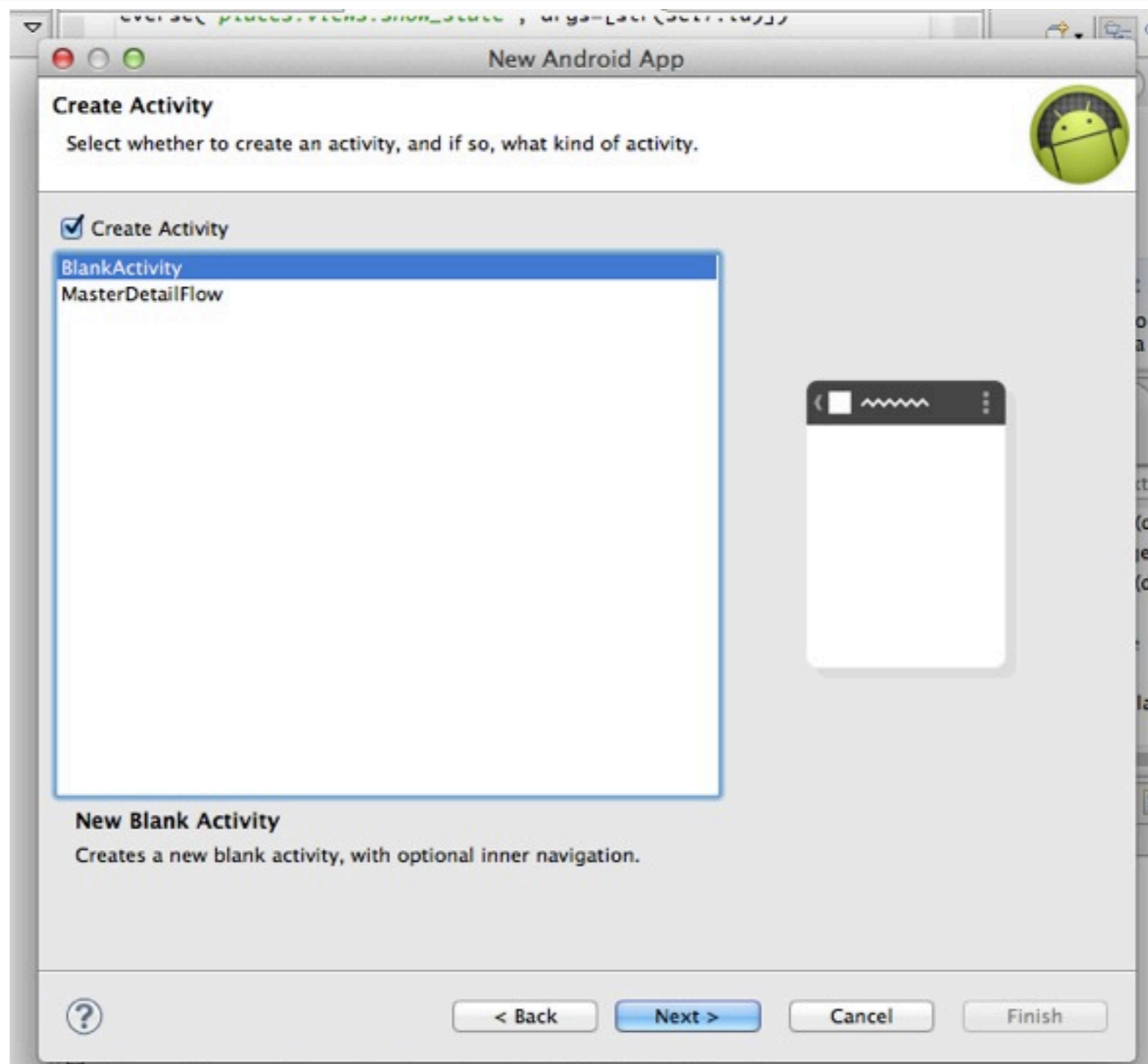
# Working with Views



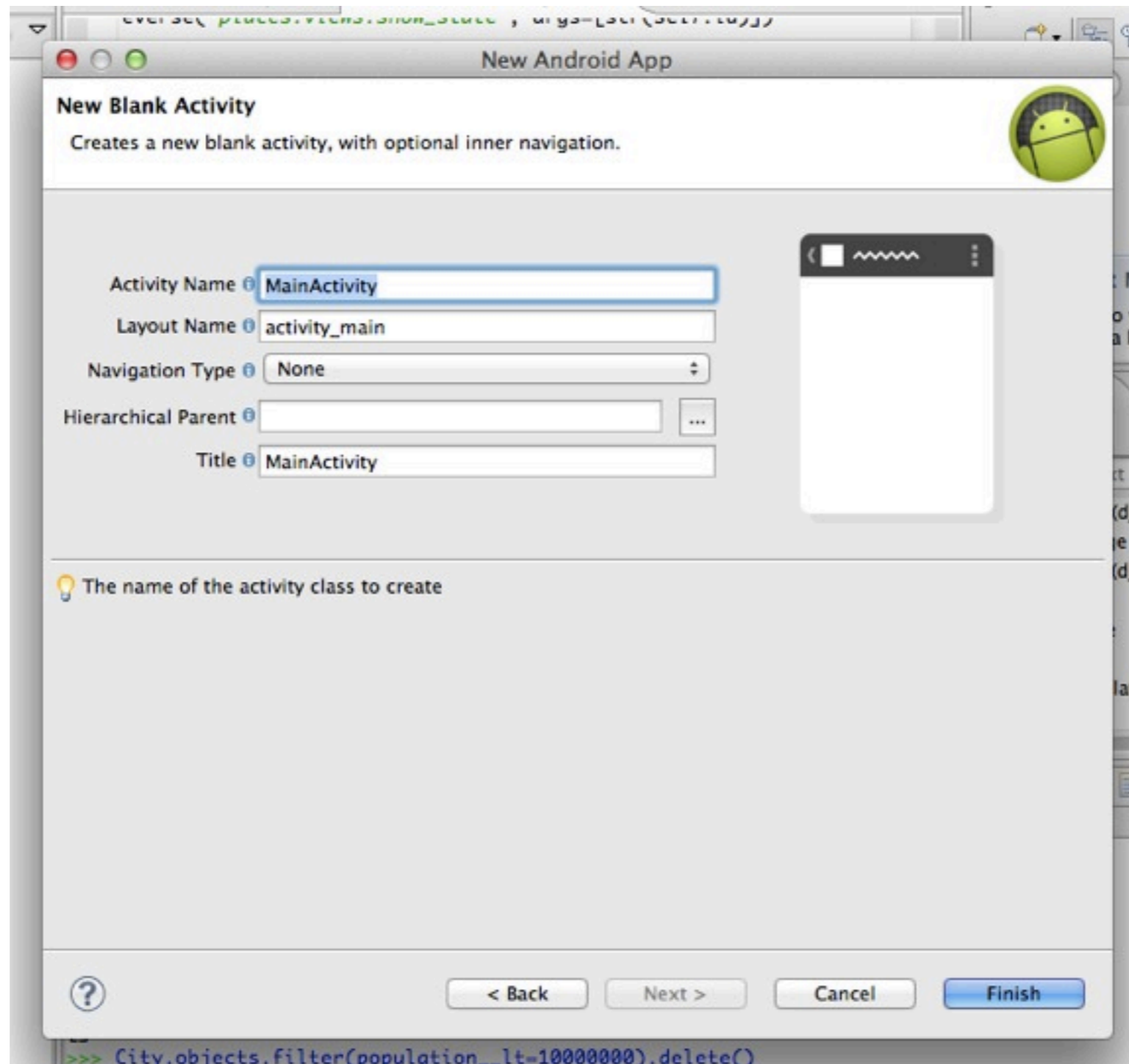
# Working with Views



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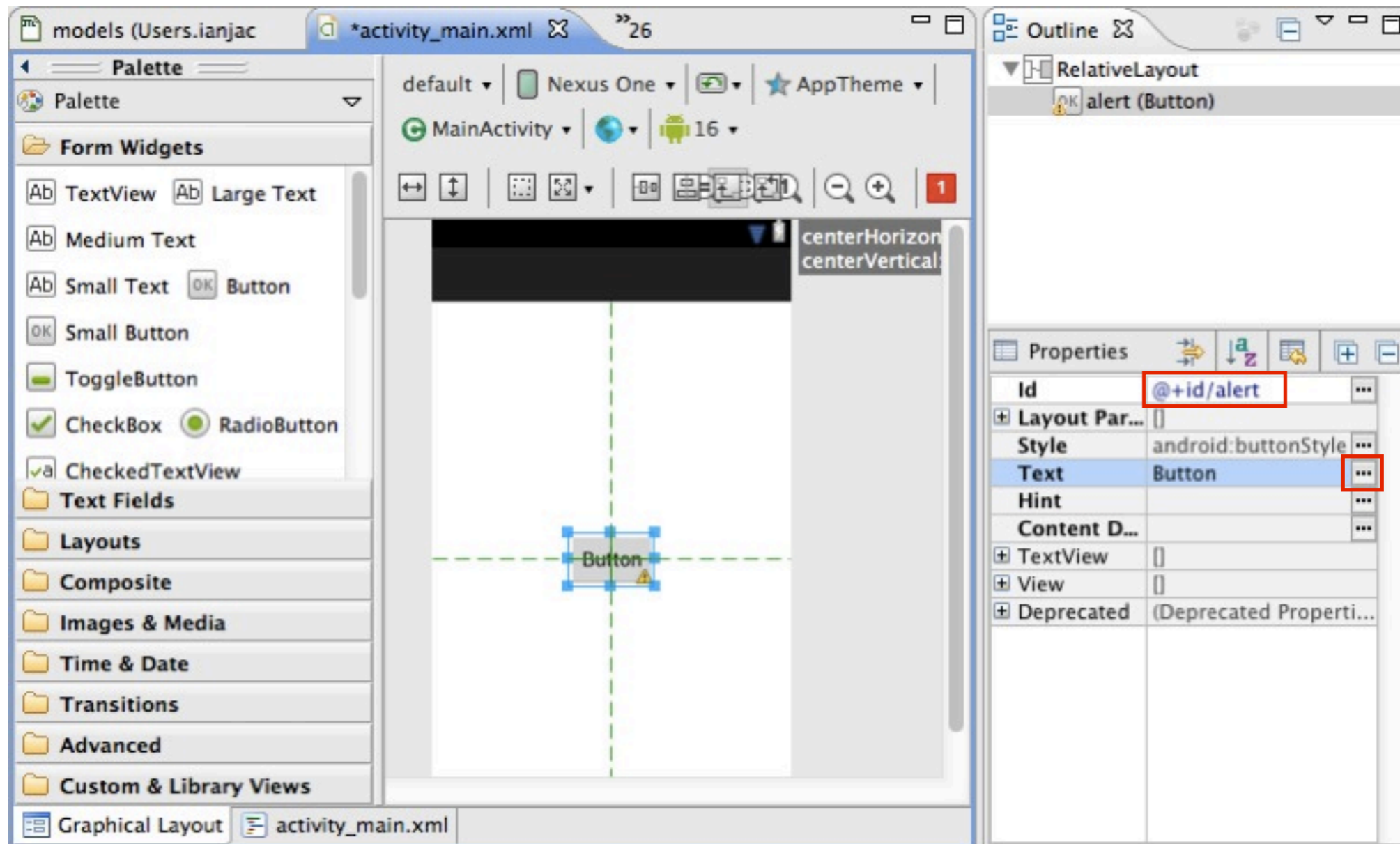
# Working with Views

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*Add a button to your starter activity which has the name “Alert Me!” as a string resource*

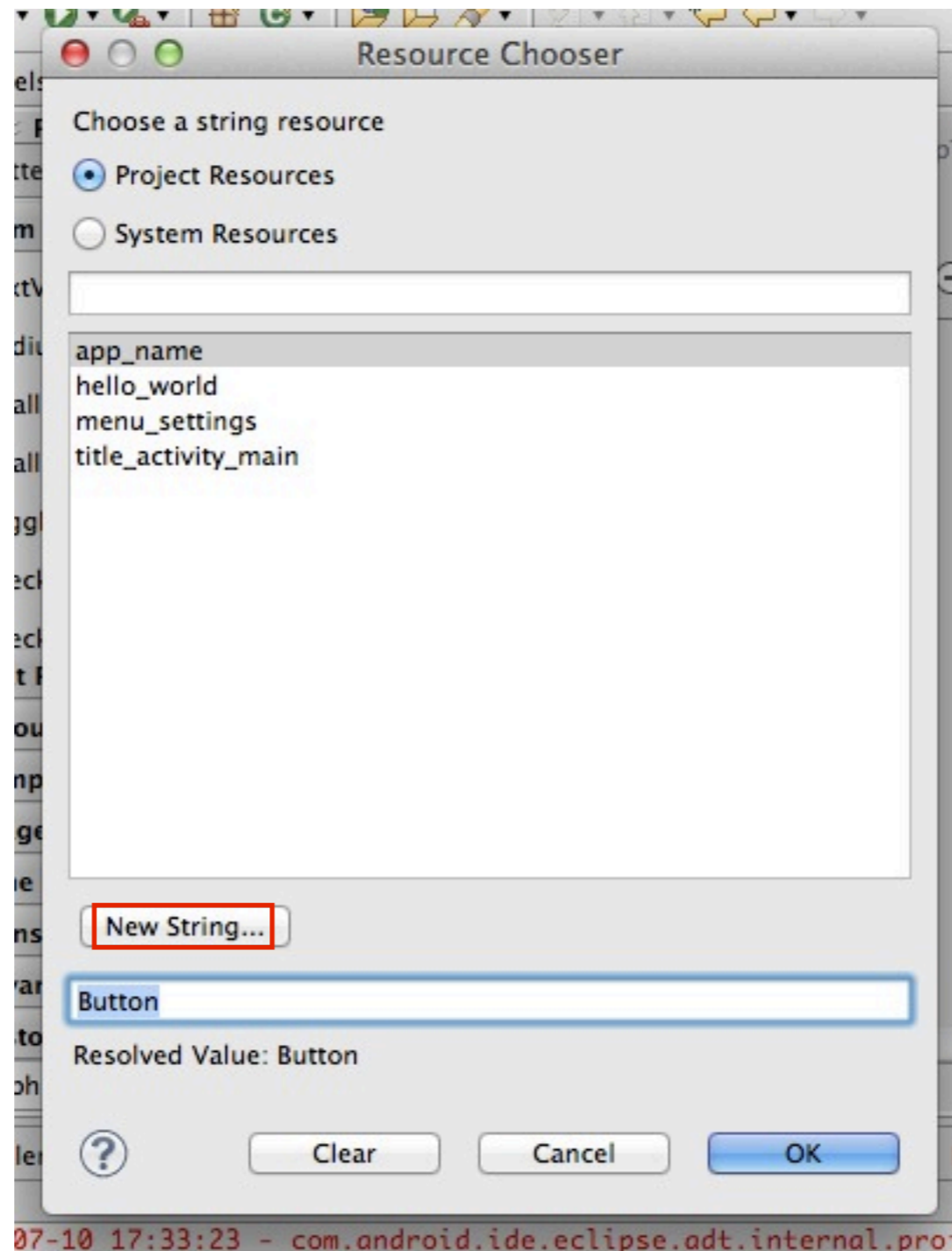


# Working with Views



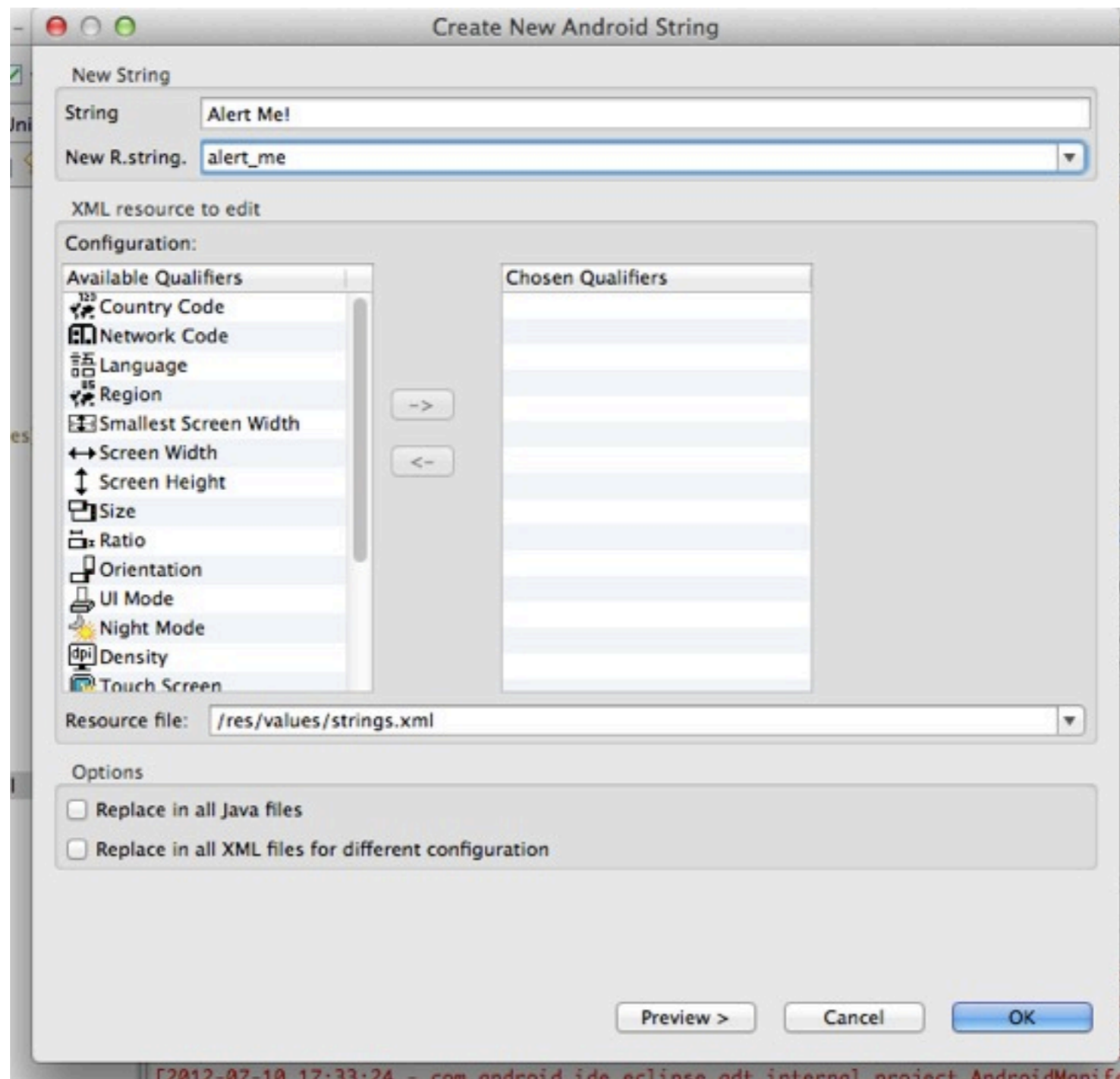
# Working with Views

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07-10 17:33:23 - com.android.ide.eclipse.adt.internal.proj

# Working with Views

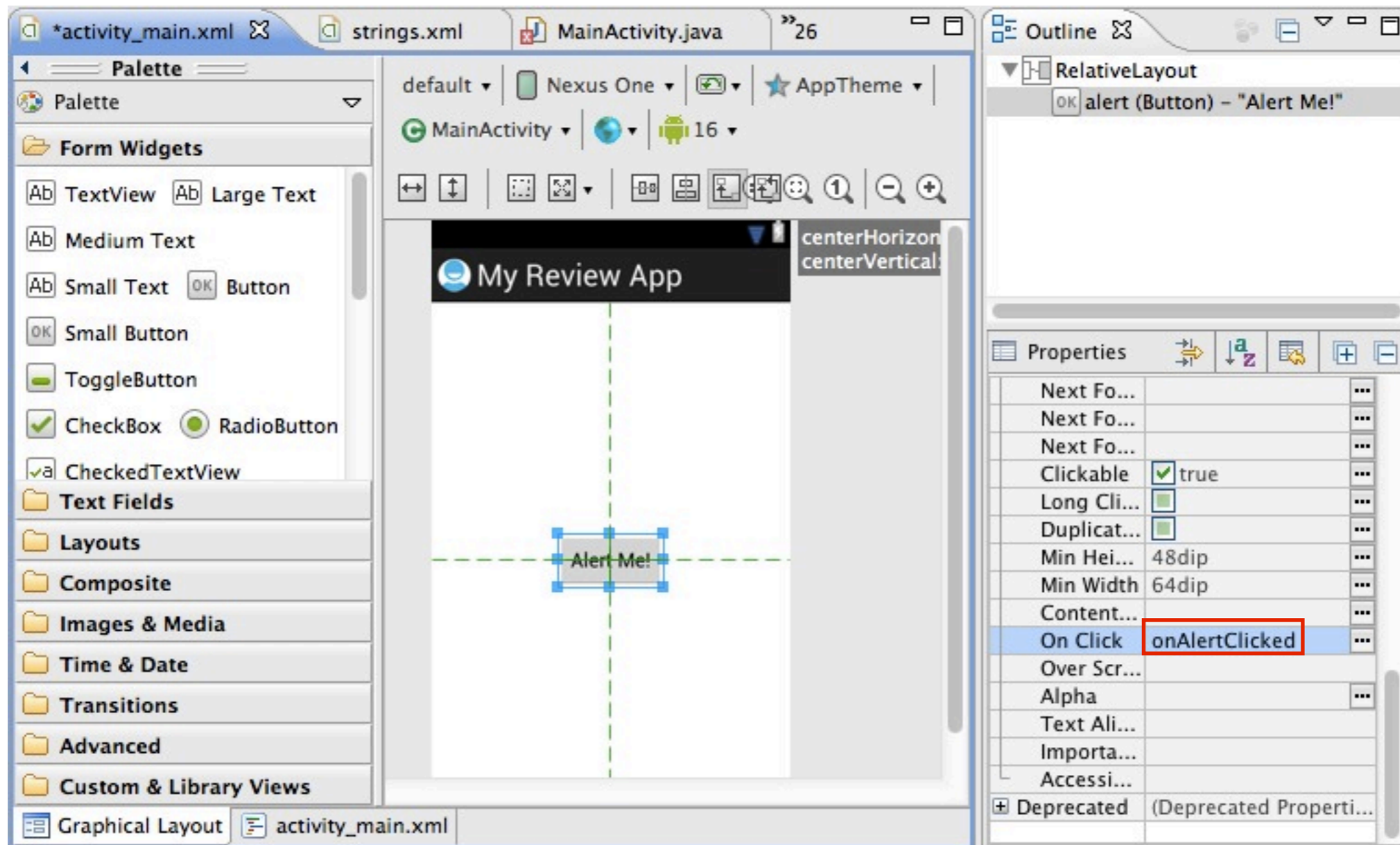


# Working with Views

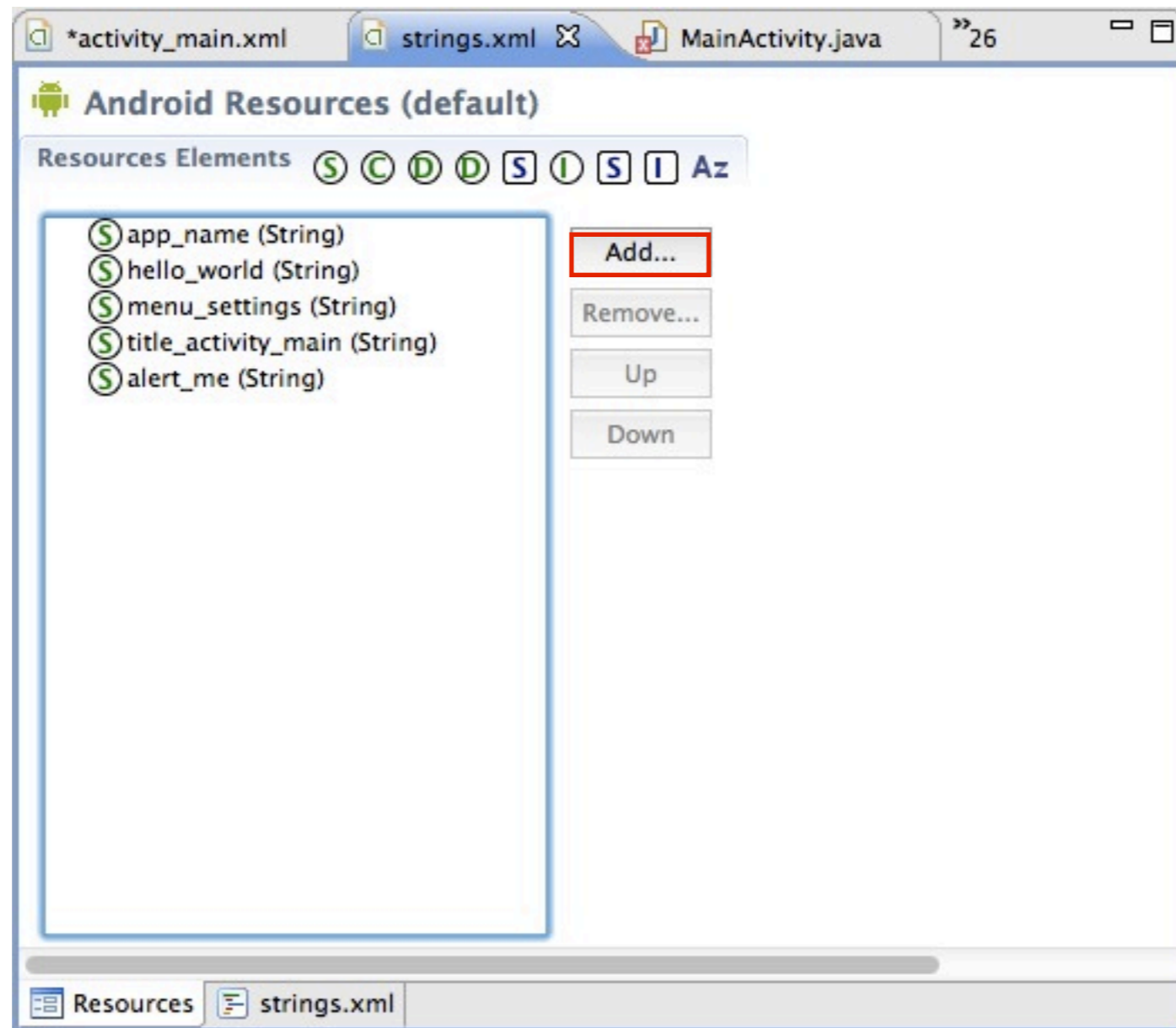
---

*Make the button you created show a Toast notification.  
When it is clicked it should say “Hello!”  
 (“Hello!” should come from a string resource)*

# Working with Views

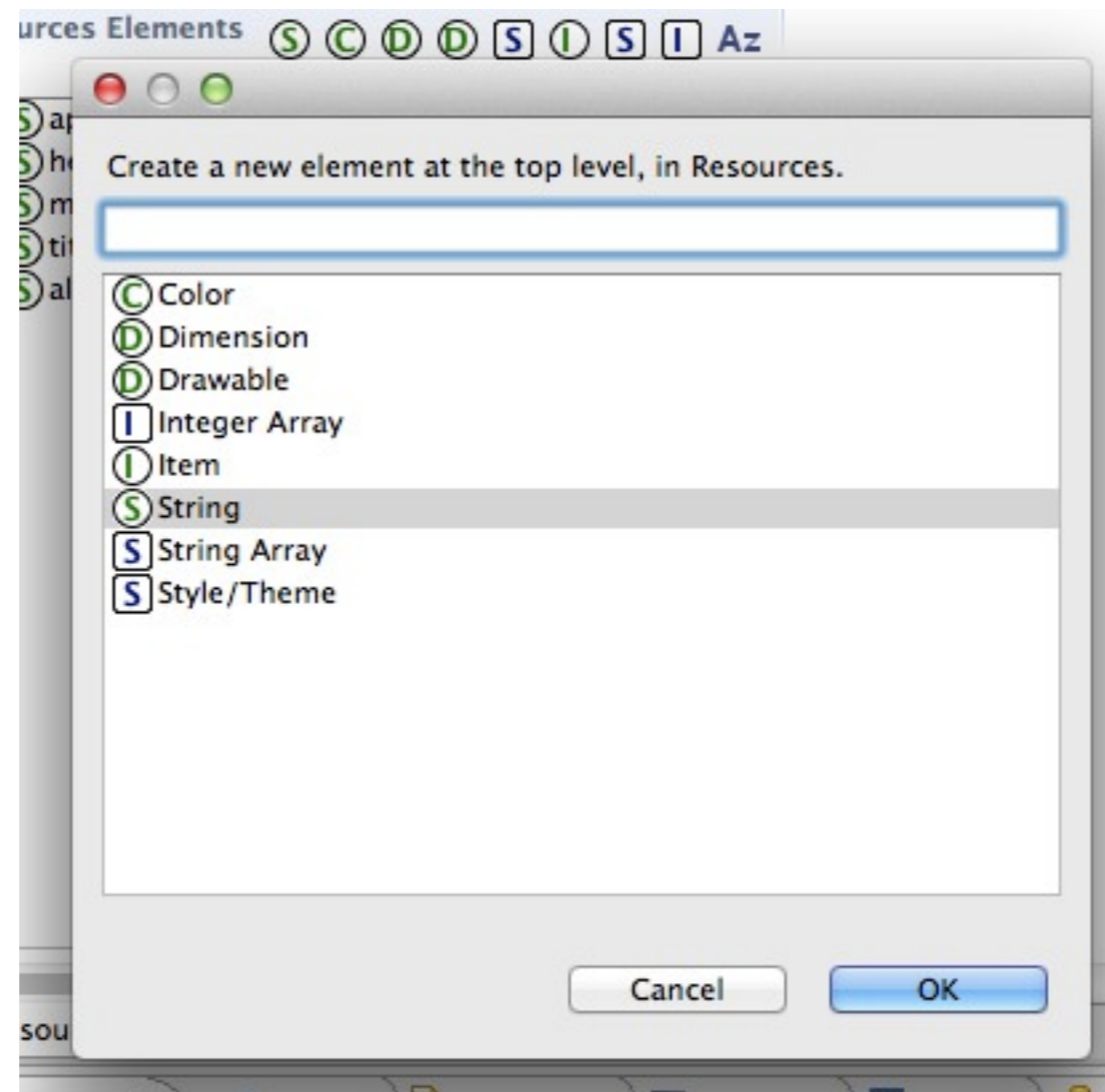


# Working with Views

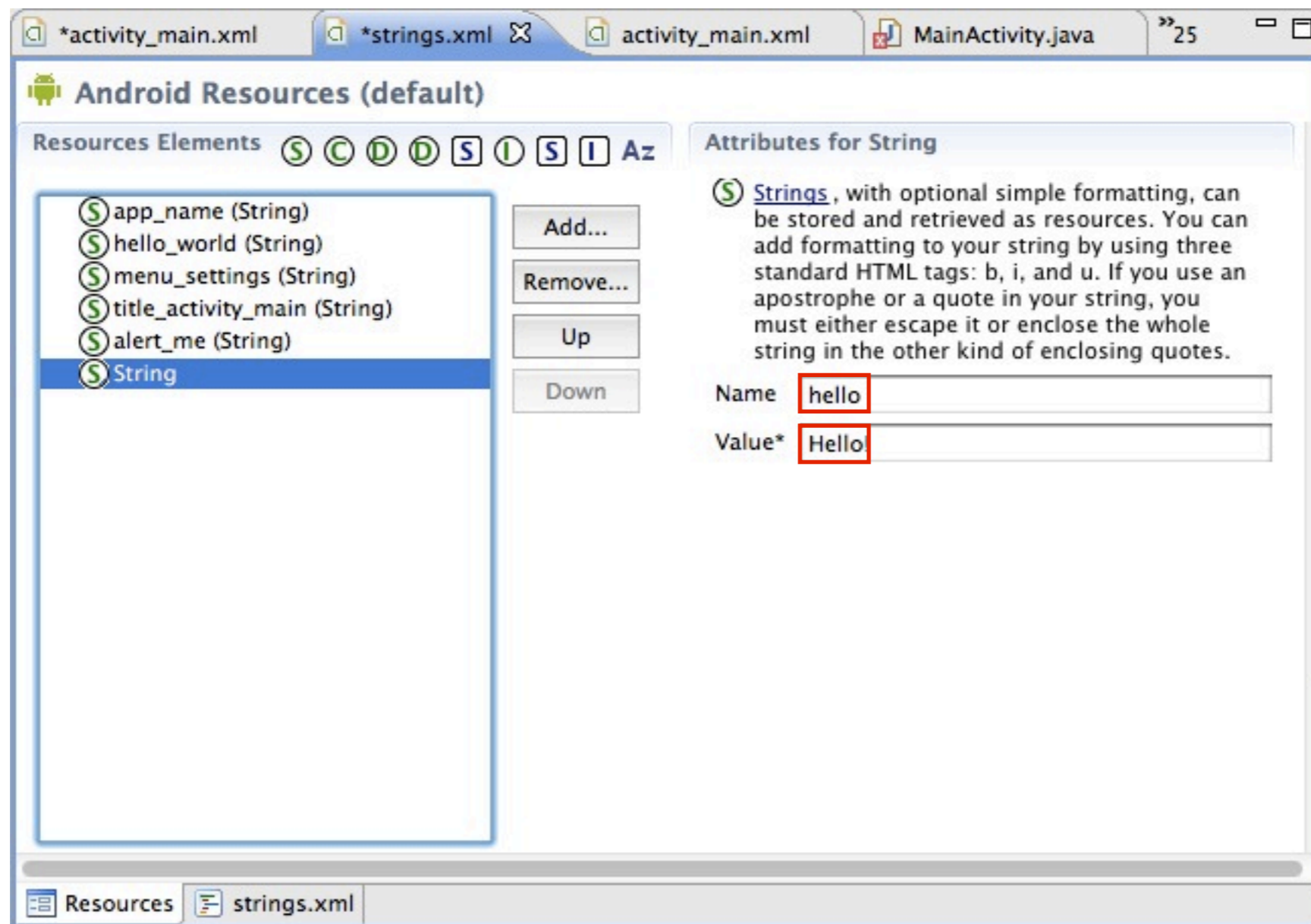


# Working with Views

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# Working with Views





# Working with Views

---

```
public class MainActivity extends Activity {  
    /* ... */  
    public void onAlertClicked(View myView) {  
        Toast.makeText(this, getString(R.string.hello),  
                        Toast.LENGTH_SHORT)  
            .show();  
    }  
}
```

# Working with Views

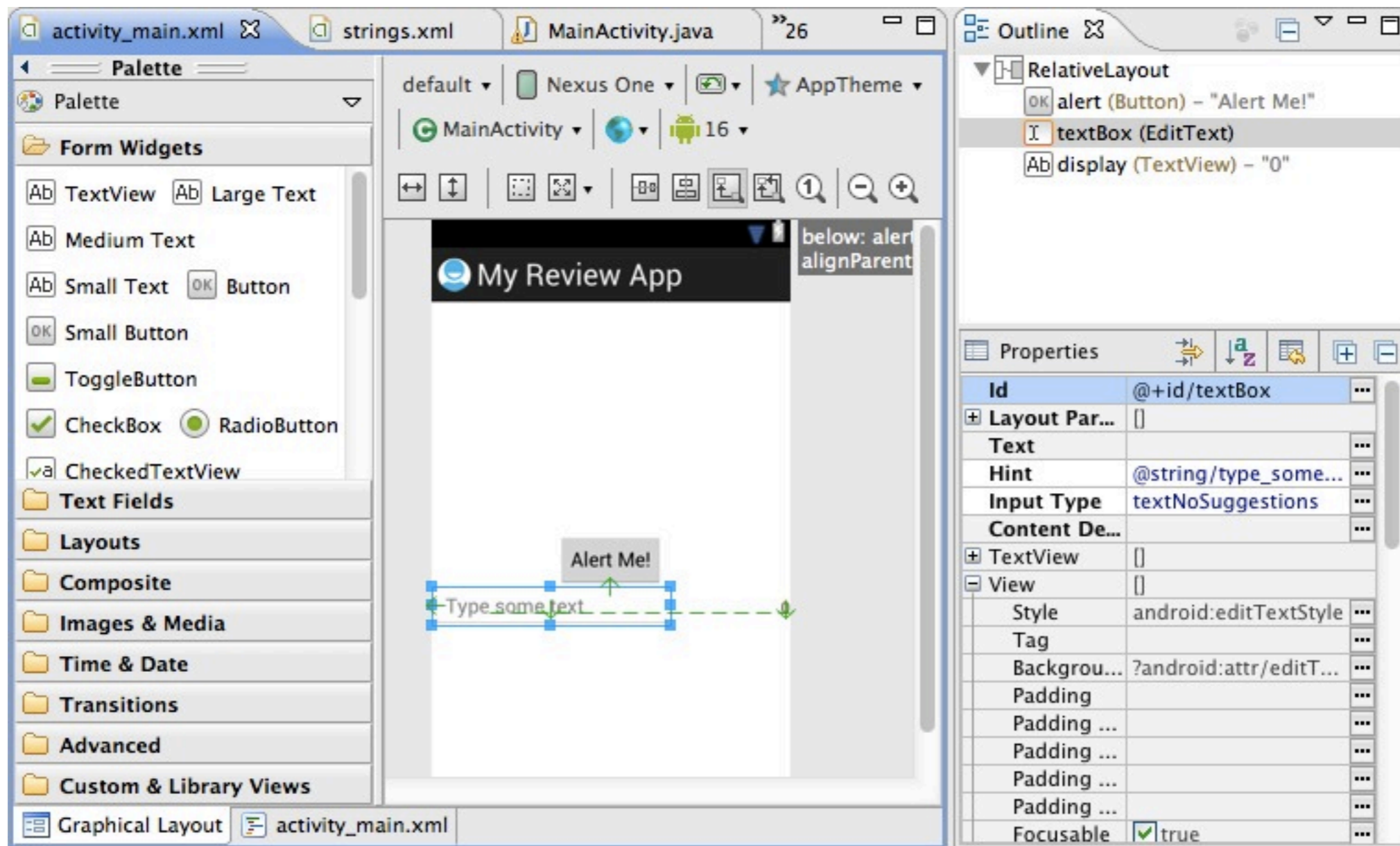
---

*Add an EditText widget below the button with the placeholder text “Type some text” (from a string resource)*

*Add a TextView with the default text “0” (“0” should be a string resource)*

*The TextView should be to the right of the EditText*

# Working with Views



*Remember to set `android:inputType="textNoSuggestions"` in the `EditText` XML!*

# Working with Views

---

*Change the button so that it divides 5 by the number in the EditText and saves the value in the TextView.*

*If the EditText value is not a number, the Toast should appear and say “Not a number”*

# Working with Views

---

```
public class MainActivity extends Activity {
    public void onAlertClicked(View myView) {
        EditText t = (EditText) findViewById(R.id.textBox);
        String value = t.getText().toString();
        try {
            double d = Double.parseDouble(value);
            TextView tv = (TextView)
                findViewById(R.id.display);
            tv.setText(String.valueOf(5 / d));
        } catch (NumberFormatException e) {
            Toast.makeText(this, getString(R.string.bad_no),
                Toast.LENGTH_SHORT)
                .show();
        }
    }
}
```

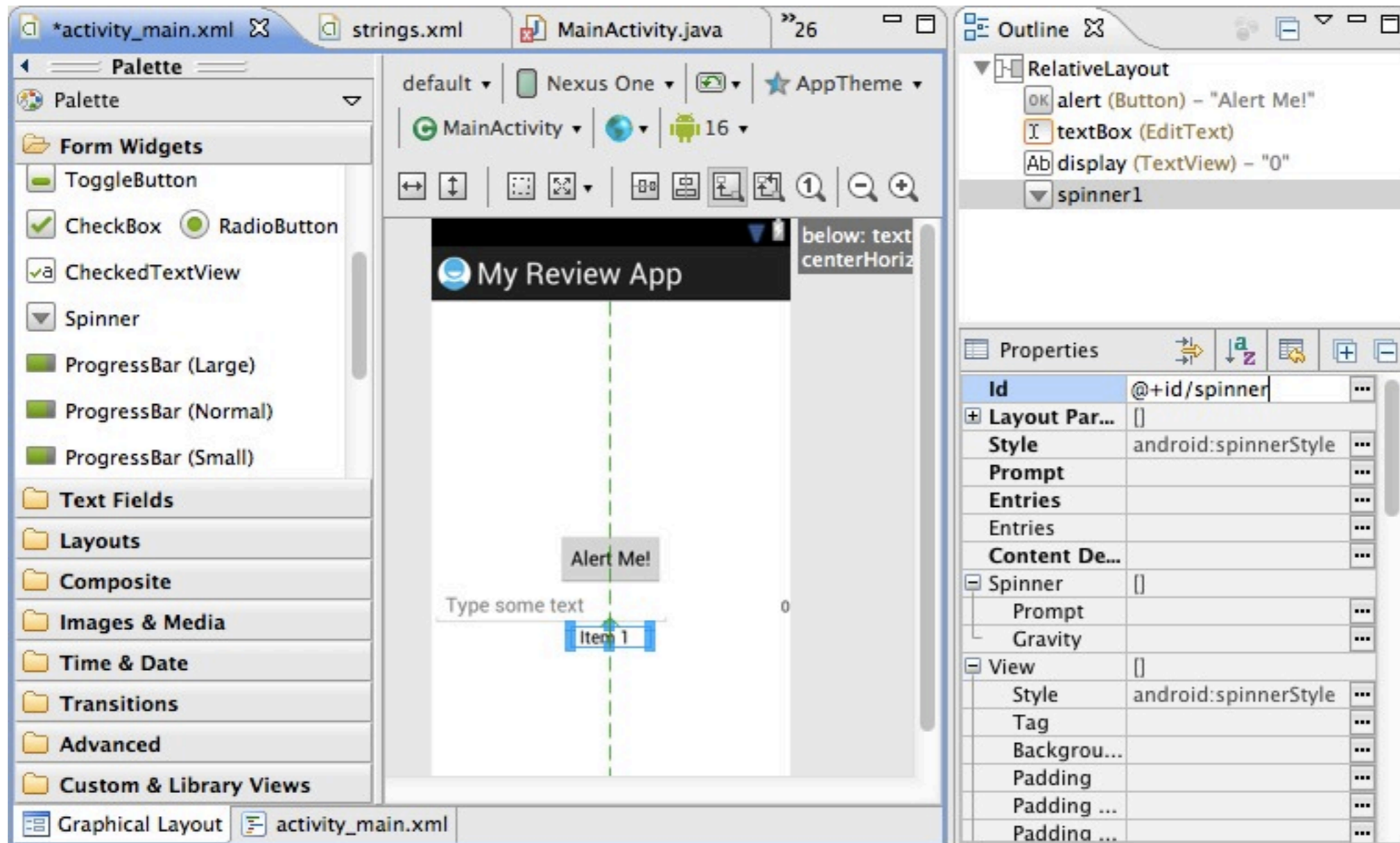
# Working with Views

---

*Add a spinner and populate it with the string values from 1 to 10.*

*Populate it using an Adapter when the activity starts.*

# Working with Views



# Working with Views

---

```
public class MainActivity extends Activity {
    public void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        String[] values = {"1", "2", "3", "4", "5",
                           "6", "7", "8", "9", "10"};
        ArrayAdapter<String> adapter =
            new ArrayAdapter<String>(
                this, android.R.layout.simple_spinner_item,
                values);
        Spinner spinner =
            (Spinner) findViewById(R.id.spinner);
        spinner.setAdapter(adapter);
    }
}
```



# Working with Views

---

*Change the button so that it divides the number in the spinner rather than 5.*

# Working with Views

---

```
public class MainActivity extends Activity {
    public void onAlertClicked(View myView) {
        EditText t = (EditText) findViewById(R.id.textBox);
        String value1 = t.getText().toString();
        Spinner s = (Spinner) findViewById(R.id.spinner);
        String value2 = s.getSelectedItem().toString();
        try {
            double d1 = Double.parseDouble(value1);
            double d2 = Double.parseDouble(value2);
            TextView tv = (TextView)
                findViewById(R.id.display);
            tv.setText(String.valueOf(d2 / d1));
        } catch (NumberFormatException e) {
            Toast.makeText(this, getString(R.string.bad_no),
                Toast.LENGTH_SHORT)
                .show();
        }
    }
}
```

**Break!**

# Navigation

# Navigation

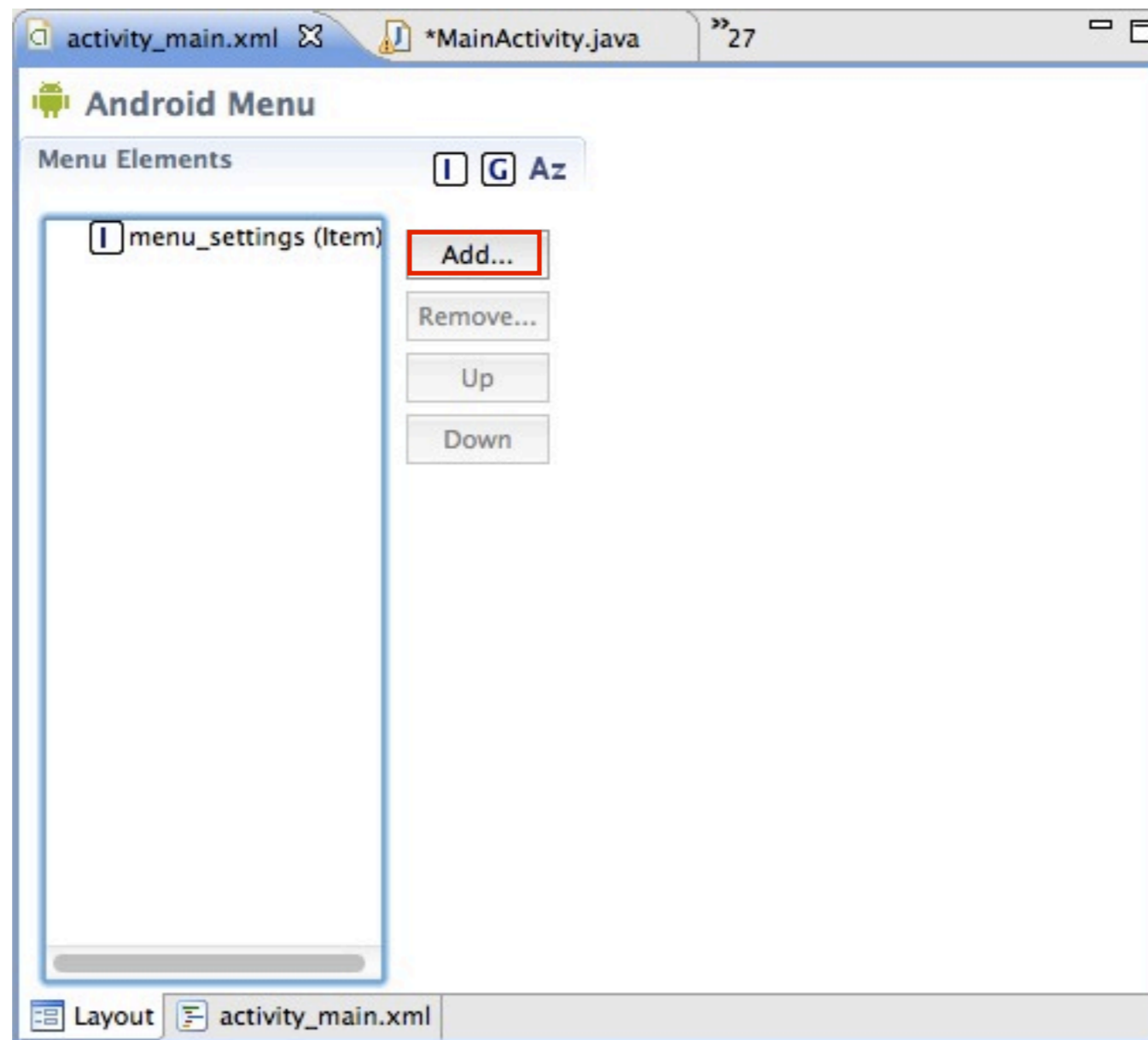
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*Add an item to the main activity's menu that says "List"  
("List" should come from a string resource)*

*Make it work in an Action Bar.*

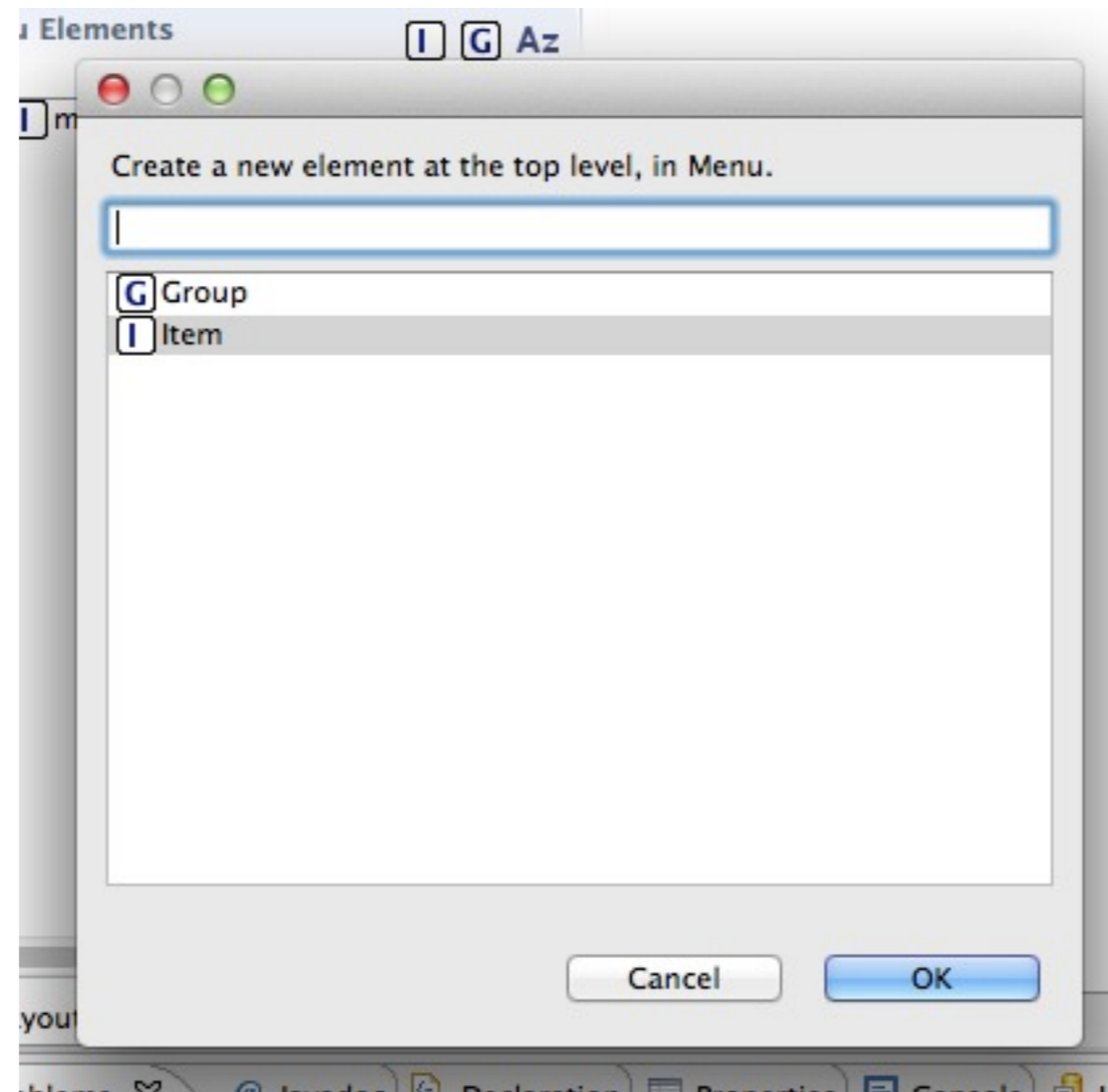
# Navigation

---

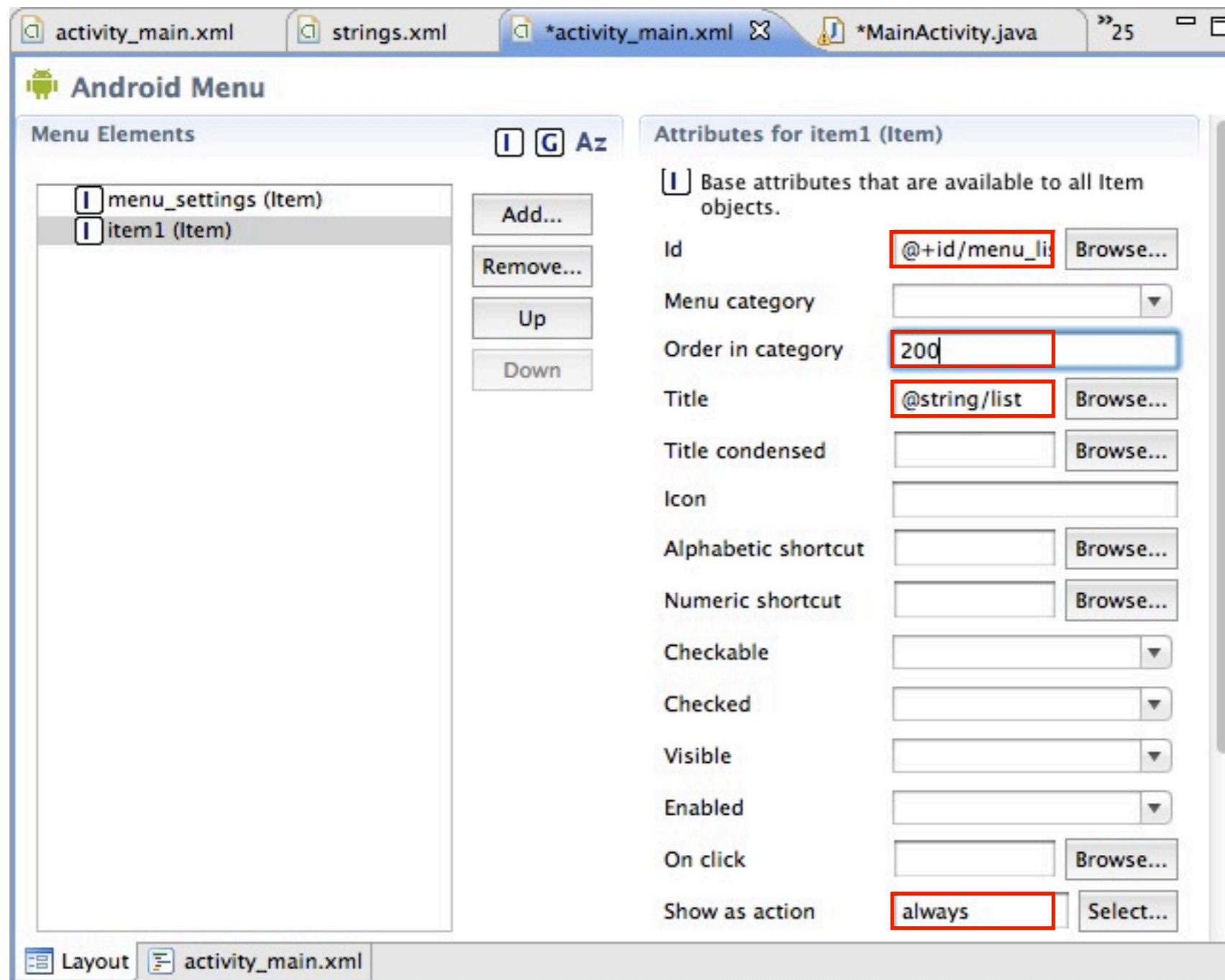


# Navigation

---



# Navigation





# Navigation

---

*Make the “List” menu item give a Toast notification that says “List” when it is clicked.  
(This can use the same string resource)*

# Navigation

---

```
public class MainActivity extends Activity {
    public boolean onOptionsItemSelected(MenuItem item) {
        switch (item.getItemId()) {
            case R.id.menu_list:
                Toast.makeText(this, getString(R.string.list),
                    Toast.LENGTH_SHORT)
                    .show();
                return true;
            default:
                return super.onOptionsItemSelected(item);
        }
    }
}
```

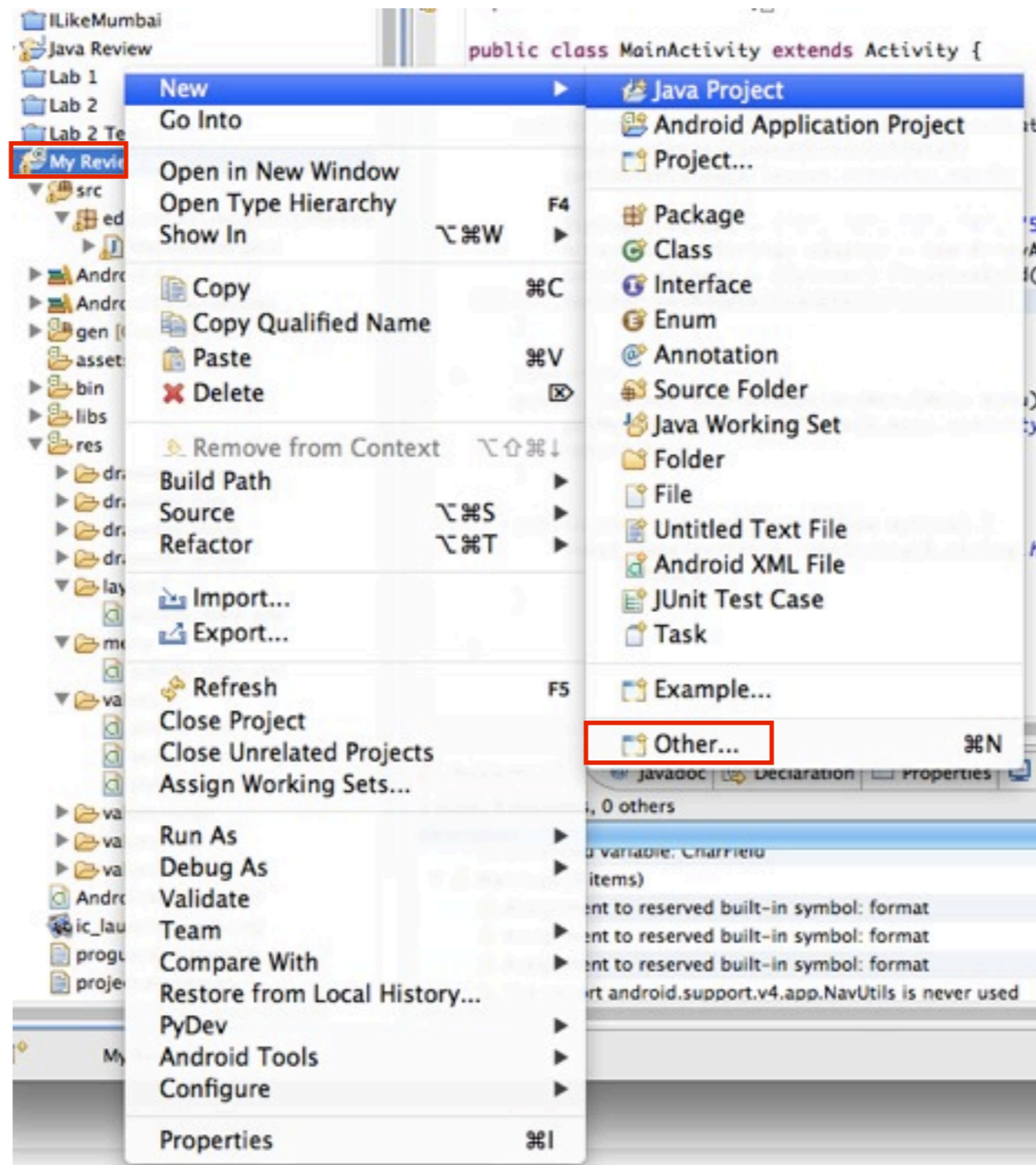
# Navigation

---

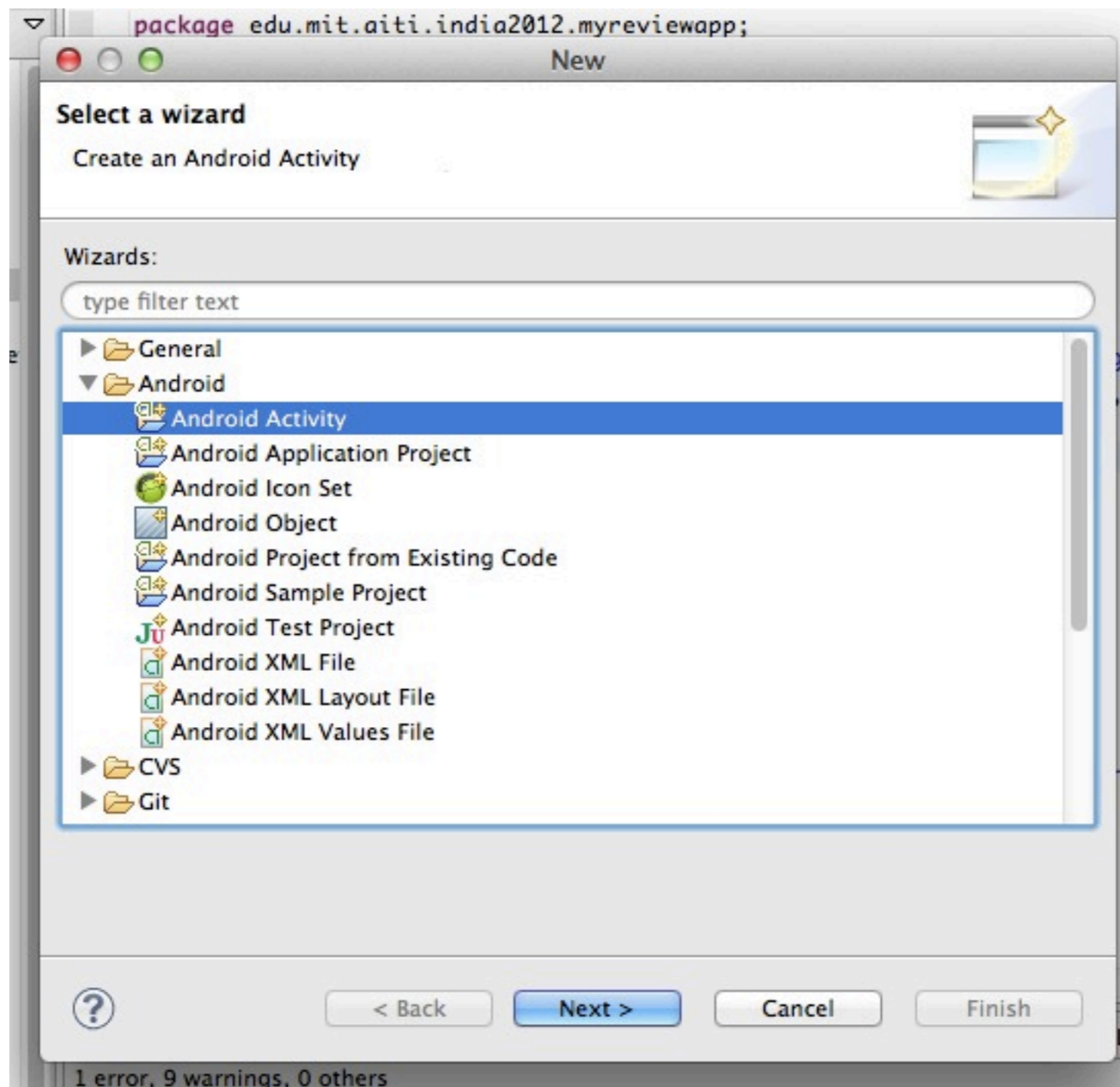
*Create a new activity named “ListActivity”.*

*Add a ListView to it.*

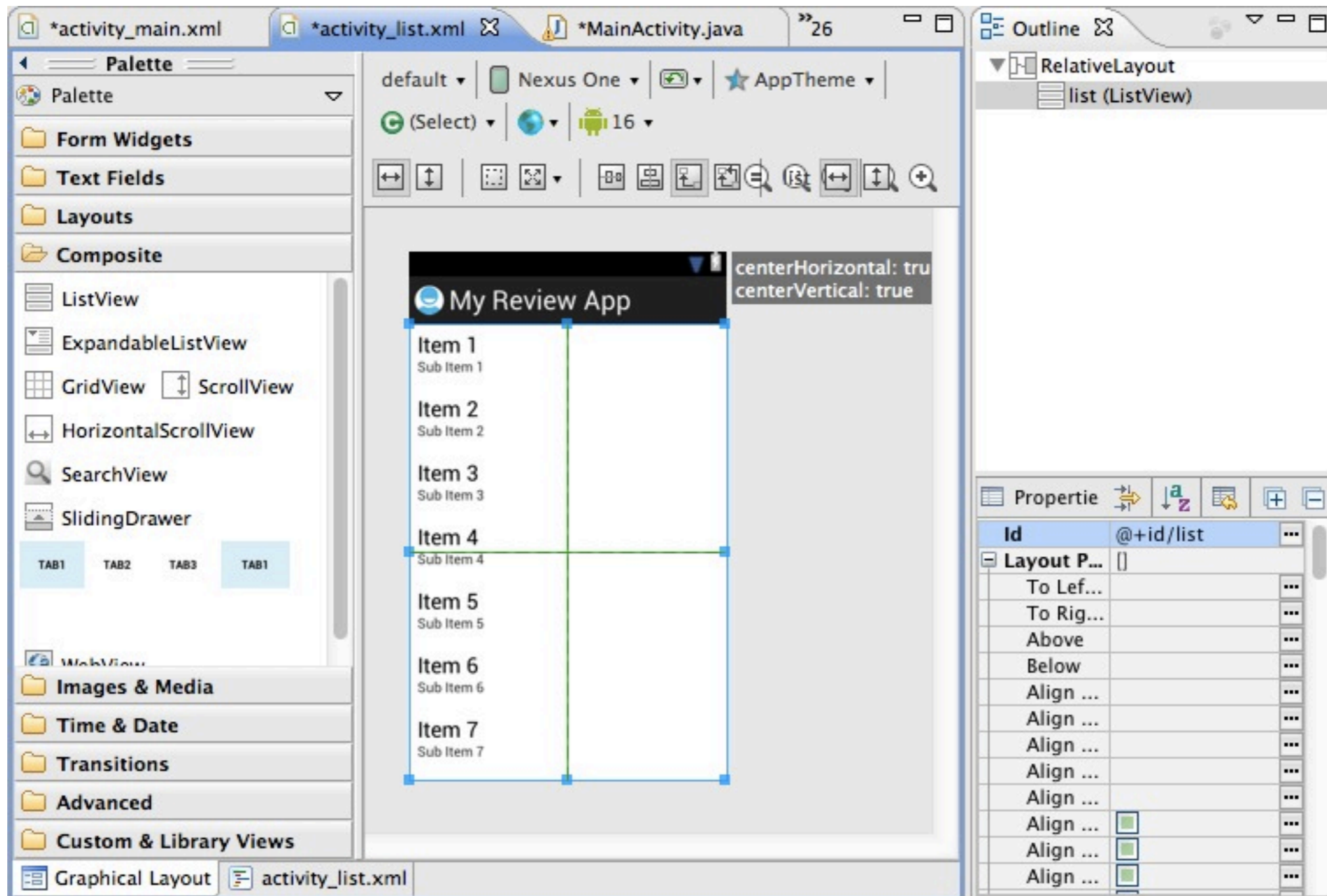
# Navigation



# Navigation



# Navigation



# Navigation

---

*Change the “List” menu item so that it starts the ListActivity.*

# Navigation

---

```
public class MainActivity extends Activity {
    public boolean onOptionsItemSelected(MenuItem item) {
        switch (item.getItemId()) {
            case R.id.menu_list:
                Intent startListActivity =
                    new Intent(this, ListActivity.class);
                startActivity(startListActivity);
                return true;
            default:
                return super.onOptionsItemSelected(item);
        }
    }
}
```



# Navigation

---

*Populate the ListView with the same numbers 1 through 10 that we used with the spinner.*

# Navigation

---

```
public class ListActivity extends Activity {
    public void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_list);

        String[] values = {"1", "2", "3", "4", "5",
                           "6", "7", "8", "9", "10"};
        ArrayAdapter<String> adapter =
            new ArrayAdapter<String>(
                this, android.R.layout.simple_list_item_1,
                values);
        ListView list =
            (ListView) findViewById(R.id.list);
        list.setAdapter(adapter);
    }
}
```

# Navigation

---

*Make the ListView give a Toast notification containing the number clicked when a row in the ListView is clicked.*

# Navigation

---

```
public class ListActivity extends Activity {
    public void onCreate(Bundle savedInstanceState) {
        /* ... */
        ListView list =
            (ListView) findViewById(R.id.list);
        list.setOnItemClickListener(
            new OnItemClickListener() {
                public void onItemClick(AdapterView<?> parent,
                    View view, int pos, long id) {
                    Toast.makeText(getApplicationContext(),
                        parent.getItemAtPosition(pos),
                        Toast.LENGTH_SHORT).show();
                }
            });
    }
}
```

**Break!**