Survey on Code Examples

Dear participant,

Our research group is investigating the usefulness of code examples in understanding the usage of APIs.

We would be grateful if you could spend a few minutes of your time to answer the following survey, which consist of two parts:

1. A questionnaire about your background.
2. A short evaluation of ten code examples showing the usage of ten methods of an API (i.e., one code example per method).

The survey will take less than 10 minutes to complete, and your participation is anonymous and voluntary. If you have any question, do not hesitate to contact Laura Moreno via email at lmorenoc@utdallas.edu.

Thanks for your help.

Background Information

Please, answer the following questions according to your experience in software development.

1. For how many years have you developed software?

1 ▼
2. Do you have any industrial experience as software developer?

- Yes
- No

For how many years?

1

3. How often do you make use of third party libraries in your software projects?

- Never
- Rarely - I use third party libraries in less than 33% of my projects
- Occasionally - I use third party libraries in more than 33% but less than 66% of my projects
- Frequently - I use third party libraries in more than 66% of my projects

4. How often do you use code examples found on the Internet to check how to use the API of a library?

- Never
- Rarely - I use code examples for less than 33% of the APIs I use
- Occasionally - I use code examples for more than 33% but less than 66% of the APIs I use
- Frequently - I use code examples for more than 66% of the APIs I use

**Code Examples for Apache POI**

**Code Examples for Apache POI**

The next questions refer to code examples showing the usage of some methods of the Apache POI API.
1. Have you contributed to the implementation of the Apache POI project?

- Yes
- No

Code Examples for Apache POI

2. The next code snippet exemplifies the usage of the method:

```
org.apache.poi.hssf.usermodel.HSSFRequest.addListenerForAllRecords(
    org.apache.poi.hssf.usermodel.HSSFListener
)
```

**Example**

```
01 /**
02 * Should we output the formula, or the value it has?
03 */
04 boolean outputFormulaValues;
05 FormatTrackingHSSFListener formatListener;
06 PublicMorozoffHSSFRequest requestPublic;
07 /**
08 * For parsing Formulas
09 */
10 SheetRecordCollectingListener workbookBuildingListener;
11 outputFormulaValues=true;
12 MissingRecordAwareHSSFListener listener=new MissingRecordAwareHSSFList
13 formatListener=new FormatTrackingHSSFListener(listener);
14 requestPublic=new PublicMorozoffHSSFRequest();
15 if(outputFormulaValues)
16 {
17 }
18 workbookBuildingListener=new EventWorkbookBuilder().SheetRecordCollectin
19 // workbookBuildingListener -> a single listener to associate with ALL
20 requestPublic.addListenerForAllRecords(workbookBuildingListener);
```

Considering this code example, answer the following questions:

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<tr>
<th>How useful is the code example (including the comments) in understanding the usage of the aforementioned method?</th>
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Code Examples for Apache POI

3. The next code snippet exemplifies the usage of the method:

```java
org.apache.poi.ss.usermodel.Row.createCell(int)
```

```java
Example
01 final Object[] values = getValues();
02 final Row row = getUpdateCallback().createRow(getTable().getName());
03 final Column[] columns = getColumns();
04 for(int i = 0; i < columns.length; i++)
05 {
06 Object value = values[i];
07 if (value != null)
08 {
09 int columnNumber = columns[i].getColumnNumber();
10 // columnNumber -> - the column number this cell represents
11 row.createCell(columnNumber);
12 }
13 }
```

Considering this code example, answer the following questions:

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Please, justify your answers.
4. The next code snippet exemplifies the usage of the method:

```java
org.apache.poi.hssf.usermodel.HSSFWorkbook.createSheet(java.lang.String)
```

**Example**
```
1 HSSFWorkbook wb=new HSSFWorkbook();
2 /*"Sheet" -> sheetname to set for the sheet.
3 wb.createSheet("Sheet");
```

Considering this code example, answer the following questions:

| How useful is the code example (including the comments) in understanding the usage of the aforementioned method? |
|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|
| Not useful at all | Slightly useful | Useful | Very useful |

| How useful are the comments describing the arguments of the aforementioned method in understanding its usage? |
|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|
| Not useful at all | Slightly useful | Useful | Very useful |

Please, justify your answers.

---

5. The next code snippet exemplifies the usage of the method:

```java
org.apache.poi.ss.usermodel.DataFormat.getFormat(java.lang.String)
```

**Example**
private final Workbook wb;
private final String DEFAULT_DATE_FORMAT="dd mmm dd hh:mm:ss yyyy";
DataFormat df=wb.createDataFormat();
// DEFAULT_DATE_FORMAT -> string matching a built in format
df.getFormat(DEFAULT_DATE_FORMAT);

Considering this code example, answer the following questions:

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Please, justify your answers.

Code Examples for Apache POI

6. The next code snippet exemplifies the usage of the method:

```java
org.apache.poi.hssf.usermodel.HSSFCellStyle.setAlignment(short)
```

Example

```java
/**
 * the xls workbook
 */
private HSSFWorkbook workBook;
HSSFCellStyle cellStyle=workBook.createCellStyle();
// HSSFCellStyle.ALIGN_CENTER -> - the type of alignment
cellStyle.setAlignment(HSSFCellStyle.ALIGN_CENTER);
```

Considering this code example, answer the following questions:
How useful is the code example (including the comments) in understanding the usage of the aforementioned method?

How useful are the comments describing the arguments of the aforementioned method in understanding its usage?

Please, justify your answers.

---

**Code Examples for Apache POI**

7. The next code snippet exemplifies the usage of the method:

```
org.apache.poi.hssf.usermodel.HSSFCell.setCellType(int)
```

Example

```java
    01 /**
    02 * current row
    03 */
    04 private HSSFRow currentRow;
    05 /**
    06 * column
    07 */
    08 private short currentCol=0;
    09 HSSFCell cell=currentRow.createCell(currentCol);
    10 cell.setCellType(HSSFCell.CELL_TYPE_STRING);
```

Considering this code example, answer the following questions:

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Code Examples for Apache POI

8. The next code snippet exemplifies the usage of the method:

```java
org.apache.poi.hssf.usermodel.HSSFCell.setCellValue(java.util.Calendar)
```

Example

```
01 protected HSSFSheet sheet;
02 protected int index=0;
03 Object datas;
04 HSSFRow row=sheet.getRow(index);
05 if(datas != null)
06 {
07 if(datas.getClass().isArray())
08 {
09 Object[] values=(Object[])datas;
10 for(int i=0; i < values.length; i++)
11 {
12 HSSFCell cell=row.createCell(i);
13 // (Calendar)values[i] -> the date value to set this cell to. For formula
14 // value, for numerics we'll set its value. For other types we
15 // cell and set its value.
16 cell.setCellValue((Calendar)values[i]);
17 }
18 }
19 }
```

Considering this code example, answer the following questions:

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Please, justify your answers.

**Code Examples for Apache POI**

9. The next code snippet exemplifies the usage of the method:

```java
org.apache.poi.hssf.usermodel.HSSFCell.setCellValue(java.lang.String)
```

<table>
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<tr>
<td>01 private TableViewer tableViewer=null;</td>
</tr>
<tr>
<td>02 HSSFWorkbook wb=new HSSFWorkbook();</td>
</tr>
<tr>
<td>03 HSSFSheet sheet=wb.createSheet(&quot;Sheet&quot;);</td>
</tr>
<tr>
<td>04 HSSFRow row=sheet.createRow(0);</td>
</tr>
<tr>
<td>05 short col=0;</td>
</tr>
<tr>
<td>06 TableModel model=tableViewer.getModel();</td>
</tr>
<tr>
<td>07 Iterator&lt;TableColumn&gt; it=model.getColumnIterator();</td>
</tr>
<tr>
<td>08 while(it.hasNext())</td>
</tr>
<tr>
<td>09 {</td>
</tr>
<tr>
<td>10 TableColumn column=it.next();</td>
</tr>
<tr>
<td>11 if(!isColumnVisible(column))</td>
</tr>
<tr>
<td>12 {</td>
</tr>
<tr>
<td>13 continue;</td>
</tr>
<tr>
<td>14 }</td>
</tr>
<tr>
<td>15 HSSFCell cell=row.createCell(col++);</td>
</tr>
<tr>
<td>16 }</td>
</tr>
<tr>
<td>17 // column.getTitle() -&gt; value to set the cell to. For formulas we'll s</td>
</tr>
<tr>
<td>18 // for String cells we'll set its value. For other types we wi</td>
</tr>
<tr>
<td>19 // and set its value. If value is null then we will change the</td>
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<tr>
<td>20 cell.setCellValue(column.getTitle());</td>
</tr>
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Code Examples for Apache POI

10. The next code snippet exemplifies the usage of the method:

```java
org.apache.poi.hssf.usermodel.HSSFCellStyle.setFillForegroundColor(short)
```

Example
```
/**
 * the xls workbook
 */
private HSSFWorkbook workbook;
HSSFCellStyle cellStyle=workbook.createCellStyle();
// HSSFCOLOR.BLACK.index -> color
cellStyle.setFillForegroundColor(HSSFCOLOR.BLACK.index);
```

Considering this code example, answer the following questions:

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Please, justify your answers.
Code Examples for Apache POI

11. The next code snippet exemplifies the usage of the method:

```
org.apache.poi.ss.usermodel.Workbook.write(java.io.OutputStream)
```

**Example**

```
private File saveFile = null;
private Boolean writeRequired = false;
private Workbook workbook = null;
if (saveFile != null && writeRequired)
{
    FileOutputStream fileOut;
    try
    {
        File newFile = File.createTempFile("xlsdriver", "xlsx");
        fileOut = new FileOutputStream(newFile);
        // fileOut -> the java OutputStream you wish to write to
        workbook.write(fileOut);
    }
}
```

Considering this code example, answer the following questions:

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Please, justify your answers.

Comments

Comments
1. Do you have any further comments on the code examples presented in this survey?

2. Your opinion is important to us. Please, share your email address if we can contact you to follow up on any of your responses.