

JSon

Java B3

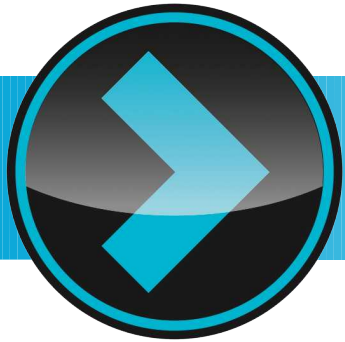




Course Goals

- What is JSon
- Libraries
- Create JSon objects
- Parse JSon Objects





What is JSON Format



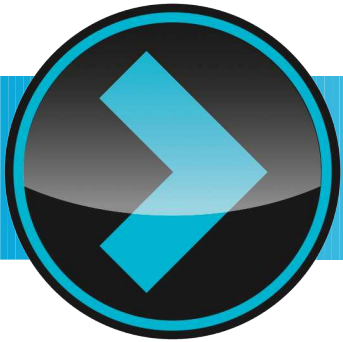


What is JSON Format

- JSon is a simple way to transfer complicated data through a stream.
- With JSon, we can transfer one or several records

```
{"name":"Amit Kumar","Max.Marks":100,"Min.Marks":40,"Scored":66.67,"nickname":"Amit"}
```

```
[  
  {  
    "name":"Amit Kumar",  
    "Max.Marks":100,  
    "Min.Marks":40,  
    "Scored":66.67,  
    "nickname":"Amit"  
  },  
  {  
    "name":"Arnold SCHWARTZENNEGGER",  
    "Max.Marks":1000,  
    "Min.Marks":400,  
    "Scored":99.67,  
    "nickname":"SCHWARZY"  
  }  
]
```

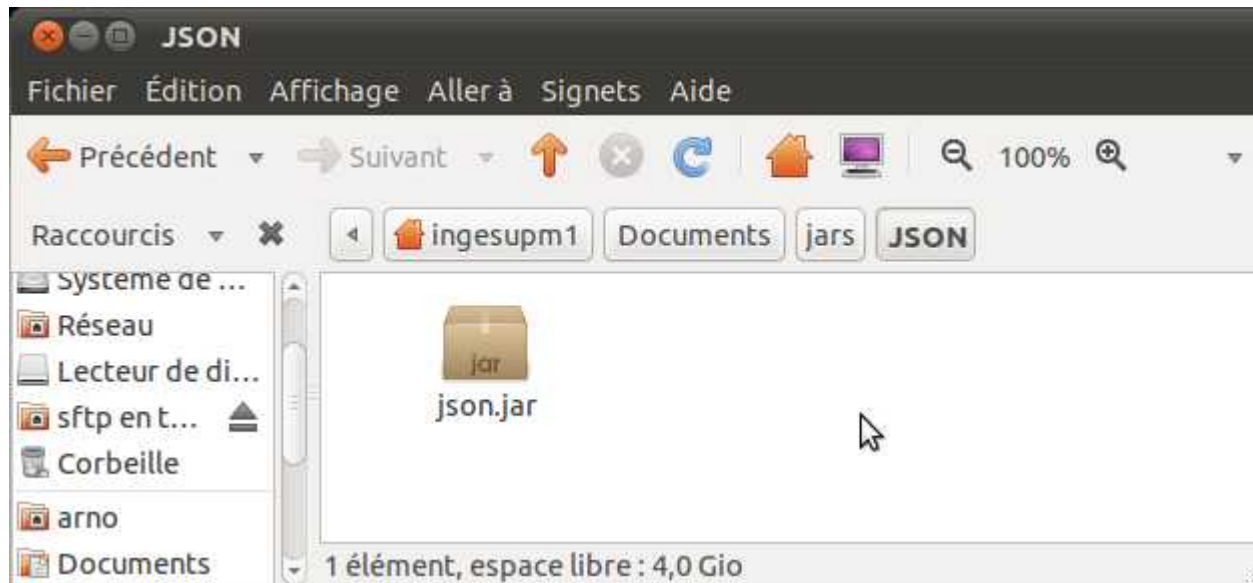


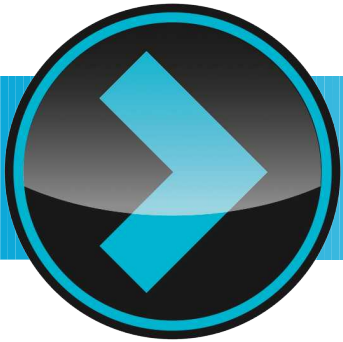
Libraries



Libraries

- Create a user library with this jar :





First example





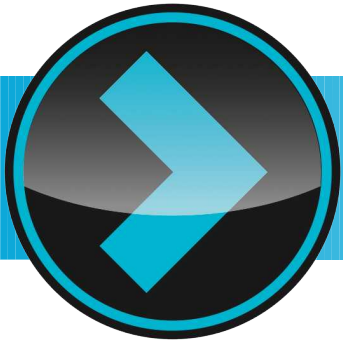
Use a simple object

- JSONObject
 - put(String key, Object value) : void
 - getString(String key) : String
 - getDouble(String key) : double
 - ...

```
package com.ingesup.javab3.json;

import org.json.JSONException;
import org.json.JSONObject;

public class JsonSimple
{
    public static void main(String args[]) throws JSONException{
        JSONObject object=new JSONObject();
        object.put("name","Amit Kumar");
        object.put("Max.Marks",new Integer(100));
        object.put("Min.Marks",new Double(40));
        object.put("Scored",new Double(66.67));
        object.put("nickname","Amit");
        System.out.println(object);
        String nom=object.getString("name");
        double score=object.getDouble("Scored");
        System.out.println(nom+" "+score);
    }
}
```

Array example





JSONArray

- JSONArray
 - add(JSONObject) : void
 - (JSONObject) get(int) : JSONObject
- Example :
 - create a class with a JSONArray private attribute.
 - In an init method, store 2 records
 - In a scan method, retrieve some fields of a record.

Affichage total :

```
[{"name": "Amit Kumar", "Max.Marks": 100, "Min.Marks": 40, "Scored": 66.67, "nickname": "Amit"}, {"name": "Arnold SCHWARTZENEGGER", "Max.Marks": 1000, "Min.Marks": 400, "Scored": 99.67, "nickname": "SCHWARZY"}]
```

Résultats du scan :

```
Elément 1 : {"name": "Arnold SCHWARTZENEGGER", "Max.Marks": 1000, "Min.Marks": 400, "Scored": 99.67, "nickname": "SCHWARZY"}  
son Nom : Arnold SCHWARTZENEGGER
```



JSONArray result

```
package com.ingesup.javab3.json;

import org.json.JSONArray;
import org.json.JSONException;
import org.json.JSONObject;

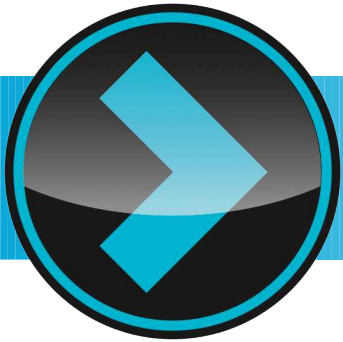
public class JsonArray
{
    private JSONArray arrayObj;

    public static void main(String args[])
        throws JSONException
    {
        // instantiation et initialisation
        JsonArray jsonArray=new JsonArray();
        jsonArray.scanne();
    }

    private void scanne() throws JSONException
    {
        JSONObject jsonObject=(JSONObject) arrayObj.get(1);
        System.out.println("Résultats du scan :");
        System.out.println("Élément 1 : "+jsonObject);
        String o=(String) jsonObject.get("name");
        System.out.println("Nom : "+o);
    }
}
```

```
public JsonArray() throws JSONException
{
    arrayObj = new JSONArray();
    JSONObject object=new JSONObject();
    object.put("name","Amit Kumar");
    object.put("Max.Marks",new Integer(100));
    object.put("Min.Marks",new Double(40));
    object.put("Scored",new Double(66.67));
    object.put("nickname","Amit");
    arrayObj.put(object);
    JSONObject object2=new JSONObject();
    object2.put("name","Arnold SCHWARTZENEGGER");
    object2.put("Max.Marks",new Integer(1000));
    object2.put("Min.Marks",new Double(400));
    object2.put("Scored",new Double(99.67));
    object2.put("nickname","SCHWARZY");
    arrayObj.put(object2);
    System.out.println(arrayObj);
}

public JSONArray getArrayObj()
{
    return arrayObj;
}
}
```



Big job





JSON - MySQL

- Clone ConnMysql and modify it in ConnMySQLJSON
- Create a method which transform an sql request into a json array

```
package com.ingesup.javab3.json;
import net.sf.json.JSONArray;
import com.ingesup.javab3.json.interfaces.ConnMySQLJson;

public class JSonMysql
{
    public static void main(String[] args)
    {
        ConnMySQLJson connMySQLJson=new ConnMySQLJson("films");
        JSONArray jsonArray=connMySQLJson.selectJson("acteurs");
        System.out.println(jsonArray);
    }
}
```

```
[
  {
    "codeActeur":1,
    "nomActeur":"FOSTER",
    "prenomActeur":"Jodie",
    "sexeActeur":1,
    "anneeNaissanceActeur":1962
  },
  {
    "codeActeur":2,
    "nomActeur":"McConaughey",
    "prenomActeur":"Matthew David",
    "sexeActeur":0,
    "anneeNaissanceActeur":1969
  },
  {
    "codeActeur":3,
    "nomActeur":"WOODS",
    "prenomActeur":"James",
    "sexeActeur":0,
    "anneeNaissanceActeur":1947
  },
  {
    "codeActeur":4,
    "nomActeur":"SKERRIT",
    "prenomActeur":"Tom",
    "sexeActeur":0,
    "anneeNaissanceActeur":1933}
  , ...
]
```



Points abordés

**Bean
characteristics**

<jsp:usebean

<jsp:getproperty

<jsp:setproperty

