Exemplos serialização

Exemplo 1 – Serializando Objetos

http://java.sun.com/javase/6/docs/api/java/io/ObjectOutputStream.html

```
import  java.io.*;
class Aspidistra implements Serializable {
    public Aspidistra (String value) {this.value = value;}
    public String toString() { return value; }
    private String value;

    private void writeObject(java.io.ObjectOutputStream out) throws IOException {
       System.out.println ("Now serializing object " + this);
       out.defaultWriteObject();
    }
    private void readObject(java.io.ObjectInputStream in) throws IOException,
     ClassNotFoundException {
       in.defaultReadObject();
       System.out.println ("Deserializing object " + this);
    }
}
```

Exemplo 1 - Continuação

```
class TesteImplementsSerializable {
    public static void main(String[] args) throws Exception {
        ByteArrayOutputStream baos = new ByteArrayOutputStream ();
        ObjectOutputStream oos = new ObjectOutputStream (baos);
        oos.writeObject (new Aspidistra ("elatior"));
        oos.close();
        byte[] bytes = baos.toByteArray();
        ByteArrayInputStream bais = new ByteArrayInputStream (bytes);
        ObjectInputStream ois = new ObjectInputStream (bais);
        Aspidistra asp = (Aspidistra) ois.readObject ();
        System.out.println (asp);
    }
}
```

Exemplo 2 - Serializando Objetos

```
import java.io.*;
public class TesteSerializacao implements Serializable {
   private int campoA;
   private int campoB;
   private String str;
   public int getCampoA() {   return campoA;     }
   public void setCampoA(int campoA) {  this.campoA = campoA;     }
   public int getCampoB() {   return campoB;     }
    public void setCampoB(int campoB) { this.campoB = campoB;     }
    public java.lang.String getStr() { return str;     }
    public void setStr(java.lang.String str) { this.str = str;     }
   public String toString() {
       StringBuffer b = new StringBuffer();   b.append("(");   b.append(campoA);
      b.append(",");  b.append(campoB);   b.append(") ");   b.append(str);  return b.toString();
    }
    public TesteSerializacao(int campoA, int campoB, String str) {
       this.campoA = campoA;
       this.campoB = campoB;
       this.str = str;
    }
```

Exemplo 2- continuação

```
  public static void main(String[] args) throws FileNotFoundException, IOException,
    ClassNotFoundException {
      // gravando
      ObjectOutputStream o = new ObjectOutputStream(new  FileOutputStream("objetos.objects"));
      TesteSerializacao um = new TesteSerializacao(1, 2, "Objeto 1");
      TesteSerializacao dois = new TesteSerializacao(10, 20, "Objeto 2");
      o.writeObject(um);
      o.writeObject(dois);
      o.flush();
      o.close();

      // lendo
      ObjectInputStream i = new ObjectInputStream (new FileInputStream  ("objetos.objects"));
      TesteSerializacao a = (TesteSerializacao)i.readObject();
      TesteSerializacao b = (TesteSerializacao)i.readObject();
      System.out.println(a + "\n" + b);
      i.close();
  }
}
```

Exemplo 3 - Serialização

```
import java.io.Serializable;
 public class Exemplo1 implements Serializable{
     private int numero;
     private String nome;
    public Exemplo1(int numero, String nome) {
         this.numero = numero;
         this.nome = nome;
    }
    public String getNome() {
        return nome;
    }
    public int getNumero() {
        return numero;
    }
    public String toString() {
        return new String("Numero = "+this.numero+" | Nome = "+this.nome);
   }
}
```

Exemplo 3 - continuação

```
import java.io.File;  import java.io.FileInputStream;  import java.io.FileOutputStream;  import
    java.io.ObjectInputStream;  import java.io.ObjectOutputStream;
public class Teste1 {
   public static void main(String args []){
     Exemplo1 e1 = new Exemplo1(001,“White”);
     Exemplo1 e2 = new Exemplo1(002,“Magician”);
     ObjectOutputStream out;
     ObjectInputStream in;
     try{
            out = new ObjectOutputStream(new FileOutputStream( “Exemplo1.bin”));
              out.writeObject(e1);
              out.writeObject(e2);
              out.flush();
              out.close();
           }
      catch(Exception e){
              e.printStackTrace();
       }
```

Exemplo 3 - continuação

```
Exemplo1  e3;
Exemplo1  e4;
try {
      in = new ObjectInputStream(new FileInputStream(“Exemplo1.bin”));
      e3 = (Exemplo1) in.readObject();
      e4 = (Exemplo1) in.readObject();
      in.close();
      System.out.println(e3.toString());
      System.out.println(e4.toString());
   }
   catch (Exception e){
         e.printStackTrace();
   }
 }
}
```

Exemplo 4 - Serializando um *Set*

```
import java.io.FileInputStream;  import java.io.FileOutputStream;  import
    java.io.ObjectInputStream; import java.io.ObjectOutputStream;  import
    java.util.Arrays; import java.util.HashSet; import java.util.Set;


public class MainClass {
  public static void main(String[] a) throws Exception{
     String elements[] = { "A", "B", "C", "D", "E" };
     Set set = new HashSet(Arrays.asList(elements));
      FileOutputStream fos = new FileOutputStream("set.ser");
     ObjectOutputStream oos = new ObjectOutputStream(fos);
     oos.writeObject(set);
     oos.close();
      FileInputStream fis = new FileInputStream("set.ser");
     ObjectInputStream ois = new ObjectInputStream(fis);
     Set anotherSet = (Set) ois.readObject();
     ois.close();
      System.out.println(anotherSet);
 }}
```

Exemplo 4 - Serializando uma *List*

```
public static class UserData implements Serializable{
      private String name;

       public UserData(String name) {
         this.name = name;   }

       public UserData() { this("");     }

       @Override
      public String toString() {
         return "userData{" +
                "name='" + name + '\'' +  '}';
      }
   }
}
```

Exemplo 4 - continuação

```
public List<UserData> readFile(File f) {
      List<UserData> people = new ArrayList<UserData>();
      if (f.exists()) {
         ObjectInputStream ois = null;
         try {
            ois = new ObjectInputStream(new FileInputStream(f));
            // Put into arrayList
            people = (List<UserData>) ois.readObject();
         } catch (IOException e) {
            e.printStackTrace();
         } catch (ClassNotFoundException e) {
            e.printStackTrace();
         } finally {
            if (ois!=null) {
               try {
                  ois.close();
               } catch (IOException e) {/*ignored*/}
            }  }
       }   return people;
   }
```

Exemplo 4 – Continuação

```
import java.util.ArrayList; import java.util.List;  import java.io.*;
 public class SomeClass {
    public void writeFile(List<UserData> dataToWrite, String filename) {
      List<UserData> people = dataToWrite;
      ObjectOutputStream oos = null;
      try {
               FileOutputStream fos = new FileOutputStream(filename);
              oos = new ObjectOutputStream(fos);
              oos.writeObject(people);
      } catch (IOException ioe) {
              System.out.println("Error writing to Object File: " + filename);
              ioe.printStackTrace();
      } finally {
         if(oos != null) {
            try {
               oos.close();
            } catch (IOException e) {
               /*ignored*/
            }
}      }    }
```

Exemplo 5 – Serializando um *TreeMap*

```
import java.io.ObjectInputStream; import java.io.FileInputStream; import java.util.TreeMap;
public class Reader {
      public static void main(String argv[])  throws java.io.IOException,
     java.lang.ClassNotFoundException {
            // Read the structure from a file
              TreeMap<String,Country> world = (TreeMap<String,Country>)
              new ObjectInputStream( new FileInputStream("world.dat")).readObject();
              TreeMap<String,Long> rList= new TreeMap<String,Long>();
              for (Country c : world.values())    {
                        if (!rList.containsKey(c.region))
                              rList.put(c.region,0L);
                        rList.put(c.region,rList.get(c.region)+c.pop);
              }
              for (String r : rList.keySet())
                        System.out.printf("%-35s%,13d\n",r,rList.get(r));
      }
}
```