words on sand

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Android – Parcel data to pass between Activities using Parcelable classes

Passing data between activities on android is unfortunately, not as simple as passing in parameters. What we need to to do is tag these onto the intent. If the information we need to pass across is a simple object like a String or Integer, this is easy enough.

```
String strinParam = "String Parameter";
Integer intParam = 5;

Intent i = new Intent(this, MyActivity.class);
i.putExtra("uk.co.kraya.stringParam", stringParam);
i.putExtra("uk.co.kraya.intParam", intParam);

startActivity(i);
```

Passing in custom objects is a little more complicated. You could just mark the class as Serializable and let Java take care of this. However, on the android, there is a serious performance hit that comes with using Serializable. The solution is to use Parcelable.

```
package uk.co.kraya.android.demos.Parcelable;

import android.os.Parcel;
import android.os.Parcelable;

/**
 * @author Shriram Shri Shrikumar
 *
 * A basic object that can be parcelled to
 * transfer between objects
 *
 */
public class ObjectA implements Parcelable {

        private String strValue;
        private Integer intValue;

        /**
         * Standard basic constructor for non-parcel
         * object creation
         */
        public ObjectA() { ; };

        /**
         *
         * Constructor to use when re-constructing object
         * from a parcel
         *
         * @param in a parcel from which to read this object
         */
        public ObjectA(Parcel in) {
                readFromParcel(in);
        }

        /**
         * standard getter
         *
         * @return strValue
         */
        public String getStrValue() {
                return strValue;
        }

        /**
         * Standard setter
         *
         * @param strValue
         */
        public void setStrValue(String strValue) {
                this.strValue = strValue;
        }

        /**
         * standard getter
         *
         * @return
         */
        public Integer getIntValue() {
                return intValue;
        }

        /**
         * Standard setter
         *
         * @param intValue
         */
        public void setIntValue(Integer intValue) {
                this.intValue = intValue;
        }

        @Override
        public int describeContents() {
                return 0;
        }

        @Override
        public void writeToParcel(Parcel dest, int flags) {

                // We just need to write each field into the
                // parcel. When we read from parcel, they
                // will come back in the same order
                dest.writeString(strValue);
                dest.writeInt(intValue);
        }

        /**
         *
         * Called from the constructor to create this
         * object from a parcel.
         *
         * @param in parcel from which to re-create object
         */
        private void readFromParcel(Parcel in) {

                // We just need to read back each
                // field in the order that it was
                // written to the parcel
                strValue = in.readString();
                intValue = in.readInt();
        }

    /**
     *
     * This field is needed for Android to be able to
     * create new objects, individually or as arrays.
     *
     * This also means that you can use use the default
     * constructor to create the object and use another
     * method to hyrdate it as necessary.
     *
     * I just find it easier to use the constructor.
     * It makes sense for the way my brain thinks ;-)
     *
     */
    public static final Parcelable.Creator CREATOR =
        new Parcelable.Creator() {
            public ObjectA createFromParcel(Parcel in) {
                return new ObjectA(in);
            }

            public ObjectA[] newArray(int size) {
                return new ObjectA[size];
            }
        };

}
```

The intricacies of the class is described in the code above. There is now one more special case. What if you have an object that references another object. Clearly, they would both need to be Parcelable, but how would be integrate them. ObjectB shows a parcelable embedded in another parcelable…

```
package uk.co.kraya.android.demos.Parcelable;

import android.os.Parcel;
import android.os.Parcelable;

public class ObjectB implements Parcelable {

        private ObjectA obj;
        private Long longVal;

        public ObjectB() { ; }

        public ObjectA getObj() {
                return obj;
        }

        /**
         *
         * Constructor to use when re-constructing object
         * from a parcel
         *
         * @param in a parcel from which to read this object
         */
        public ObjectB(Parcel in) {
                readFromParcel(in);
        }

        public void setObj(ObjectA obj) {
                this.obj = obj;
        }

        public Long getLongVal() {
                return longVal;
        }

        public void setLongVal(Long longVal) {
                this.longVal = longVal;
        }

        @Override
        public int describeContents() {
                return 0;
        }

        @Override
        public void writeToParcel(Parcel dest, int flags) {

                // The writeParcel method needs the flag
                // as well - but thats easy.
                dest.writeParcelable(obj, flags);

                // Same as in ObjectA
                dest.writeLong(longVal);
        }

        /**
         *
         * Called from the constructor to create this
         * object from a parcel.
         *
         * @param in parcel from which to re-create object
         */
        private void readFromParcel(Parcel in) {

                // readParcelable needs the ClassLoader
                // but that can be picked up from the class
                // This will solve the BadParcelableException
                // because of ClassNotFoundException
                obj = in.readParcelable(ObjectA.class.getClassLoader());

                // The rest is the same as in ObjectA
                longVal = in.readLong();
        }

    /**
     *
     * This field is needed for Android to be able to
     * create new objects, individually or as arrays.
     *
     * This also means that you can use use the default
     * constructor to create the object and use another
     * method to hyrdate it as necessary.
     *
     * I just find it easier to use the constructor.
     * It makes sense for the way my brain thinks ;-)
     *
     */
    public static final Parcelable.Creator CREATOR =
        new Parcelable.Creator() {
            public ObjectB createFromParcel(Parcel in) {
                return new ObjectB(in);
            }

            public ObjectB[] newArray(int size) {
                return new ObjectB[size];
            }
        };
}
```

When writing the parcel, we need to pass in the flags – which is easy enough. When reading the parcel, we need the classloader, which can be picked up from destination class of the parcelable. Again easy!

Finally, passing a parcelable object to an intent

```
ObjectA obj = new ObjectA();

// Set values etc.
```

```
Intent i = new Intent(this, MyActivity.class);
i.putExtra("com.package.ObjectA", obj);

startActivity(i);
```

Almost too easy – right?

and to read the values,

```
public class MyActivity extends Activity {

        @Override
        public void onCreate(Bundle savedInstanceState) {
                super.onCreate(savedInstanceState);

                Bundle b = getIntent().getExtras();
                ObjectA obj =
                        b.getParcelable("com.package.ObjectA");
        }

}
```

It it was any easier – we’d all be out of a job 😉

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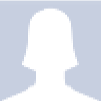
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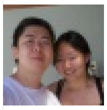
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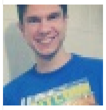
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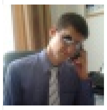
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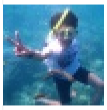
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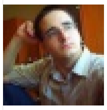
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Great article, it helped me to find out what did I wrong in my code. Thanks!

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Thank you very much for this useful information!

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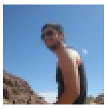
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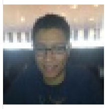
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thaaaaaank uuuuuuuu

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- **By seotools**, 12 June, 2011 @ 12:06

  Amazing content!
  Thank you for this share!
  seo

- **By Harish**, 20 June, 2011 @ 10:39

  Gud job..Keep it up..

- **By bhavya bharti**, 23 June, 2011 @ 16:11

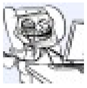
  Nice tutorial.
  Thanks. Its helpful.

- **By Muni Mishra**, 27 June, 2011 @ 09:08

  thanks ram it worked for me.

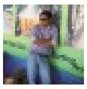
- **By Daniel Szasz**, 27 June, 2011 @ 22:14

  great article…
  read it once and made it once and it’s working …

- 

  By David, 28 June, 2011 @ 09:40

  Thank you for sharing, was very helpful for me.

- 

  By Chirag, 11 July, 2011 @ 11:26

  Great tutorial . Keep it up..

-

By Arkadi Viner, 31 July, 2011 @ 10:48

Great tutorial!
Thank you very much!

By Vinod, 3 August, 2011 @ 09:27

This was very helpful.

By Priti, 9 August, 2011 @ 20:39

Awesome
Got the solution 🙂

By thegreatdao, 19 October, 2011 @ 18:19

This is magnificent. Good job, man.

By KD, 2 December, 2011 @ 07:46

Many thanks..very helpfull tutorial

By Raj, 9 December, 2011 @ 06:27

Thanks, It’s nice Example to learn….

By suma, 9 January, 2012 @ 10:51

nice explanation…

By kuba144, 25 February, 2012 @ 22:54

Thank you 🙂

By Porfirio Mendez, 4 March, 2012 @ 10:36

Great Tutorial buddy.

For those about to code we salute you.

- **By Aneez Ahmed**, 8 March, 2012 @ 19:47

  Thanks a lot man.
  Good one. Working 100%.

- **By Tugay**, 2 May, 2012 @ 18:19

  Firstly thanks for this tutorial, it is really helpful. But i am trying to pass a Facebook object which comes from facebook_android_sdk, i am getting “The method writeParcelable(Parcelable, int) in the type Parcel is not applicable for the arguments (Facebook, int)” error at dest.writeParcelable(fb, flags); this line. Can you help for this?

-

  By Jonathan, 10 July, 2012 @ 01:00

  I’m wondering what happens when we have a built in type like an ArrayList? E.g. what happens when I have a class that has lists of atomic data. And then I want to transfer an array list of these to the parceable.

  Thanks!

- **By G.Suresh**, 5 December, 2012 @ 10:51

  Nice Explanation. Thanks for your great support.

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