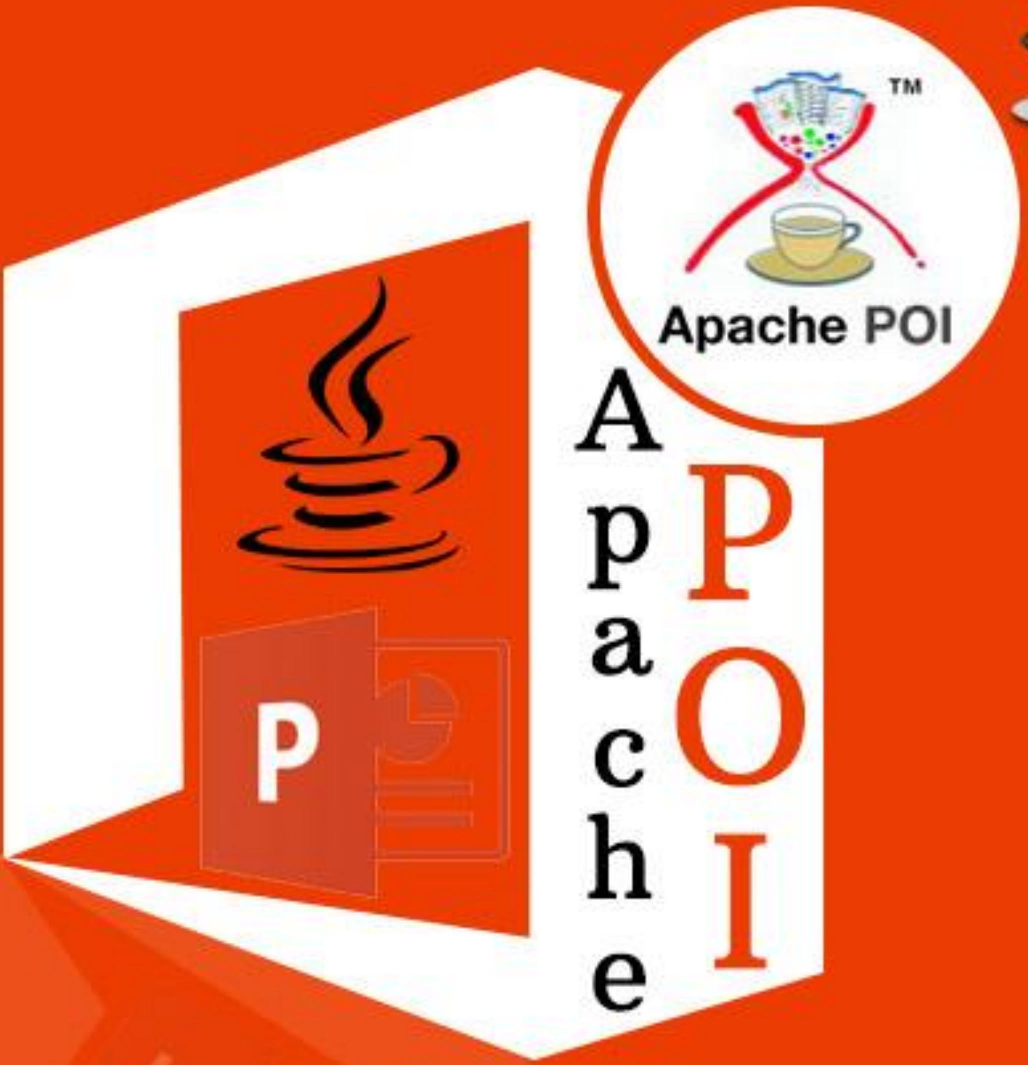

LEARN APACHE POI-PPT

java PPT library

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About the Tutorial

This tutorial provides a basic understanding of Apache POI library and its features. Here we will learn how to read, write, and manage MS-PowerPoint documents using Java programs.

Audience

This tutorial is designed for all the readers working on Java and especially those who want to create, read, write, and modify PPT files using Java.

Prerequisites

A general awareness of Java programing with JDK1.5 or later versions and IO concepts in Java are the only prerequisites to understand this tutorial.

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1. APACHE POI – OVERVIEW

Many a time, a software application is required to generate reports in Microsoft Office file format. Sometimes, an application is even expected to receive MS-Office files as input data.

Any Java programmer who wants to produce MS Office files as output must use a predefined and read-only API to do so.

What is Apache POI?

Apache POI is a popular API that allows programmers to create, modify, and display MS-Office files using Java programs. It is an open source library developed and distributed by Apache Software Foundation. It contains classes and methods to decode the user input data, or a file into MS Office documents.

Components of Apache POI

Apache POI contains classes and methods to work on all OLE2 Compound documents of MS-Office. The list of components of this API is given below:

- **POIFS** (Poor Obfuscation Implementation File System): This component is the basic factor of all other POI elements. It is used to read different files explicitly.
- **HSSF** (Horrible SpreadSheet Format): It is used to read and write .xls format of MS-Excel files.
- **XSSF** (XML SpreadSheet Format): It is used for .xlsx file format of MS-Excel.
- **HPSF** (Horrible Property Set Format): It is used to extract property sets of the MS-Office files.
- **HWPF** (Horrible Word Processor Format): It is used to read and write .**doc** extension files of MS-Word.
- **XWPF** (XML Word Processor Format): It is used to read and write .docx extension files of MS-Word.
- **HSLF** (Horrible Slide Layout Format): It is used to read, create, and edit PowerPoint presentations.
- **HDGF** (Horrible DiaGram Format): It contains classes and methods for MS-Visio binary files.
- **HPBF** (Horrible PuBlisher Format): It is used to read and write MS-Publisher files.

This tutorial guides you through the process of working on Microsoft PowerPoint presentation using Java. Therefore the discussion is confined to **XSLF component**.

Note: Older versions of POI support binary file formats such as doc, xls, ppt, etc. Version 3.5 onwards, POI supports OOXML file formats of MS-Office such as docx, xlsx, pptx, etc.

2. FLAVORS OF JAVA PPT API

This chapter takes you through some of the flavors of Java PowerPoint API and their features. There are many vendors who provide Java PPT related APIs; some of them are considered in this chapter.

Aspose Slides for Java

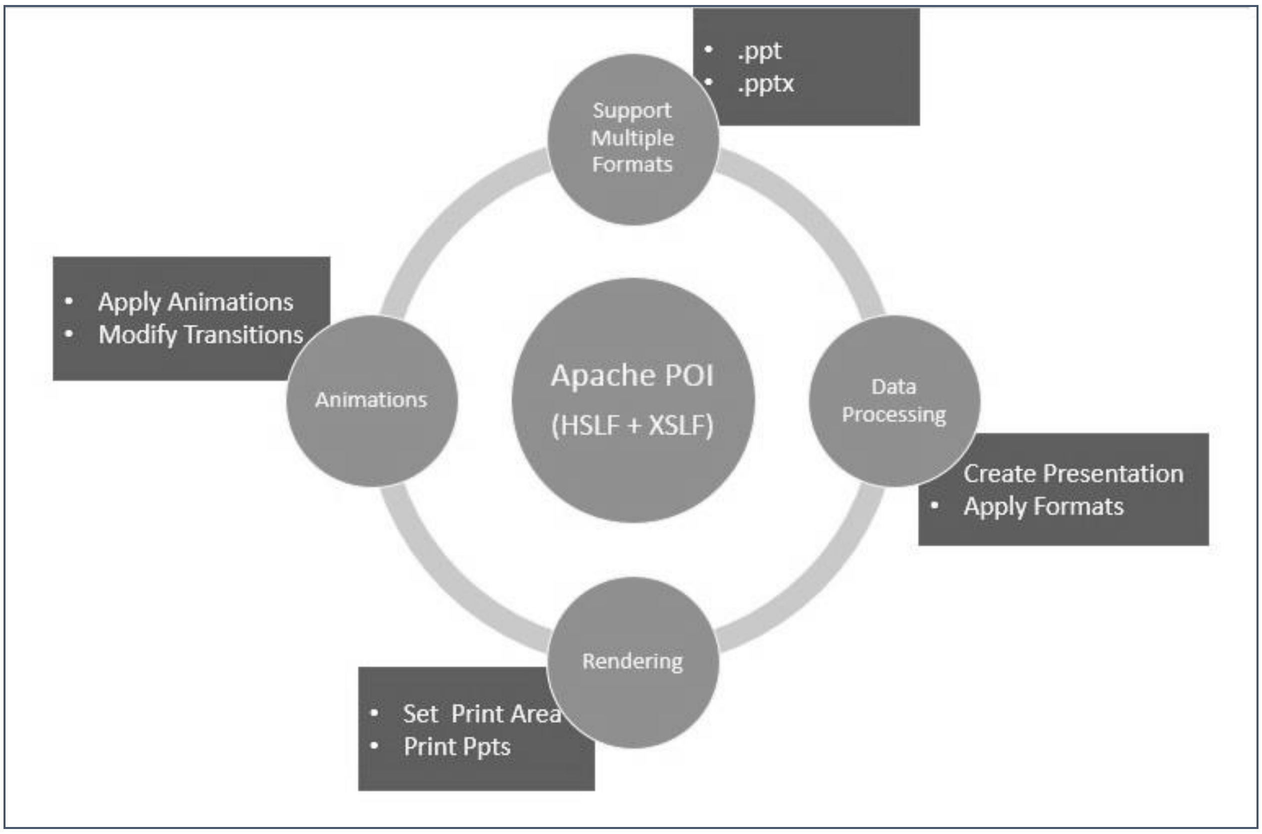
Aspose slides for Java is a purely licensed Java PPT API, developed and distributed by the vendor **Aspose**. The latest version of this API is 8.1.2, released in July 2014. It is a rich and heavy API (combination of plain Java classes and AWT classes) for designing the PPT component that can read, write, and manage slides.

The common uses of this API are as follows:

- Build dynamic presentations
- Render and print high-fidelity presentations
- Generate, edit, convert, and print presentations

Apache POI

Apache POI is a 100% open source library provided by Apache Software Foundation. Most of the small and medium scale application developers depend heavily on Apache POI (HSLF + XSLF). It supports all the basic features of PPT libraries; however, rendering and text extraction are its main features. Given below is the architecture of Apache POI for PPT.



Architecture – Apache POI for PPT

3. APACHE POI – INSTALLATION

This chapter takes you through the process of setting up Apache POI on Windows and Linux based systems. Apache POI can easily be installed and integrated with your current Java environment, following a few simple steps without any complex setup procedures. User administration is required for installation.

System Requirements

JDK	Java SE 2 JDK 1.5 or above
Memory	1 GB RAM (recommended)
Disk Space	No minimum requirement
Operating System Version	Windows XP or above, Linux

Let us now proceed with the steps to install Apache POI.

Step 1: Verify your Java Installation

First of all, you need to have Java Software Development Kit (SDK) installed on your system. To verify this, execute any of the following two commands depending on the platform you are working on.

If the Java installation has been done properly, then it will display the current version and specification of your Java installation. A sample output is given in the following table.

Platform	**Command**	**Sample Output**
Windows	Open command console and type: **\>java –version**	Java version "1.7.0_60" Java (TM) SE Run Time Environment (build 1.7.0_60-b19) Java Hotspot (TM) 64-bit Server VM (build 24.60-b09,mixed mode)
Linux	Open command	java version "1.7.0_25"

	terminal and type: **$java –version**	Open JDK Runtime Environment (rhel-2.3.10.4.el6_4-x86_64) Open JDK 64-Bit Server VM (build 23.7-b01, mixed mode)

- We assume that the readers of this tutorial have Java SDK version 1.7.0_60 installed on their system.
- In case you do not have Java SDK, download its current version from http://www.oracle.com/technetwork/java/javase/downloads/index.html and install it.

Step 2: Set your Java Environment

Set the environment variable JAVA_HOME to point to the base directory location where Java is installed on your machine. For example,

Platform	Description
Windows	Set JAVA_HOME to C:\ProgramFiles\java\jdk1.7.0_60
Linux	Export JAVA_HOME=/usr/local/java-current

Append the full path of Java compiler location to the System Path.

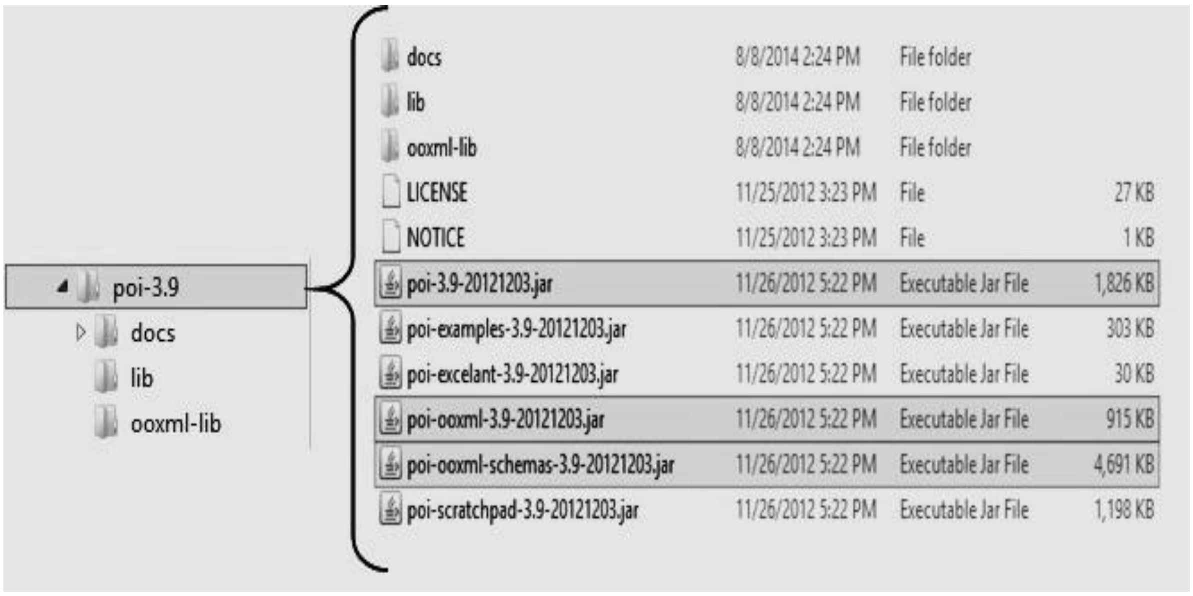
Platform	Description
Windows	Append the String "C:\Program Files\Java\jdk1.7.0_60\bin" to the end of the system variable PATH.
Linux	Export PATH=$PATH:$JAVA_HOME/bin/

Execute the command **java -version** from the command prompt as explained above.

Step 3: Install Apache POI Library

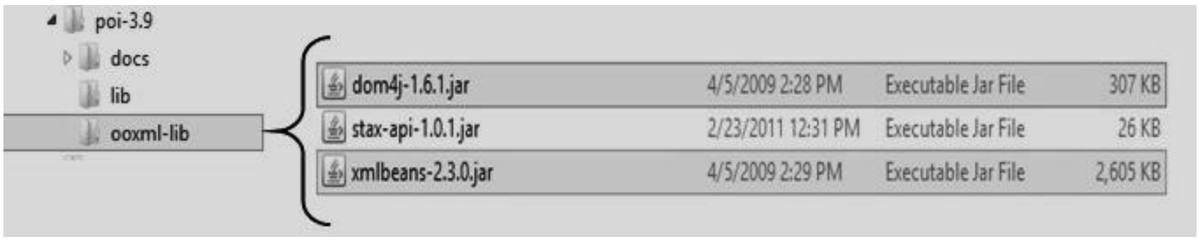
Download the latest version of Apache POI from http://poi.apache.org/download.html and unzip its contents to a folder from where the required libraries can be linked to your Java program. Let us assume the files are collected in a folder on C drive.

The following images show the directories and the file structures inside the downloaded folder:



poi-3.9
docs
lib
ooxml-lib

docs	8/8/2014 2:24 PM	File folder	
lib	8/8/2014 2:24 PM	File folder	
ooxml-lib	8/8/2014 2:24 PM	File folder	
LICENSE	11/25/2012 3:23 PM	File	27 KB
NOTICE	11/25/2012 3:23 PM	File	1 KB
poi-3.9-20121203.jar	11/26/2012 5:22 PM	Executable Jar File	1,826 KB
poi-examples-3.9-20121203.jar	11/26/2012 5:22 PM	Executable Jar File	303 KB
poi-excelant-3.9-20121203.jar	11/26/2012 5:22 PM	Executable Jar File	30 KB
poi-ooxml-3.9-20121203.jar	11/26/2012 5:22 PM	Executable Jar File	915 KB
poi-ooxml-schemas-3.9-20121203.jar	11/26/2012 5:22 PM	Executable Jar File	4,691 KB
poi-scratchpad-3.9-20121203.jar	11/26/2012 5:22 PM	Executable Jar File	1,198 KB



poi-3.9
docs
lib
ooxml-lib

dom4j-1.6.1.jar	4/5/2009 2:28 PM	Executable Jar File	307 KB
stax-api-1.0.1.jar	2/23/2011 12:31 PM	Executable Jar File	26 KB
xmlbeans-2.3.0.jar	4/5/2009 2:29 PM	Executable Jar File	2,605 KB

Add the complete path of the five **jars** as highlighted in the above image to the CLASSPATH.

Platform	**Description**
Windows	Append the following strings to the end of the user variable CLASSPATH: "C:\poi-3.9\poi-3.9-20121203.jar;" "C:\poi-3.9\poi-ooxml-3.9-20121203.jar;" "C:\poi-3.9\poi-ooxml-schemas-3.9-20121203.jar;" "C:\poi-3.9\ooxml-lib\dom4j-1.6.1.jar;" "C:\poi-3.9\ooxml-lib\xmlbeans-2.3.0.jar;.;"

Linux	Export CLASSPATH=$CLASSPATH: /usr/share/poi-3.9/poi-3.9-20121203.tar: /usr/share/poi-3.9/poi-ooxml-schemas-3.9-20121203.tar: /usr/share/poi-3.9/poi-ooxml-3.9-20121203.tar: /usr/share/poi-3.9/ooxml-lib/dom4j-1.6.1.tar: /usr/share/poi-3.9/ooxml-lib/xmlbeans-2.3.0.tar

4. CLASSES AND METHODS

In this chapter, we will learn about a few classes and methods under Apache POI API that are crucial to work on PPT files using Java programs.

Presentation

To create and manage a presentation, you have a class called XMLSlideShow in the package *org.apache.poi.xslf.usermodel.* Given below are some important methods and a constructor of this class.

Class: XMLSlideShow

Package: org.apache.poi.xslf.usermodel

S. No.	Constructor and Description
1	**XMLSlideShow(java.io.InputStream inputStream)** You can instantiate this class by passing an inputstream class object to it.

S. No.	Methods and Description
1	**int addPicture (byte[] pictureData, int format)** Using this method, you can add a picture to a presentation.
2	**XSLFSlide createSlide()** Creates a blank slide in a presentation.
3	**XSLFSlide createSlide(XSLFSlideLayout layout)** Creates a slide with a given slide layout.
4	**java.util.List<XSLFPictureData> getAllPictures()** Returns an array of all the pictures in a presentation.
5	**java.awt.Dimension getPageSize()**

	Using this method, you can get to know the current page size.
6	**XSLFSlideMaster[] getSlideMasters()** Returns the array of all the slides in a presentation.
7	**XSLFSlide[] getSlides()** Returns all the slides in a presentation.
8	**XSLFSlide removeSlide(int index)** Using this method, you can remove a slide from a presentation.
9	**void setPageSize(java.awt.Dimension pgSize)** Using this method, you can reset the page size.
10	**void setSlideOrder(XSLFSlide slide, int newIndex)** Using this method, you can reorder the slides.

Slide

To create and manage a slide in a presentation, the methods of the **XSLFSlide** class are used. Some important methods of this class are mentioned below.

Class: XSLFSlide

Package: org.apache.poi.xslf.usermodel

S. No.	Methods and Description
1	**XSLFBackground getBackground()** Returns the **XSLFBackground** object which can be used to retrieve details like color and anchor of the background of the slide. You can also draw shapes in the slide using this object.
2	**XSLFSlideLayout getSlideLayout()** Provides access to the **XSLFSlideLayout** object of the current slide.
3	**XSLFSlideMaster getSlideMaster()**

	Provides access to the slide master of the current slide.
4	**XSLFTheme getTheme()** Returns the **XSLFTheme** object of the current slide.
5	**java.lang.String getTitle()** Returns the title of the current slide.
6	**XSLFSlide importContent(XSLFSheet src)** Copies the contents of another slide to this slide.

Slide Master

It is the component of the presentation having different slide layouts. The **XSLFSlideMaster** class gives you access to it. Mentioned below are some important methods of this class.

Class: XSLFSlideMaster

Package: org.apache.poi.xslf.usermodel

S. No.	Methods and Description
1	**XSLFBackground getBackground()** Returns the common background of the slide master.
2	**XSLFSlideLayout getLayout(SlideLayout type)** Returns the XSLFSlideLayout object.
3	**XSLFSlideLayout[] getSlideLayouts()** Returns all the slide layouts in this slide master.

Slide Layout

The POI library has a class called **XSLFSlideLayout**, using which you can manage the layouts of a slide.

Class: XSLFSlideLayout

Package: org.apache.poi.xslf.usermodel

S. No.	Method and Description
1	**void copyLayout(XSLFSlide slide)** This method will copy the placeholders from this layout to the given slide.

Text Paragraph

You can write content to the slide using **XSLFTextParagraph** class. Below mentioned are some important methods of this class.

Class: XSLFTextParagraph

Package: org.apache.poi.xslf.usermodel

S. No.	Methods and Description
1	**XSLFTextRun addLineBreak()** Inserts a line break in a paragraph.
2	**XSLFTextRun addNewTextRun()** Adds a new run of text in a paragraph.
3	**void setBulletAutoNumber(ListAutoNumber scheme, int startAt)** Applies automatic numbered bullet points to the paragraph.
4	**void setIndent(double value)** Sets the indent to the text in the paragraph.
5	**void setLeftMargin(double value)** This method is used to add the left margin of the paragraph.
6	**void setLineSpacing(double linespacing)**

	This method is used to set line spacing in the paragraph.
7	**void setTextAlign(TextAlign align)** This method is used to set alignment that is to be set to the paragraph.

Text Run

This is the lowest level of text separation within a text body. You have **XSLFTextRun** class to manage the text run of a paragraph. Below mentioned are some important methods of this class.

Class: XSLFTextParagraph

Package: org.apache.poi.xslf.usermodel

S. No.	Methods and Description
1	**XSLFHyperlink createHyperlink()** Creates a hyperlink in the presentation.
2	**XSLFHyperlink getHyperlink()** This method is used to get the hyperlink.
3	**java.lang.String getText()** Returns the value of this Text node as a Java string.
4	**void setBold(boolean bold)** This method is used to set the text in Bold.
5	**void setCharacterSpacing(double spc)** Sets the spacing between characters within a text run.
6	**void setFontColor(java.awt.Color color)** Sets the font color of the text.
7	**void setFontSize(double fontSize)**

	Sets the font size of the text.
8	**void setItalic(boolean italic)** This method is used to make the paragraph italicized.
9	**void setStrikethrough(boolean strike)** This method is used to format a run of text as strikethrough text.
10	**void setSubscript(boolean flag)** This method is used to format the text as subscript.
11	**void setSuperscript(boolean flag)** This method is used to format the text in this run as superscript.
12	**void setText(java.lang.String text)** This method is used to set the text in a run.
13	**void setUnderline(boolean underline)** This method is used to underline the text in a text run.

Text shape

In PPT, we have shapes that can hold text within them. We can manage these using **XSLFTextShape** class. Mentioned below are some important methods of this class.

Class: XSLFTextShape

Package: org.apache.poi.xslf.usermodel

S. No.	Methods and Description
1	**void setPlaceholder(Placeholder placeholder)** Using this method, you can choose a place holder.
2	**Placeholder getTextType()**

	Returns the type of the current placeholder.
3	**void clearText()** Clears the text area of the current text shape.
4	**XSLFTextParagraph addNewTextParagraph()** Adds a new paragraph run to a shape.
5	**void drawContent(java.awt.Graphics2D graphics)** This method allows you to draw any content on the slide.

HyperLink

The POI library has a class called **XSLFHyperlink** using which you can create a hyperlink in the presentation. Mentioned below are some important methods of this class.

Class: XSLFHyperlink
Package: org.apache.poi.xslf.usermodel

S. No.	Methods and Description
1	**java.net.URI getTargetURL()** Returns the URL existing in a slide of the presentation.
2	**void setAddress(java.lang.String address)** This method is used to set address to a URL.
3	**void setAddress(XSLFSlide slide)** Sets address to the URL present in a slide of the presentation.

5. PRESENTATION

Generally, we use MS-PowerPoint to create presentations. Now let us see how to create presentations using Java. After completion of this chapter, you will be able to create new MS-PowerPoint presentations and open existing PPTs with your Java program.

Creating Empty Presentation

To create an empty presentation, you have to instantiate the **XMLSlideShow** class of the *org.poi.xslf.usermodel* package:

```
XMLSlideShow ppt = new XMLSlideShow();
```

Save the changes to a PPT document using the **FileOutputStream** class:

```
File file=new File("C://POIPPT//Examples//example1.pptx");

FileOutputStream out = new FileOutputStream(file);

ppt.write(out);
```

Given below is the complete program to create a blank MS-PowerPoint presentation.

```
import java.io.FileOutputStream;

import java.io.IOException;

import org.apache.poi.xslf.usermodel.XMLSlideShow;

import org.apache.poi.xslf.usermodel.XSLFSlide;



public class CreatePresentation {

   public static void main(String args[]) throws IOException{


      //creating a new empty slide show

      XMLSlideShow ppt = new XMLSlideShow();



      //creating an FileOutputStream object

      File file =new File("C://POIPPT//Examples//example1.pptx");

      FileOutputStream out = new FileOutputStream(file);



      //saving the changes to a file

      ppt.write(out);

      System.out.println("Presentation created successfully");

      out.close();

   }

}
```

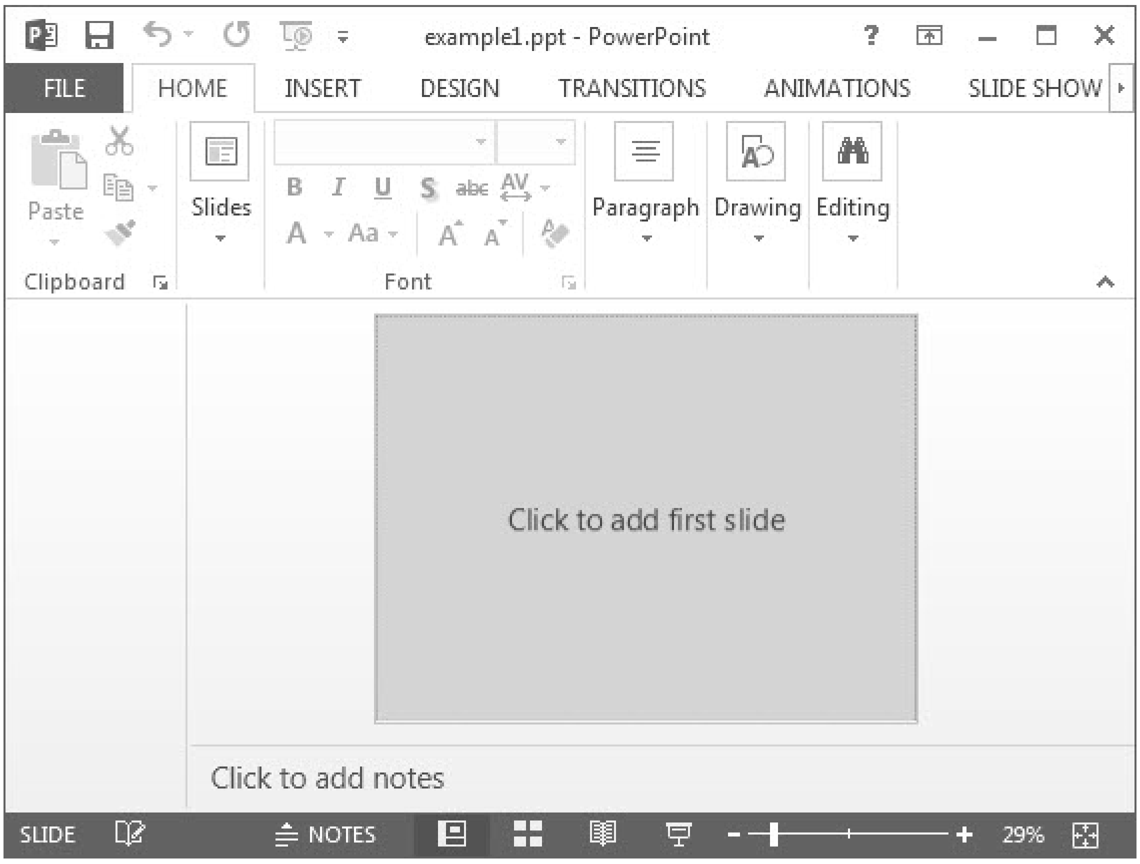
Save the above Java code as **CreatePresentation.java**, and then compile and execute it from the command prompt as follows:

```
$javac  CreatePresentation.java

$java CreatePresentation
```

If your system environment is configured with the POI library, it will compile and execute to generate a blank PPT file named **example1.pptx** in your current directory and display the following output on the command prompt:

```
Presentation created successfully
```

The blank PowerPoint document appears as follows:



Editing an Existing Presentation

To open an existing presentation, instantiate the **XMLSlideShow** class and pass the **FileInputStream** object of the file to be edited, as an argument to the **XMLSlideShow** constructor.

```
File file=new File("C://POIPPT//Examples//example1.pptx");

FileInputstream inputstream =new FileInputStream(file);

XMLSlideShow ppt = new XMLSlideShow(inputstream);
```

You can add slides to a presentation using the **createSlide()** method of the XMLSlideShow class which is in the *org.poi.xslf.usermodel* package.

```
XSLFSlide slide1= ppt.createSlide();
```

Given below is the complete program to open and add slides to an existing PPT:

```
import java.io.File;

import java.io.FileInputStream;

import java.io.FileOutputStream;

import java.io.IOException;

import org.apache.poi.xslf.usermodel.XMLSlideShow;

import org.apache.poi.xslf.usermodel.XSLFSlide;



public class EditPresentation {

public static void main(String ar[]) throws IOException{



    //opening an existing slide show

    File file=new File("C://POIPPT//Examples//example1.pptx");

    FileInputStream inputstream=new FileInputStream(file);

    XMLSlideShow ppt = new XMLSlideShow(inputstream);



    //adding slides to it

    XSLFSlide slide1= ppt.createSlide();

    XSLFSlide slide2= ppt.createSlide();



    //saving the changes

    FileOutputStream out = new FileOutputStream(file);
```

```
      ppt.write(out);

      System.out.println("Presentation edited successfully");

      out.close();

    }

}
```

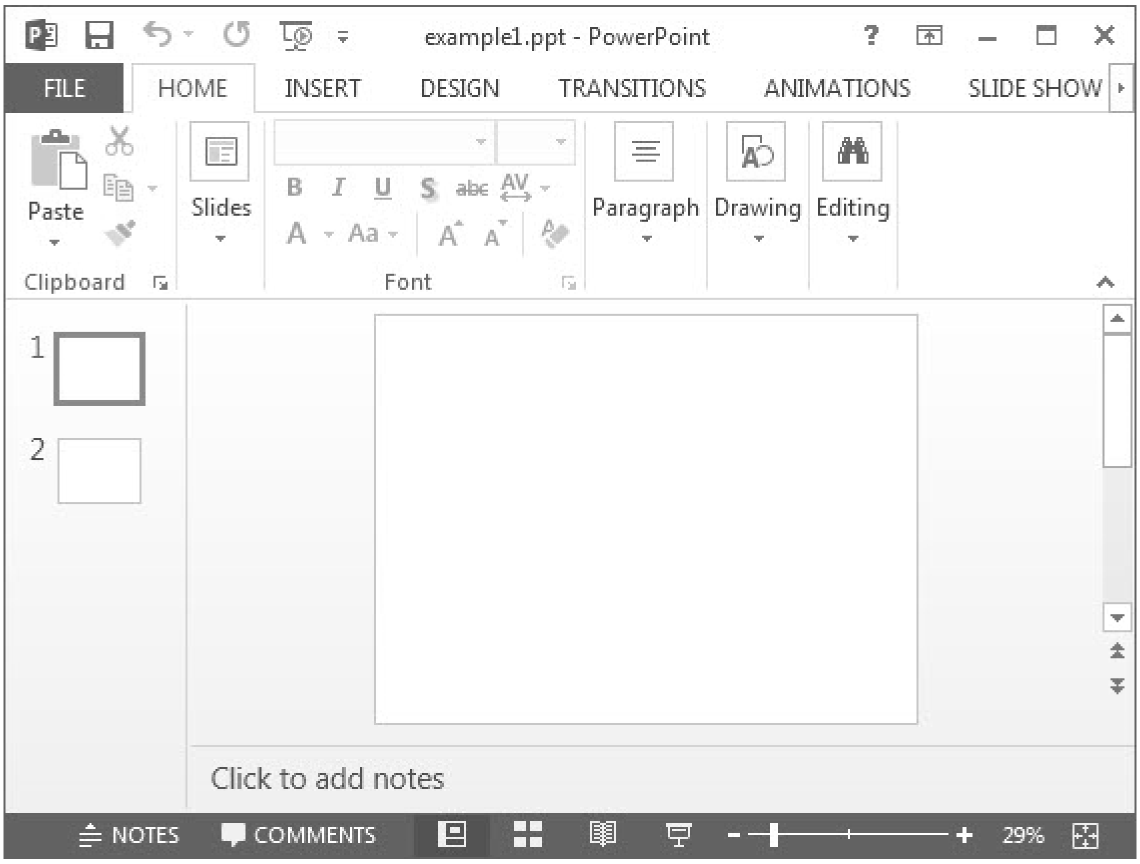
Save the above Java code as **EditPresentation.java**, and then compile and execute it from the command prompt as follows:

```
$javac EditPresentation.java

$java EditPresentation
```

It will compile and execute to generate the following output:

```
slides successfully added
```

The output PPT document with newly added slides looks as follows:



After adding slides to a PPT, you can add, perform, read, and write operations on the slides.

6. SLIDE LAYOUTS

In the previous chapter, you have seen how to create empty slides and how to add slides to it. In this chapter, you will learn how to get the list of available slides, and how to create a slide with different layouts.

Available Slide layouts

PowerPoint presentations have slide layouts, and you can choose a desired layout to edit a slide. First of all, let us find out the list of all the slide layouts available.

- There are different slide masters and in each slide master, there are several slide layouts.
- You can get the list of the slide masters using the **getSlideMasters()** method of the **XMLSlideShow** class.
- You can get the list of the slide layouts from each slide master using the **getSlideLayouts()** method of the **XSLFSlideMaster** class.
- You can get the name of the slide layout from the layout object using the **getType()** method of the **XSLFSlideLayout** class.

Note: All these classes belongs to *org.poi.xslf.usermodel* package.

Given below is the complete program to get the list of available slide layouts in the PPT:

```
import java.io.FileInputStream;

import java.io.FileNotFoundException;

import java.io.IOException;

import org.apache.poi.xslf.usermodel.XMLSlideShow;

import org.apache.poi.xslf.usermodel.XSLFSlideLayout;

import org.apache.poi.xslf.usermodel.XSLFSlideMaster;
```

```
public class SlideLayouts {

   public static void main(String args[]) throws IOException{


       // create an empty presentation

       XMLSlideShow ppt = new XMLSlideShow();

       System.out.println("Available slide layouts:");


      // getting the list of all slide masters

      for(XSLFSlideMaster master : ppt.getSlideMasters()){


         // getting the list of the layouts in each slide master

         for(XSLFSlideLayout layout : master.getSlideLayouts()){


            // getting the list of available slides

            System.out.println(layout.getType());

         }

      }

   }

}
```

Save the above Java code as **SlideLayouts.java**, and then compile and execute it from the command prompt as follows:

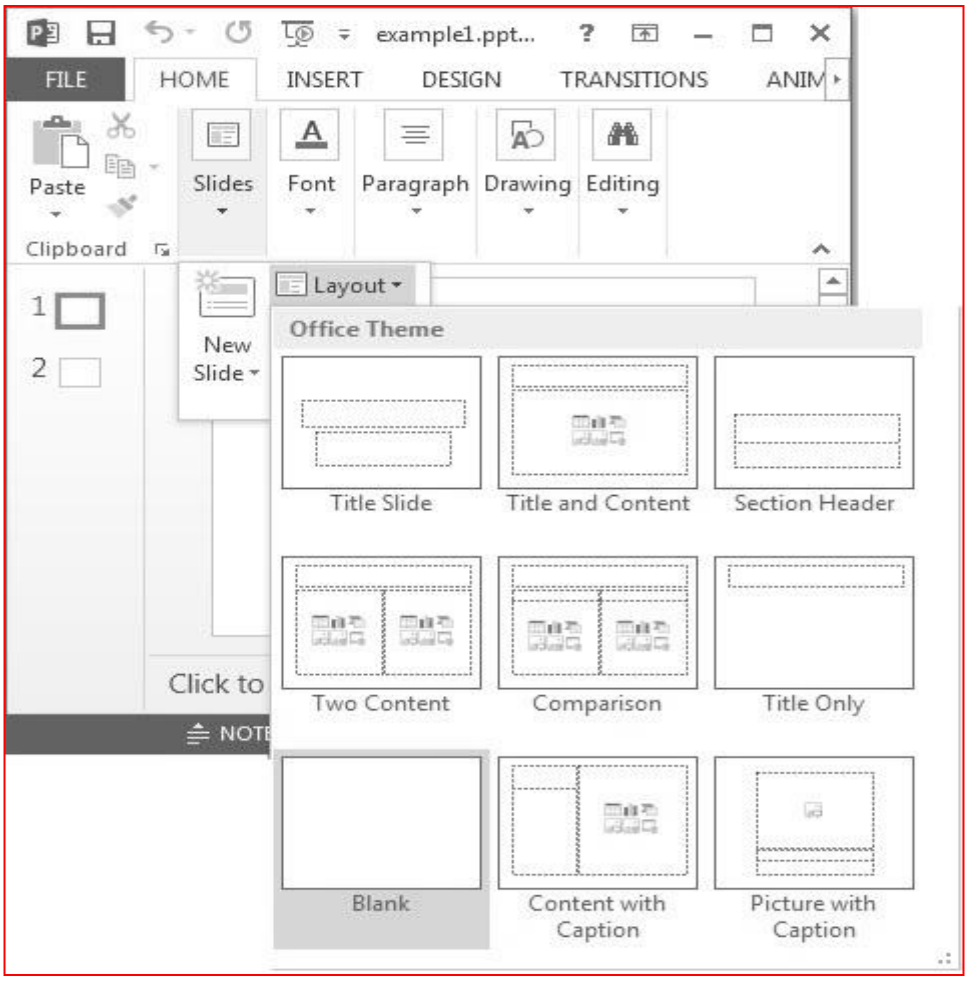
```
$javac  SlideLayouts.java
```

```
$java SlideLayouts
```

It will compile and execute to generate the following output:

```
Available slide layouts:

TITLE

PIC_TX

VERT_TX

TWO_TX_TWO_OBJ

BLANK

VERT_TITLE_AND_TX

TITLE_AND_CONTENT

TITLE_ONLY

SECTION_HEADER

TWO_OBJ

OBJ_TX
```

Shown below are some of the sample slide layouts available with MS-Office 360, 2013 edition.



Title Layout

Let us create a slide in a PPT using Title layout. Follow the steps given below:

Step 1: Create an empty presentation by instantiating the **XMLSlideShow** class as shown below:

```
XMLSlideShow ppt = new XMLSlideShow();
```

Step 2: Get the list of slide masters using the **getSlideMasters()** method. Thereafter, select the desired slide master using the index as shown below:

```
XSLFSlideMaster slideMaster = ppt.getSlideMasters()[0];
```

Here we are getting the default slide master which is in the 0th location of the slide masters array.

Step 3: Get the desired layout using the **getLayout()** method of the **XSLFSlideMaster** class. This method accepts a parameter where you have to pass one of the static variable of the **SlideLayoutclass,** which represents our desired layout. There are several variables in this class where each variable represents a slide layout.

The code snippet given below shows how to create a title layout:

```
XSLFSlideLayout titleLayout = slideMaster.getLayout(SlideLayout.TITLE);
```

Step 4: Create a new slide by passing a slide layout object as parameter.

```
XSLFSlide slide = ppt.createSlide(titleLayout);
```

Step 5: Select a placeholder using the **getPlaceholder()** method of the **XSLFSlide** class. This method accepts an integer parameter. By passing **0** to it, you will get the **XSLFTextShape** object, using which you can access the title text area of the slide. Set the title using the setText() method as shown below:

```
XSLFTextShape title1 = slide.getPlaceholder(0);

//setting the title init

title1.setText("Tutorials point");
```

Given below is the complete program to create a slide with Title layout in a presentation:

```
import java.io.File;

import java.io.FileOutputStream;

import java.io.IOException;



import org.apache.poi.xslf.usermodel.SlideLayout;

import org.apache.poi.xslf.usermodel.XMLSlideShow;

import org.apache.poi.xslf.usermodel.XSLFSlide;

import org.apache.poi.xslf.usermodel.XSLFSlideLayout;

import org.apache.poi.xslf.usermodel.XSLFSlideMaster;

import org.apache.poi.xslf.usermodel.XSLFTextShape;
```

```
public class TitleLayout {

   public static void main(String args[]) throws IOException{

      // creating presentation
      XMLSlideShow ppt = new XMLSlideShow();


      // getting the slide master object
      XSLFSlideMaster slideMaster = ppt.getSlideMasters()[0];


      // get the desired slide layout
      XSLFSlideLayout titleLayout =
      slideMaster.getLayout(SlideLayout.TITLE);


      // creating a slide with title layout
      XSLFSlide slide1 = ppt.createSlide(titleLayout);


      // selecting the place holder in it
      XSLFTextShape title1 = slide1.getPlaceholder(0);


      // setting the title init
      title1.setText("Tutorials point");


      // create a file object
      File file=new File("C://POIPPT//Examples//Titlelayout.pptx");
      FileOutputStream out = new FileOutputStream(file);
      // save the changes in a PPt document

      ppt.write(out);

      System.out.println("slide cretated successfully");

      out.close();

   }

}
```

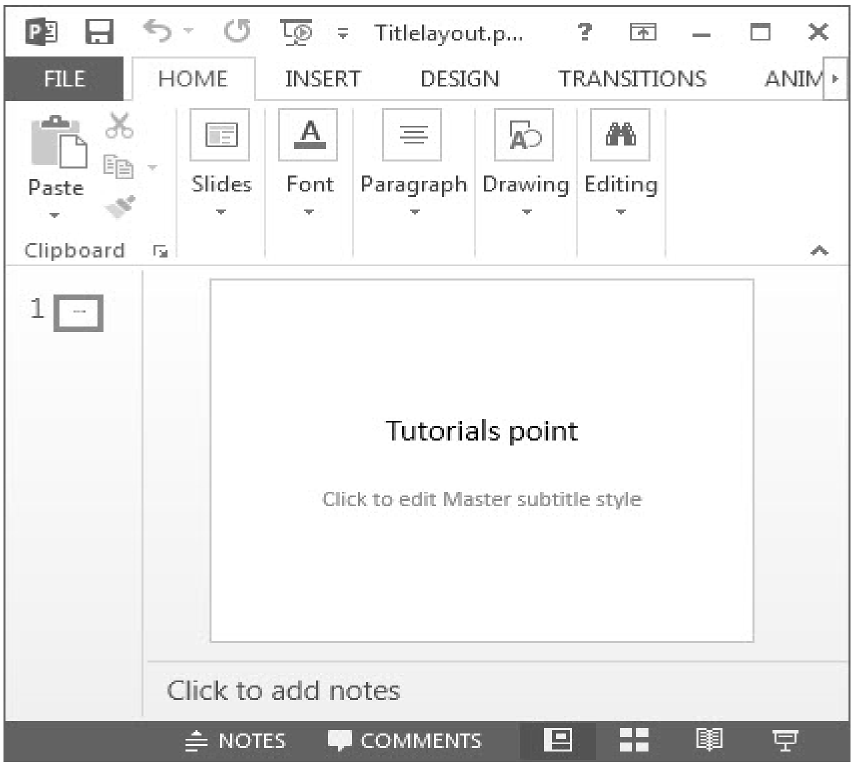
Save the above Java code as TitleLayout.java, and then compile and execute it from the command prompt as follows:

```
$javac  TitleLayout.java

$java TitleLayout
```

It will compile and execute to generate the following output.

```
slide created successfully
```

The PPT document with newly added Title layout slide appears as follows:



Tutorials point

Click to edit Master subtitle style

Click to add notes

Title and content Layout

Let us create a slide in a PPT using Title and content layout. Follow the steps given below.

Step 1: Create an empty presentation by instantiating the **XMLSlideShow** class as shown below:

```
XMLSlideShow ppt = new XMLSlideShow();
```

Step 2: Get the list of slide masters using the **getSlideMasters()** method. Select the desired slide master using the index as shown below:

```
XSLFSlideMaster slideMaster = ppt.getSlideMasters()[0];
```

Here we are getting the default slide master which is in the 0th location of the slide masters array.

Step 3: Get the desired layout using the **getLayout()** method of the **XSLFSlideMaster** class. This method accepts a parameter where you have to pass one of the static variable of the **SlideLayout** class which represents our desired layout. There are several variables in this class that represent slide layouts.

The following code snippet shows how to create title and content layout:

```
XSLFSlideLayout contentlayout =

slideMaster.getLayout(SlideLayout.TITLE_AND_CONTENT);
```

Step 4: Create a new slide by passing the slide layout object as parameter.

```
XSLFSlide slide = ppt.createSlide(SlideLayout.TITLE_AND_CONTENT);
```

Step 5: Select a placeholder using the **getPlaceholder()** method of the **XSLFSlide** class. This method accepts an integer parameter. By passing **1** to it, you will get the **XSLFTextShape** object, using which you can access the content area of the slide. Set the title using the setText() method as shown below:

```
XSLFTextShape title1 = slide1.getPlaceholder(1);

//setting the title init

title1.setText("Introduction");
```

Step 6: Clear the existing text in the slide using the **clearText()** method of the **XSLFTextShape** class.

```
body.clearText();
```

Step 7: Add new paragraph using the **addNewTextParagraph()** method. Now add a new text run to the paragraph using the **addNewTextRun()** method. Now to the text run, add text using the **setText()** method as shown below:

```
body.addNewTextParagraph().addNewTextRun().setText("this is  my first
slide body");
```

Given below is the complete program to create a slide with Title layout in a presentation:

```
import java.io.File;

import java.io.FileOutputStream;

import java.io.IOException;



import org.apache.poi.xslf.usermodel.SlideLayout;

import org.apache.poi.xslf.usermodel.XMLSlideShow;

import org.apache.poi.xslf.usermodel.XSLFSlide;

import org.apache.poi.xslf.usermodel.XSLFSlideLayout;

import org.apache.poi.xslf.usermodel.XSLFSlideMaster;

import org.apache.poi.xslf.usermodel.XSLFTextShape;



public class TitleAndBodyLayout {



   public static void main(String args[]) throws IOException{
       //creating presentation
       XMLSlideShow ppt = new XMLSlideShow();


           //getting the slide master object
      XSLFSlideMaster slideMaster = ppt.getSlideMasters()[0];


     //select a layout from specified list
      XSLFSlideLayout slidelayout =
      slideMaster.getLayout(SlideLayout.TITLE_AND_CONTENT);


     //creating a slide with title and content layout
      XSLFSlide slide = ppt.createSlide(slidelayout);


     //selection of title place holder
      XSLFTextShape title = slide.getPlaceholder(0);


     //setting the title in it
      title.setText("introduction");


     //selection of body placeholder
      XSLFTextShape body = slide.getPlaceholder(1);


     //clear the existing text in the slide
      body.clearText();
```

```
      //adding new paragraph
       body.addNewTextParagraph().addNewTextRun().setText("this is  my
      first slide body");


       //create a file object
       File file=new File("C://POIPPT//Examples//contentlayout.pptx");
       FileOutputStream out = new FileOutputStream(file);


       //save the changes in a file
       ppt.write(out);
       System.out.println("slide cretated successfully");
       out.close();
   }
}
```

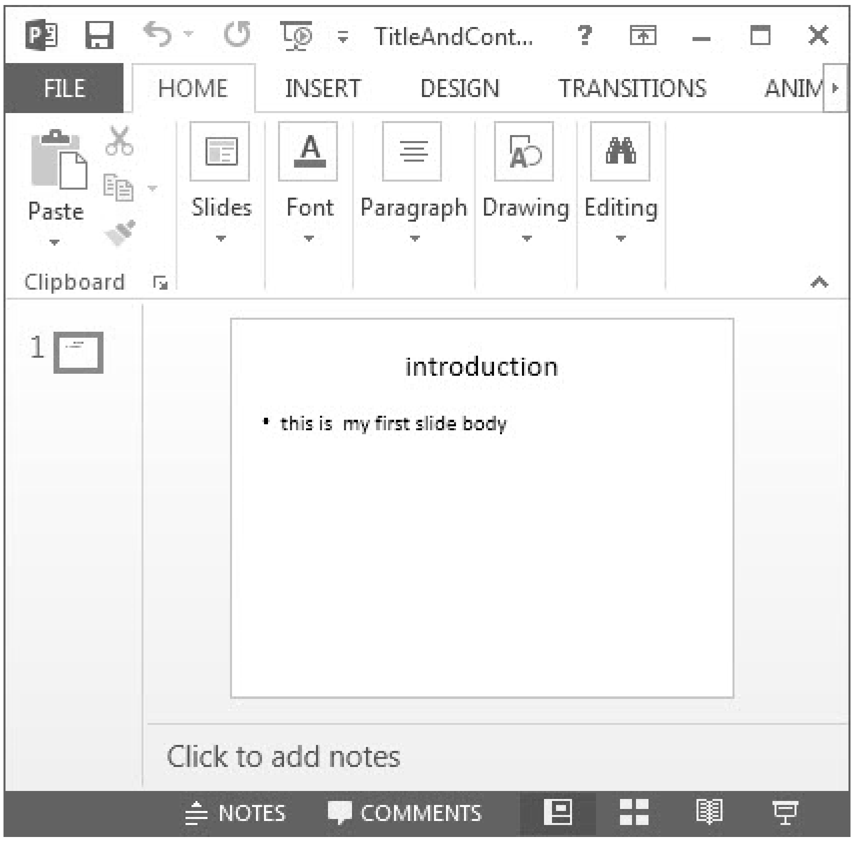
Save the above Java code as **TitleLayout.java**, and then compile and execute it from the command prompt as follows:

```
$javac TitleLayout.java

$java TitleLayout
```

It will compile and execute to generate the following output:

```
slide created successfully
```

The PPT document with newly added Title layout slide appears as follows:



introduction

- this is my first slide body

In the same way, you can create slides with different layouts as well.

7. MANAGEMENT OF SLIDES

After completing this chapter, you will be able to delete, reorder, and perform read and write operations on a slide.

Changing a Slide

We can change the page size of a slide using the **setPageSize()** method of the **XMLSlideShow** class.

Initially create a presentation as shown below:

```
File file=new File("C://POIPPT//Examples// TitleAndContentLayout.pptx");

//create presentation

XMLSlideShow ppt = new XMLSlideShow(new FileInputStream(file));
```

Get the size of the current slide using the **getPageSize()** method of the **XMLSlideShow** class.

```
 java.awt.Dimension pgsize = ppt.getPageSize();
```

Set the size of the page using the **setPageSize()** method.

```
ppt.setPageSize(new java.awt.Dimension(1024, 768));
```

The complete program for changing the size of a slide is given below:

```
import java.io.File;

import java.io.FileOutputStream;

import java.io.IOException;

import org.apache.poi.xslf.usermodel.XMLSlideShow;



public class ChangingSlide {
   public static void main(String args[]) throws IOException{


      //create file object
      File file = new File("C://POIPPT//Examples//
      TitleAndContentLayout.pptx");


      //create presentation
      XMLSlideShow ppt = new XMLSlideShow();


      // getting the current page size
      java.awt.Dimension pgsize = ppt.getPageSize();
      int pgw = pgsize.width; //slide width in points
      int pgh = pgsize.height; //slide height in points
      System.out.println("current page size of the PPT is:");
      System.out.println("width :"+pgw);
      System.out.println("height :"+pgh);


      //set new page size
      ppt.setPageSize(new java.awt.Dimension(2048,1536));


      //creating file object
      FileOutputStream out = new FileOutputStream(file);


      //saving the changes to a file
      ppt.write(out);
     System.out.println("slide size changed to given dimentions ");
```

```
     out.close();

   }

}
```

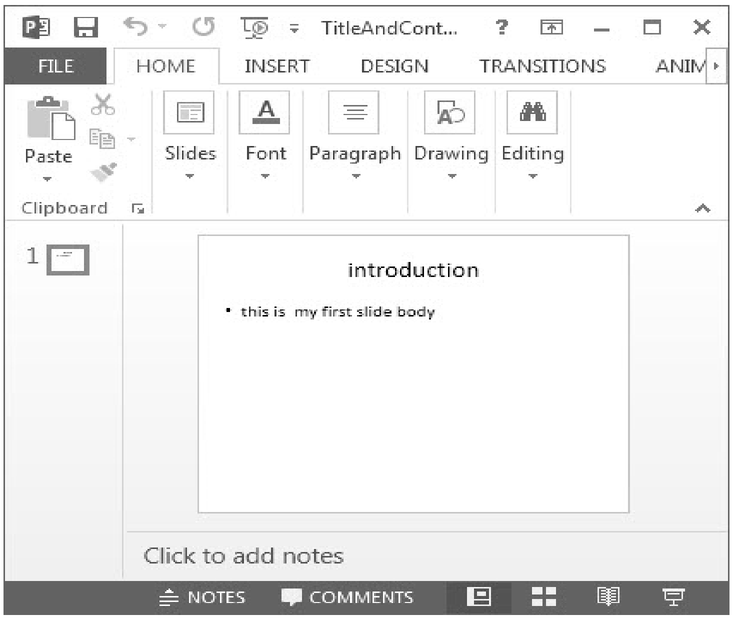
Save the above Java code as **ChangingSlide.java**, and then compile and execute it from the command prompt as follows:

```
$javac ChangingSlide.java

$java ChangingSlide
```

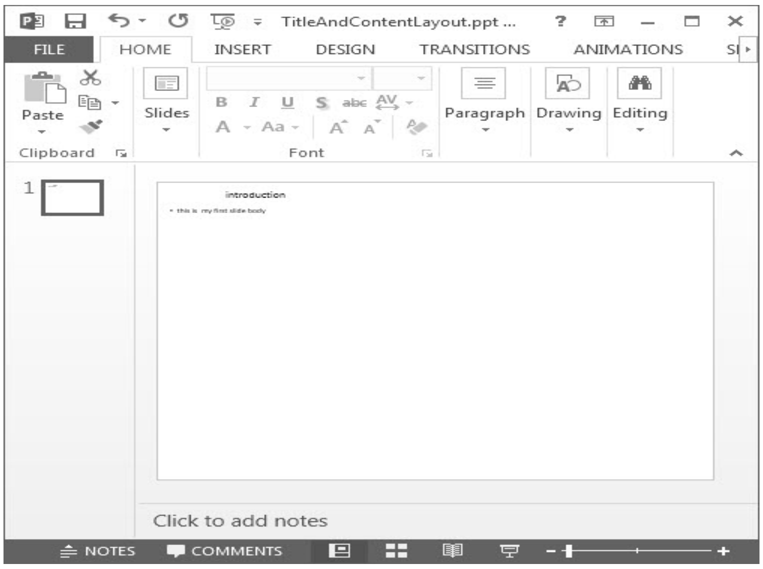
It will compile and execute to generate the following output.

```
current page size of the presentation is :

width :720

height :540

slide size changed to given dimensions
```

Given below is the snapshot of the presentation before changing the slide size:



The slide appears as follows after changing its size:



Reordering Slides

You can set the slide order using the **setSlideOrder()** method. Given below is the procedure to set the order of the slides.

Open an existing PPT document as shown below:

```
File file=new File("C://POIPPT//Examples//example1.pptx");

XMLSlideShow ppt = new XMLSlideShow(new FileInputStream(file));
```

Get the slides using the **getSlides()** method as shown below:

```
XSLFSlide[] slides =ppt.getSlides();
```

Select a slide from the array of the slides, and change the order using the **setSlideOrder()** method as shown below:

```
//selecting the fourth slide
XSLFSlide selectesdslide= slides[4];


//bringing it to the top
ppt.setSlideOrder(selectesdslide, 1);
```

Given below is the complete program to reorder the slides in a presentation:

```
import java.io.File;
import java.io.FileInputStream;
import java.io.FileOutputStream;
import java.io.IOException;
import org.apache.poi.xslf.usermodel.XMLSlideShow;
import org.apache.poi.xslf.usermodel.XSLFSlide;


public class ReorderSlide {
   public static void main(String args[]) throws IOException{
      //opening an existing presentation
      File file=new File("C://POIPPT//Examples//example1.pptx");
      XMLSlideShow ppt = new XMLSlideShow(new FileInputStream(file));


      //get the slides
      XSLFSlide[] slides =ppt.getSlides();
      //selecting the fourth slide

      XSLFSlide selectesdslide= slides[13];


      //bringing it to the top

      ppt.setSlideOrder(selectesdslide, 0);


      //creating an file object

      FileOutputStream out = new FileOutputStream(file);


      //saving the changes to a file

      ppt.write(out);

      out.close();

   }

}
```

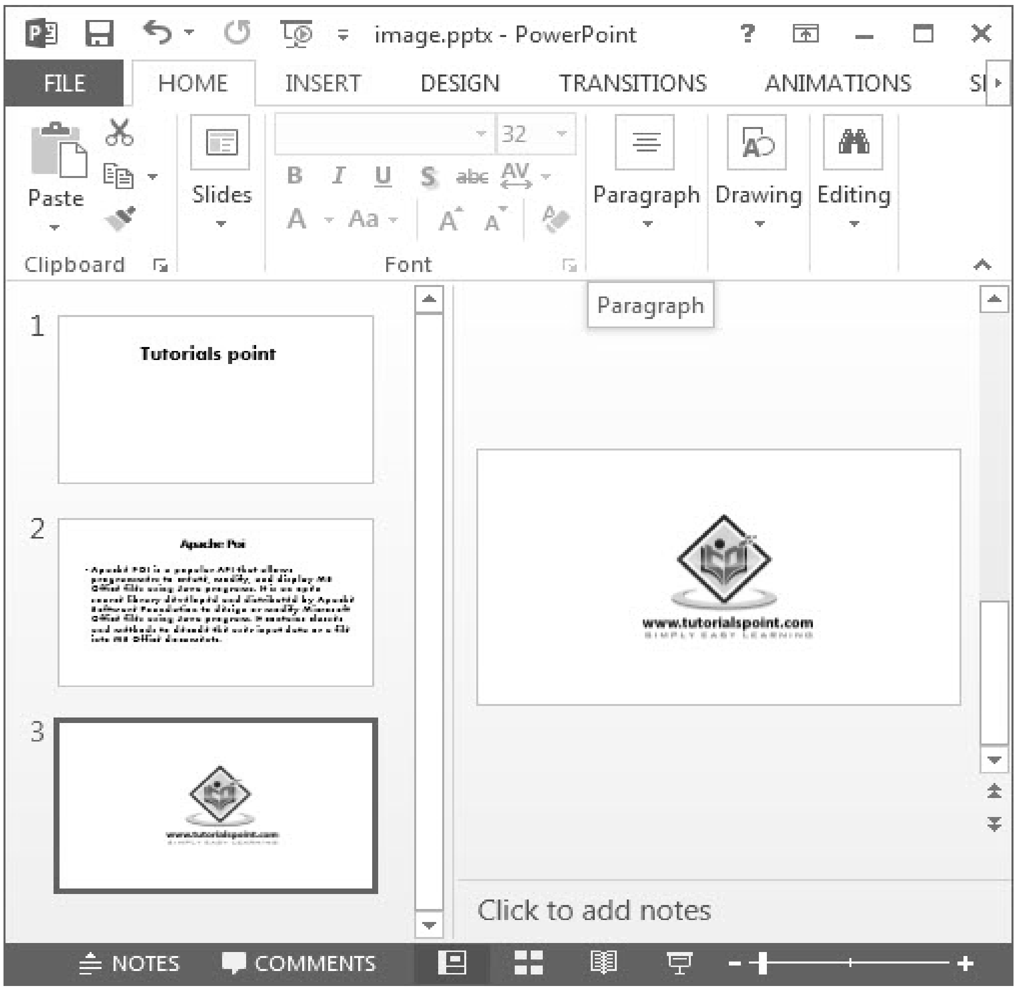
Save the above Java code as **ReorderSlide.java**, and then compile and execute it from the command prompt as follows:

```
$javac  ReorderSlide.java

$java ReorderSlide
```

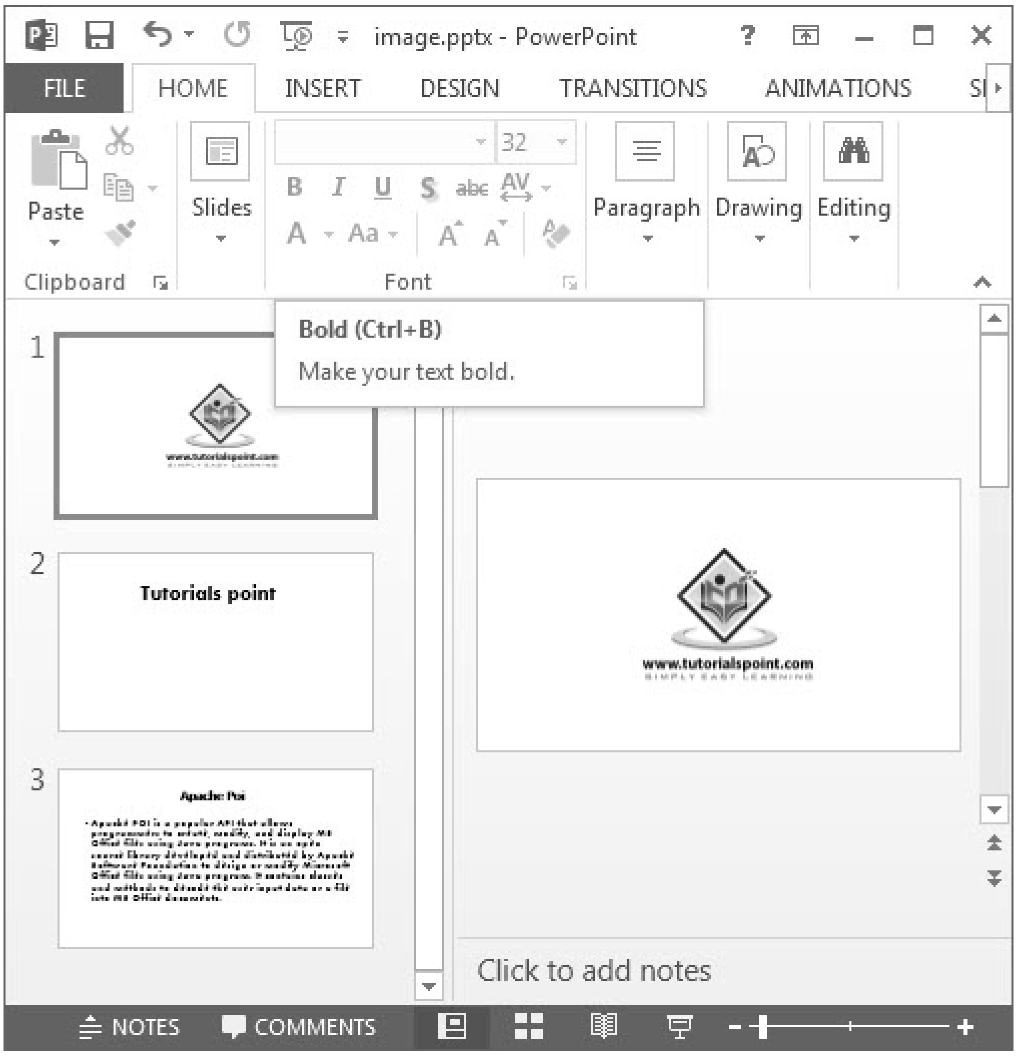
It will compile and execute to generate the following output.

```
Reordering of the slides is done
```

Given below is the snapshot of the presentation before reordering the slides:



After reordering the slides, the presentation appears as follows. Here we have selected the slide with image and moved it to the top.



Deleting Slides

You can delete the slides using the **removeSlide()** method. Follow the steps given below to delete slides.

Open an existing presentation using the **XMLSlideShow** class as shown below:

```
File file=new File("C://POIPPT//Examples//image.pptx");

XMLSlideShow ppt = new XMLSlideShow(new FileInputStream(file));
```

Delete the required slide using the **removeSlide()** method. This method accepts an integer parameter. Pass the index of the slide that is to be deleted to this method.

```
ppt.removeSlide(1);
```

Given below is the program to delete slides from a presentation:

```
import java.io.File;

import java.io.FileInputStream;

import java.io.FileOutputStream;

import java.io.IOException;


import org.apache.poi.xslf.usermodel.XMLSlideShow;


public class Deleteslide {

   public static void main(String args[]) throws IOException{


      //Opening an existing slide

      File file=new File("C://POIPPT//Examples//image.pptx");

      XMLSlideShow ppt = new XMLSlideShow(new FileInputStream(file));


      //deleting a slide

      ppt.removeSlide(1);


      //creating a file object

      FileOutputStream out = new FileOutputStream(file);


      //Saving the changes to the presentation

      ppt.write(out);
      out.close();

   }

}
```

Save the above Java code as **Deleteslide.java**, and then compile and execute it from the command prompt as follows:

```
$javac  Deleteslide.java

$java Deleteslide
```

It will compile and execute to generate the following output:

```
reordering of the slides is done
```

The snapshot below is of the presentation before deleting the slide:

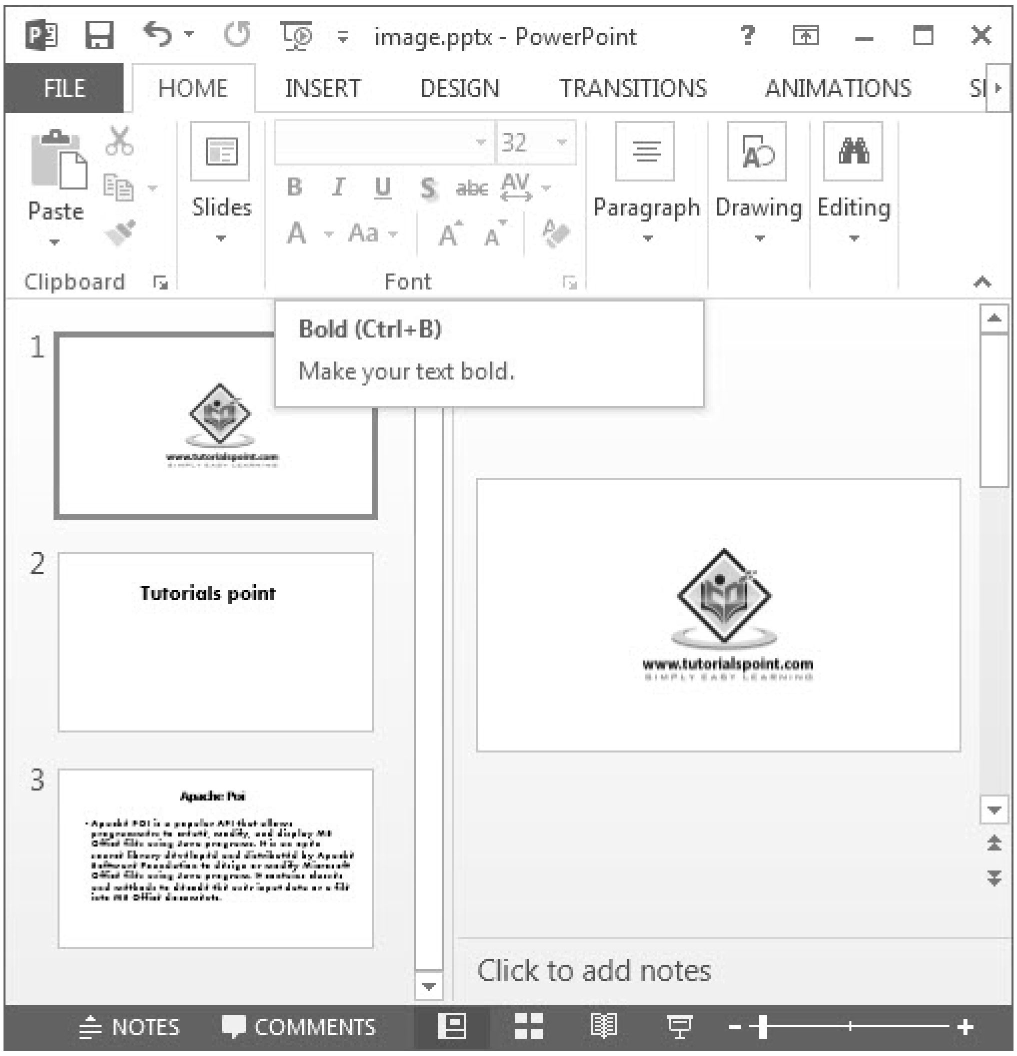
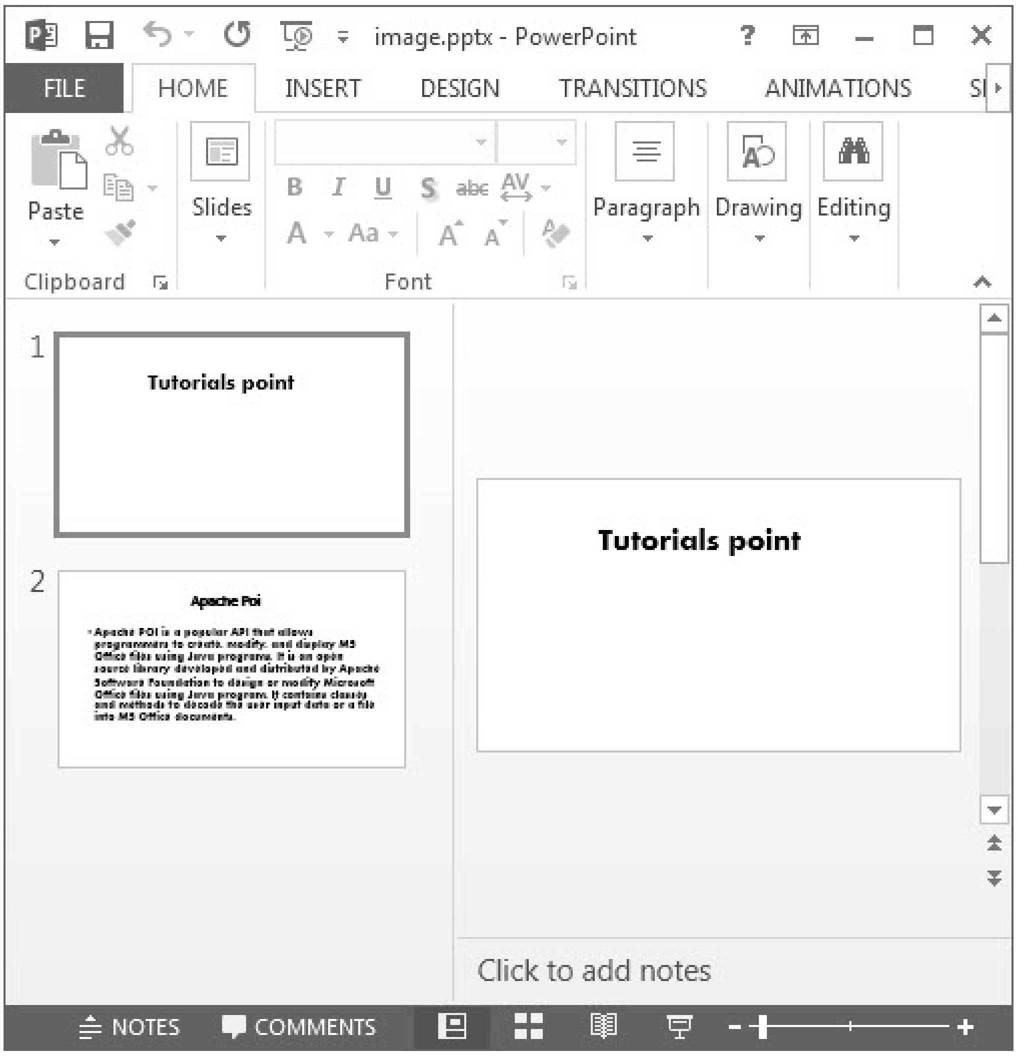


image.pptx - PowerPoint
FILE
HOME
INSERT
DESIGN
TRANSITIONS
ANIMATIONS
Paste
Slides
Paragraph
Drawing
Editing
Clipboard
Font
Bold (Ctrl+B)
Make your text bold.
Tutorials point
Apache Poi
www.tutorialspoint.com
Click to add notes
NOTES
COMMENTS

After deleting the slide, the presentation appears as follows:



1

Tutorials point

2

Apache Poi

- Apache POI is a popular API that allows programmers to create, modify, and display MS Office files using Java programs. It is an open source library developed and distributed by Apache Software Foundation to design or modify Microsoft Office files using Java program. It contains classes and methods to decode the user input data or a file into MS Office documents.

Tutorials point

Click to add notes

8. IMAGES

In this chapter, you will learn how to add an image to a PPT and how to read an image from it.

Adding Image

You can add images to a presentation using the **createPicture()** method of **XSLFSlide**. This method accepts image in the form of byte array format. Therefore, you have to create a byte array of the image that is to be added to the presentation.

Follow the given procedure to add an image to a presentation. Create an empty slideshow using **XMLSlideShow** as shown below:

```
XMLSlideShow ppt = new XMLSlideShow();
```

Create an empty presentation in it using **createSlide()**.

```
XSLFSlide slide = ppt.createSlide();
```

Read the image file that is to be added and convert it into byte array using **IOUtils.toByteArray()** of the **IOUtils** class as shown below:

```
//reading an image

File image=new File("C://POIPPT//boy.jpg");

//converting it into a byte array

byte[] picture = IOUtils.toByteArray(new FileInputStream(image));
```

Add the image to the presentation using **addPicture()**. This method accepts two variables: *byte array* format of the image that is to be added and the *static variable* representing the file format of the image. The usage of the **addPicture()** method is shown below:

```
int idx = ppt.addPicture(picture, XSLFPictureData.PICTURE_TYPE_PNG);
```

Embed the image to the slide using **createPicture()** as shown below:

```
XSLFPictureShape pic = slide.createPicture(idx);
```

Given below is the complete program to add an image to the slide in a presentation:

```
import java.io.File;

import java.io.FileInputStream;

import java.io.FileOutputStream;

import java.io.IOException;


import org.apache.poi.util.IOUtils;

import org.apache.poi.xslf.usermodel.XMLSlideShow;

import org.apache.poi.xslf.usermodel.XSLFPictureData;

import org.apache.poi.xslf.usermodel.XSLFPictureShape;

import org.apache.poi.xslf.usermodel.XSLFSlide;


public class AddingImage {

   public static void main(String args[]) throws IOException{

       //creating a presentation

       XMLSlideShow ppt = new XMLSlideShow();


       //creating a slide in it

       XSLFSlide slide = ppt.createSlide();


       //reading an image

       File image=new File("C://POIPPT//boy.jpg");
```

```
        //converting it into a byte array
        byte[] picture = IOUtils.toByteArray(new FileInputStream(image));

        //adding the image to the presentation
        int idx = ppt.addPicture(picture,
        XSLFPictureData.PICTURE_TYPE_PNG);

        //creating a slide with given picture on it
        XSLFPictureShape pic = slide.createPicture(idx);

        //creating a file object
        File file=new File("C://POIPPT//Examples//addingimage.pptx");
        FileOutputStream out = new FileOutputStream(file);

        //saving the changes to a file
        ppt.write(out);
        System.out.println("image added successfully");
        out.close();
    }
}
```

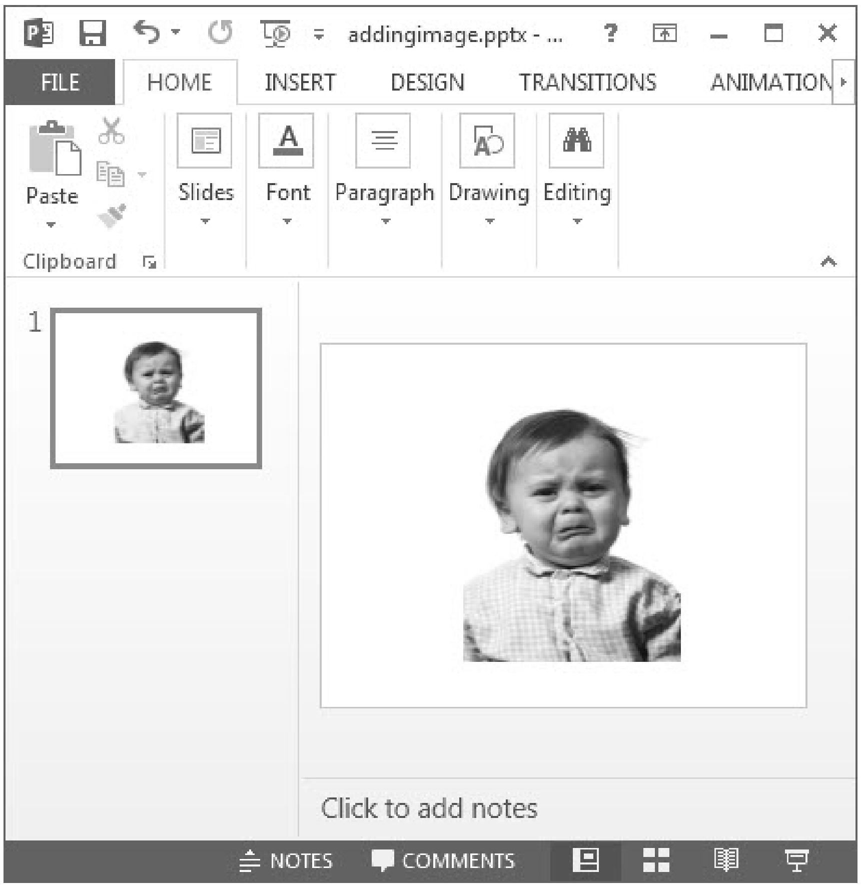
Save the above Java code as **AddingImage.java**, and then compile and execute it from the command prompt as follows:

```
$javac  AddingImage.java

$java AddingImage
```

It will compile and execute to generate the following output:

```
reordering of the slides is done
```

The presentation with the newly added slide with image appears as follows:



Reading Image

You can get the data of all the pictures using the **getAllPictures()** method of the **XMLSlideShow** class. The following program reads the images from a presentation:

```
import java.io.File;

import java.io.FileInputStream;

import java.io.FileOutputStream;

import java.io.IOException;



import org.apache.poi.xslf.usermodel.XMLSlideShow;
import org.apache.poi.xslf.usermodel.XSLFPictureData;


public class Readingimage {


   public static void main(String args[]) throws IOException{


      //open an existing presentation

      File file=new File("C://POIPPT//Examples//addingimage.pptx");

      XMLSlideShow ppt = new XMLSlideShow(new FileInputStream(file));


      //reading all the pictures in the presentation

      for(XSLFPictureData data : ppt.getAllPictures()){

          byte[] bytes = data.getData();

          String fileName = data.getFileName();

          int pictureFormat=data.getPictureType();

          System.out.println("picture name: "+fileName);

          System.out.println("picture format: "+pictureFormat);

     }


     //saving the changes to a file

     FileOutputStream out = new FileOutputStream(file);

     ppt.write(out);

     out.close();
   }

}
```

Save the above Java code as **Readingimage.java**, and then compile and execute it from the command prompt as follows:

```
$javac Readingimage.java

$java Readingimage
```

It will compile and execute to generate the following output:

```
picture name: image1.png

picture format: 6
```

9. CREATING HYPERLINKS

In this chapter you will learn how to create hyperlinks in a presentation.

Creating Hyperlinks

You can read the hyperlinks in a presentation using the **createHyperlink()** method of the **XSLFTextRun** class. Follow the procedure given below to create a hyperlink in a presentation.

Create an empty presentation using the **XMLSlideShow** class as shown below:

```
XMLSlideShow ppt = new XMLSlideShow();
```

Create an empty slide and create a textbox and body of the slide using body and content layout.

```
//create an empty presentation

XSLFSlideMaster slideMaster = ppt.getSlideMasters()[0];



//creating a slide with title and content layout

XSLFSlideLayout slidelayout =
slideMaster.getLayout(SlideLayout.TITLE_AND_CONTENT);

XSLFSlide slide = ppt.createSlide(slidelayout);



//selection of body place holder

XSLFTextShape body = slide.getPlaceholder(1);



//clear the existing text in the slide

body.clearText();
```

Create a text run object and set text to it as shown below:

```
XSLFTextRun textRun=body.addNewTextParagraph().addNewTextRun();
```

```
textRun.setText("Tutorials point");
```

Create a hyperlink using the **createHyperlink()** method of the **XSLFTextRun** class as shown below:

```
XSLFHyperlink link = textRun.createHyperlink();
```

Set the link address to the hyperlink using the **setAddress()** method of **XSLFHyperlink** class as shown below:

```
link.setAddress("http://www.tutorialspoint.com/");
```

Given below is the complete program to create hyperlink in a presentation:

```
import java.io.File;

import java.io.FileOutputStream;

import java.io.IOException;



import org.apache.poi.xslf.usermodel.SlideLayout;

import org.apache.poi.xslf.usermodel.XMLSlideShow;

import org.apache.poi.xslf.usermodel.XSLFHyperlink;

import org.apache.poi.xslf.usermodel.XSLFSlide;

import org.apache.poi.xslf.usermodel.XSLFSlideLayout;

import org.apache.poi.xslf.usermodel.XSLFSlideMaster;

import org.apache.poi.xslf.usermodel.XSLFTextRun;

import org.apache.poi.xslf.usermodel.XSLFTextShape;



public class CreatingHyperlinks {

   public static void main(String args[]) throws IOException{
        //create an empty presentation
        XMLSlideShow ppt = new XMLSlideShow();

        //getting the slide master object
        XSLFSlideMaster slideMaster = ppt.getSlideMasters()[0];

        //select a layout from specified list
        XSLFSlideLayout
        slidelayout=slideMaster.getLayout(SlideLayout.TITLE_AND_CONTENT);

        //creating a slide with title and content layout
        XSLFSlide slide = ppt.createSlide(slidelayout);

        //selection of title place holder
        XSLFTextShape body = slide.getPlaceholder(1);

        //clear the existing text in the slide
        body.clearText();

        //adding new paragraph
        XSLFTextRun textRun = body.addNewTextParagraph().addNewTextRun();

        //setting the text
        textRun.setText("Tutorials point");

        //creating the hyperlink
        XSLFHyperlink link = textRun.createHyperlink();
```

```


      //setting the link address

      link.setAddress("http://www.tutorialspoint.com/");


      //create the file object

      File file=new File("C://POIPPT//Examples//hyperlink.pptx");

      FileOutputStream out = new FileOutputStream(file);


      //save the changes in a file

      ppt.write(out);

      System.out.println("slide cretated successfully");

      out.close();

   }

}
```

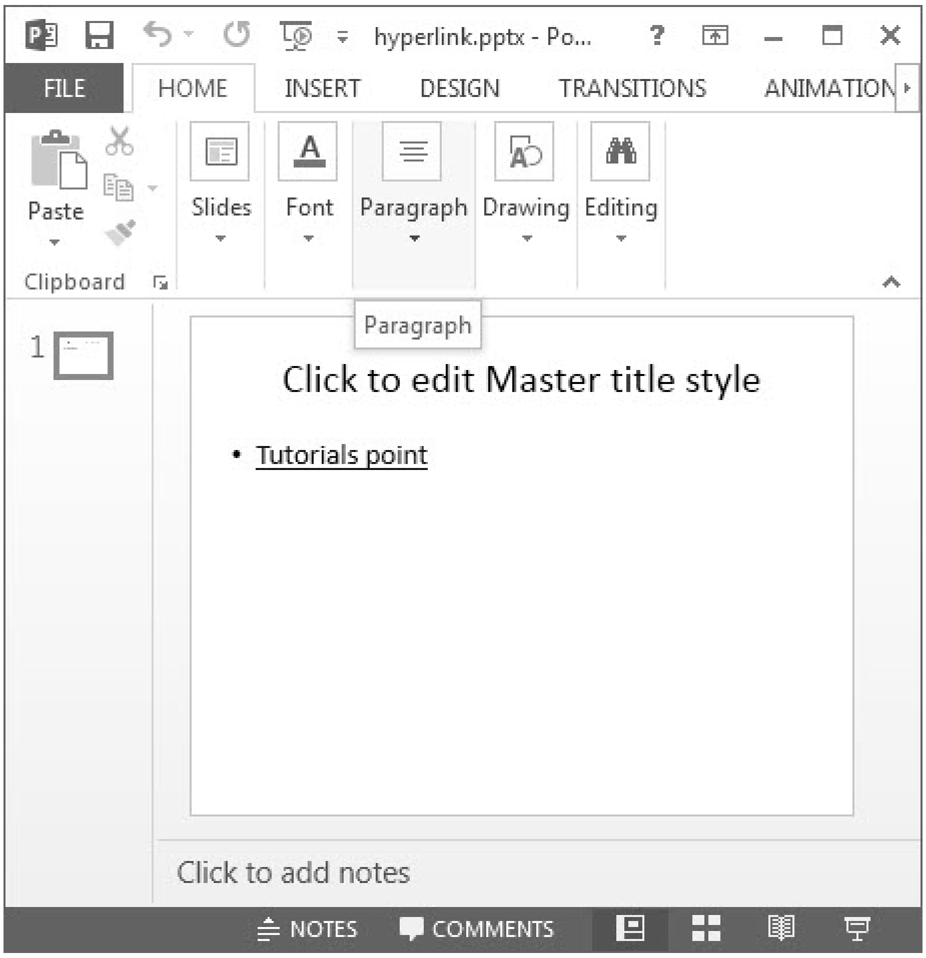
Save the above Java code as **CreatingHyperlinks.java**, and then compile and execute it from the command prompt as follows:

```
$javac  CreatingHyperlinks.java

$java CreatingHyperlinks
```

It will compile and execute to generate the following output:

```
slide cretated successfully
```

The newly added slide with the hyperlink in its body looks as follows:



Click to edit Master title style

• Tutorials point

Click to add notes

10. READING SHAPES

Reading Shapes from a Presentation

You can get a count of the number of shapes used in a presentation using the method **getShapeName()** of the **XSLFShape** class. Given below is the program to read the shapes from a presentation:

```
import java.io.File;

import java.io.FileInputStream;

import java.io.FileOutputStream;

import java.io.IOException;



import org.apache.poi.xslf.usermodel.XMLSlideShow;

import org.apache.poi.xslf.usermodel.XSLFShape;

import org.apache.poi.xslf.usermodel.XSLFSlide;



public class ReadingShapes {

   public static void main(String args[]) throws IOException{

           File file=new File("C://POIPPT//Examples//shapes.pptx");

           XMLSlideShow ppt = new XMLSlideShow(new
FileInputStream(file));



      //get slides

           XSLFSlide[] slide = ppt.getSlides();
      //getting the shapes in the presentation

           System.out.println("Shapes in the presentation:");

           for (int i = 0; i < slide.length; i++){

          XSLFShape[] sh = slide[i].getShapes();

          for (int j = 0; j < sh.length; j++){

             //name of the shape

             System.out.println(sh[j].getShapeName());

           }

      }

      FileOutputStream out = new FileOutputStream(file);

      ppt.write(out);

      out.close();

   }

}
```

Save the above Java code as **ReadingShapes.java**, and then compile and execute it from the command prompt as follows:

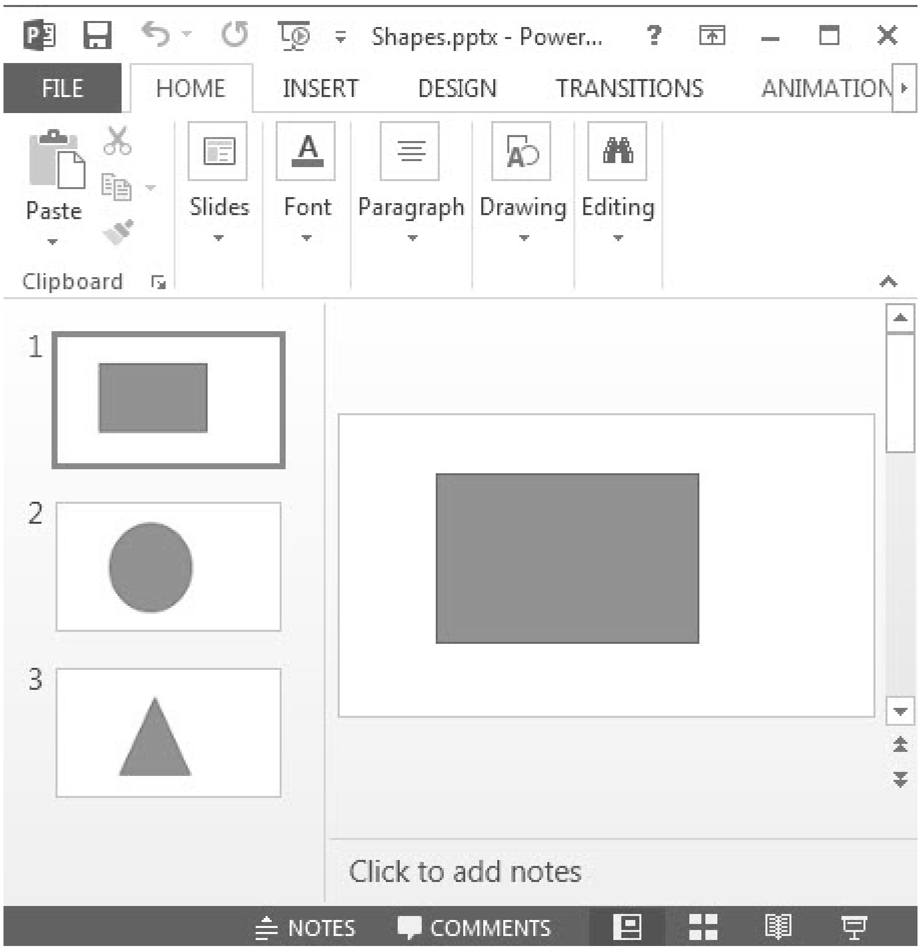
```
$javac  ReadingShapes.java

$java ReadingShapes
```

It will compile and execute to generate the following output.

```
Shapes in the presentation:

Rectangle 1

Oval 1
```

```
Isosceles Triangle 1
```

The newly added slide with the various shapes appears as follows:



11. FORMATTING TEXT

Formatting Text in a Presentation

The text in a presentation can be formatted using the methods of the **XSLFTextRun** class. For that, you have to create an **XSLFTextRun** class object by selecting one of the slide layouts as shown below:

```
//create the empty presentation

XMLSlideShow ppt = new XMLSlideShow();


//getting the slide master object

XSLFSlideMaster slideMaster = ppt.getSlideMasters()[0];


//select a layout from specified list

XSLFSlideLayout slidelayout =
slideMaster.getLayout(SlideLayout.TITLE_AND_CONTENT);


//creating a slide with title and content layout

XSLFSlide slide = ppt.createSlide(slidelayout);


//selection of title place holder

XSLFTextShape body = slide.getPlaceholder(1);


//clear the existing text in the slide

body.clearText();


//adding new paragraph

XSLFTextParagraph paragraph=body.addNewTextParagraph();
```

```
//creating text run object

XSLFTextRun run = paragraph.addNewTextRun();
```

You can set the font size of the text in the presentation using **setFontSize()**.

```
run.setFontColor(java.awt.Color.red);

run.setFontSize(24);
```

The following code snippet shows how to apply different formatting styles (bold, italic, underline, strikeout) to the text in a presentation.

```
//change the text into bold format

run.setBold(true);


//change the text it to italic format

run.setItalic(true)


// strike through the text

run.setStrikethrough(true);


//underline the text

run.setUnderline(true);
```

To have line breaks between paragraphs, use **addLineBreak()** of the **XSLFTextParagraph** class as shown below:

```
paragraph.addLineBreak();
```

Given below is the complete program to format the text using all the above methods:

```
import java.io.FileOutputStream;

import java.io.IOException;


import org.apache.poi.xslf.usermodel.SlideLayout;

import org.apache.poi.xslf.usermodel.XMLSlideShow;

import org.apache.poi.xslf.usermodel.XSLFSlide;

import org.apache.poi.xslf.usermodel.XSLFSlideLayout;

import org.apache.poi.xslf.usermodel.XSLFSlideMaster;

import org.apache.poi.xslf.usermodel.XSLFTextParagraph;

import org.apache.poi.xslf.usermodel.XSLFTextRun;

import org.apache.poi.xslf.usermodel.XSLFTextShape;


public class TextFormating {

   public static void main(String args[]) throws IOException{


       //creating an empty presentation

       XMLSlideShow ppt = new XMLSlideShow();


       //getting the slide master object

       XSLFSlideMaster slideMaster = ppt.getSlideMasters()[0];


       //select a layout from specified list

       XSLFSlideLayout slidelayout =

       slideMaster.getLayout(SlideLayout.TITLE_AND_CONTENT);


       //creating a slide with title and content layout
```

```
        XSLFSlide slide = ppt.createSlide(slidelayout);


        //selection of title place holder

        XSLFTextShape body = slide.getPlaceholder(1);


        //clear the existing text in the slide

        body.clearText();


        //adding new paragraph

        XSLFTextParagraph paragraph=body.addNewTextParagraph();


        //formatting line1

        XSLFTextRun run1 = paragraph.addNewTextRun();

        run1.setText("This is a colored line");


        //setting color to the text

        run1.setFontColor(java.awt.Color.red);


        //setting font size to the text

        run1.setFontSize(24);


        //moving to the next line

        paragraph.addLineBreak();


        //formatting line2
        XSLFTextRun run2 = paragraph.addNewTextRun();

        run2.setText("This is a bold line");

        run2.setFontColor(java.awt.Color.CYAN);



        //making the text bold

        run2.setBold(true);

        paragraph.addLineBreak();



        //formatting line3

        XSLFTextRun run3 = paragraph.addNewTextRun();

        run3.setText(" This is a striked line");

        run3.setFontSize(12);



        //making the text italic

        run3.setItalic(true);



        //strike through the text

        run3.setStrikethrough(true);

        paragraph.addLineBreak();



        //formatting line4

        XSLFTextRun run4 = paragraph.addNewTextRun();

        run4.setText(" This an underlined line");

        run4.setUnderline(true);
        //underlining the text
        paragraph.addLineBreak();


        //creating a file object
        File file=new File("C://POIPPT//Examples//TextFormat.pptx");
        FileOutputStream out = new FileOutputStream(file);
        saving the changes to a file
        ppt.write(out);
        out.close();
    }
}
```

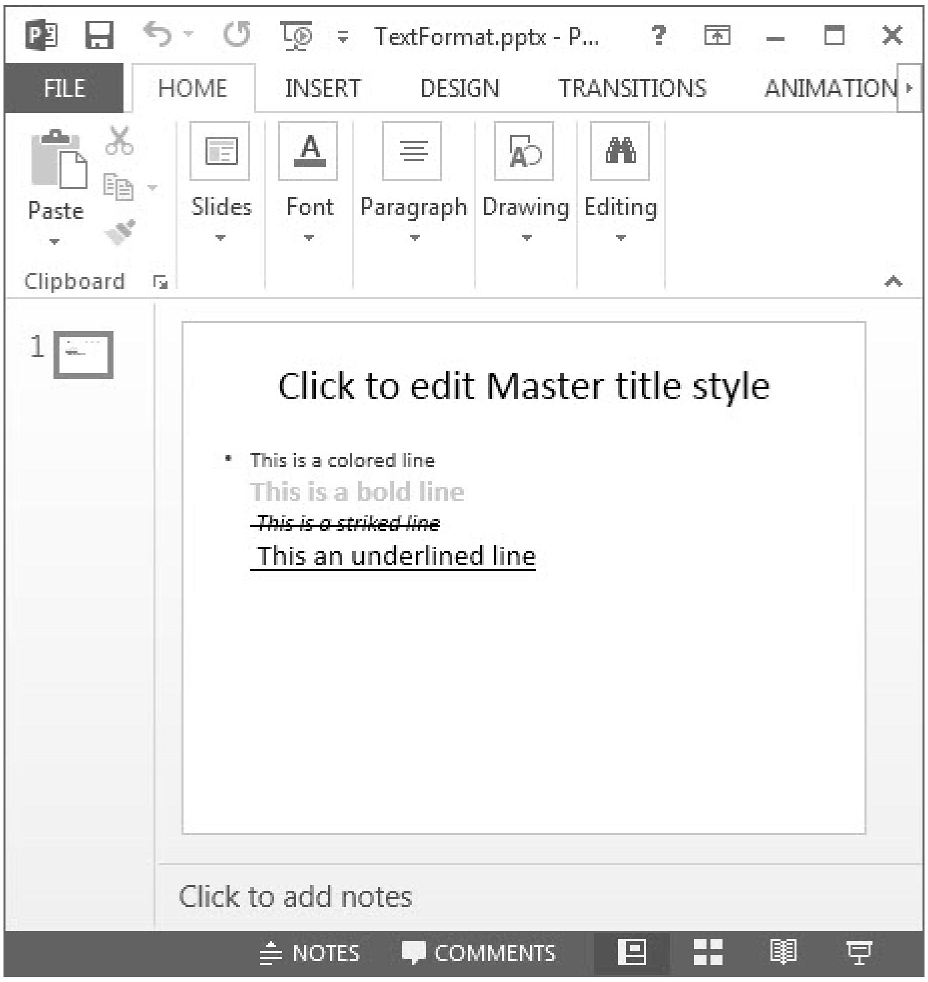
Save the above code as **TextFormating.java**, and then compile and execute it from the command prompt as follows:

```
$javac  TextFormating.java

$java TextFormating
```

It will compile and execute to generate the following output:

```
Formatting completed successfully
```

The slide with formatted text appears as follows:



Click to edit Master title style

- This is a colored line

This is a bold line

~~*This is a striked line*~~

This an underlined line

12. MERGING

Merging Multiple Presentations

You can merge multiple presentations using the **importContent()** method of the **XMLSlideShow** class. Given below is the complete program to merge two presentations:

```
import java.io.FileInputStream;

import java.io.FileOutputStream;

import java.io.IOException;


import org.apache.poi.xslf.usermodel.XMLSlideShow;

import org.apache.poi.xslf.usermodel.XSLFSlide;


public class MergingMultiplePresentations {


   public static void main(String args[]) throws IOException{


       //creating empty presentation

       XMLSlideShow ppt = new XMLSlideShow();


       //taking the two presentations that are to be merged

       String file1= "C://POIPPT//Examples//presentation1.pptx";

       String file2= "C://POIPPT//Examples//presentation2.pptx";

       String[] inputs = {file1, file2};


       for(String arg : inputs){
            FileInputStream inputstream = new FileInputStream(arg);
            XMLSlideShow src = new XMLSlideShow(inputstream);
            for(XSLFSlide srcSlide : src.getSlides()){
                //merging the contents
                ppt.createSlide().importContent(srcSlide);
            }
        }

        String file3 = "C://POIPPT//Examples//combinedpresentation.pptx";

        //creating the file object
        FileOutputStream out = new FileOutputStream(file3);

        // saving the changes to a file
        ppt.write(out);
        System.out.println("Merging done successfully");
        out.close();
    }
}
```

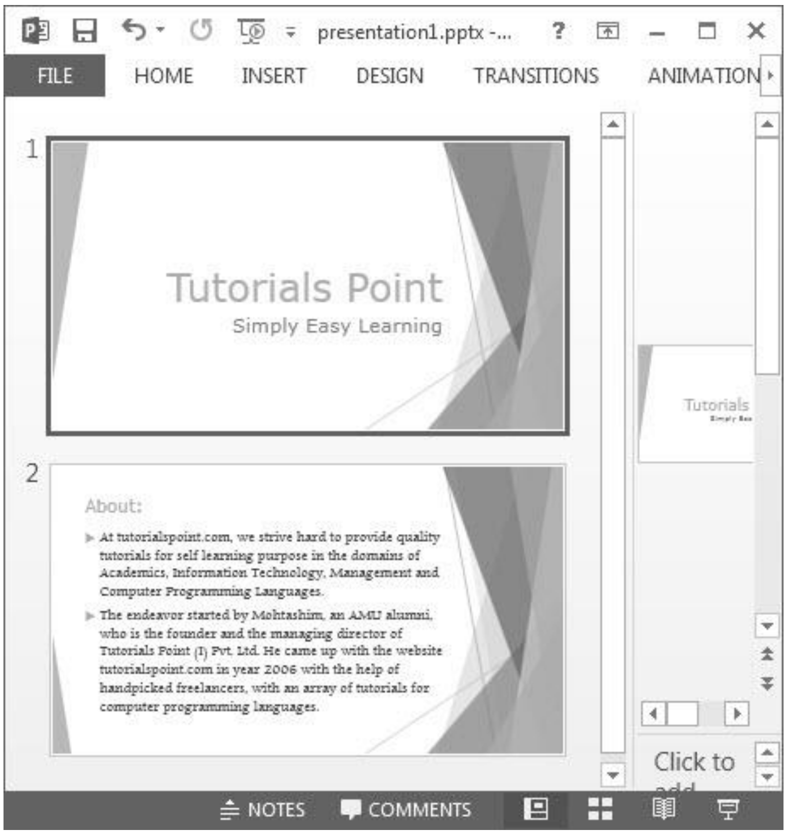
Save the above code as **MergingMultiplePresentations.java**, and then compile and execute it from the command prompt as follows:

```
$javac  MergingMultiplePresentations.java

$java MergingMultiplePresentations
```

It will compile and execute to generate the following output:

```
Merging done successfully
```

The following snapshot shows the first presentation:



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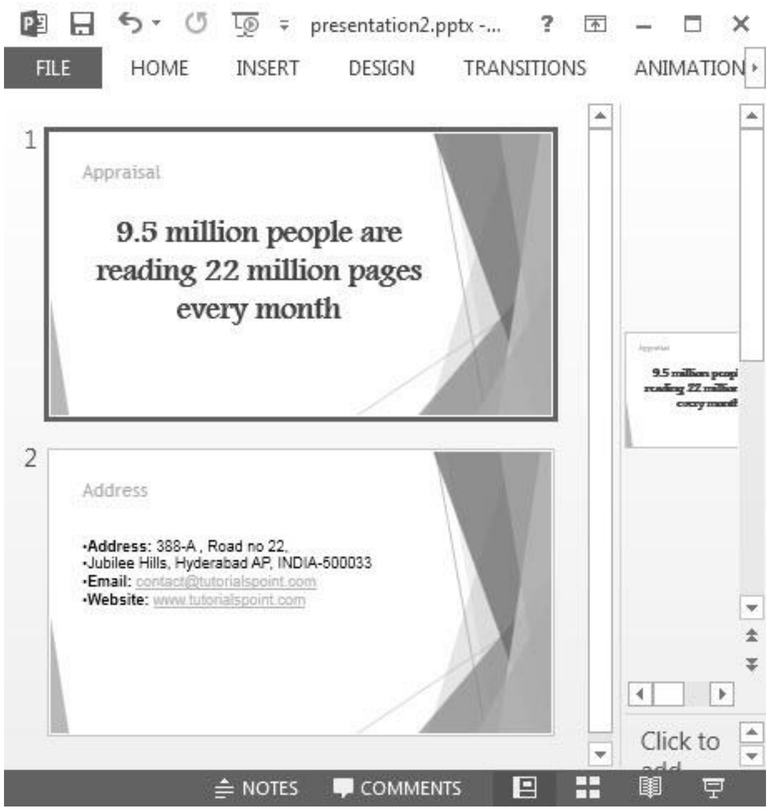
The following snapshot shows the second presentation:



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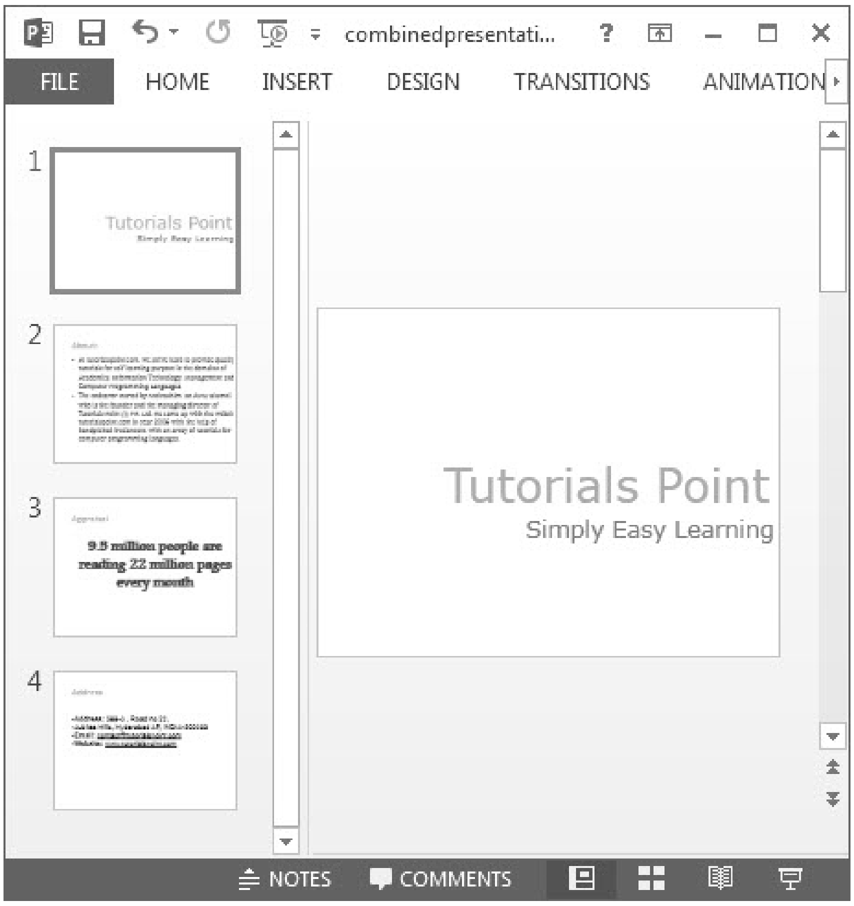
Given below is the output of the program after merging the two slides. Here you can see the content of the earlier slides merged together.



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13. PPT TO IMAGE

Converting Presentation to Image

You can convert a presentation to an image file. The following program shows how to go about it.

```
import java.io.File;

import java.io.FileInputStream;

import java.io.FileOutputStream;

import java.io.IOException;


import org.apache.poi.xslf.usermodel.XMLSlideShow;

import org.apache.poi.xslf.usermodel.XSLFSlide;


public class PpttoPNG {


    public static void main(String args[]) throws IOException{


        //creating an empty presentation

        File file=new File("C://POIPPT//Examples//addingimage.pptx");

        XMLSlideShow ppt = new XMLSlideShow(new FileInputStream(file));


        //getting the dimensions and size of the slide

        Dimension pgsize = ppt.getPageSize();

        XSLFSlide[] slide = ppt.getSlides();


        for (int i = 0; i < slide.length; i++) {
            BufferedImage img = new BufferedImage(pgsize.width,
            pgsize.height,BufferedImage.TYPE_INT_RGB);
            Graphics2D graphics = img.createGraphics();

        //clear the drawing area
        graphics.setPaint(Color.white);
        graphics.fill(new Rectangle2D.Float(0, 0, pgsize.width,
        pgsize.height));

        //render
        slide[i].draw(graphics);

        //creating an image file as output
        FileOutputStream out = new
        FileOutputStream("C://POIPPT//ppt_image.png");
        javax.imageio.ImageIO.write(img, "png", out);
        ppt.write(out);
        System.out.println("Image successfully created");
        out.close();
    }
}
```

Save the above Java code as **PpttoPNG.java**, and then compile and execute it from the command prompt as follows:

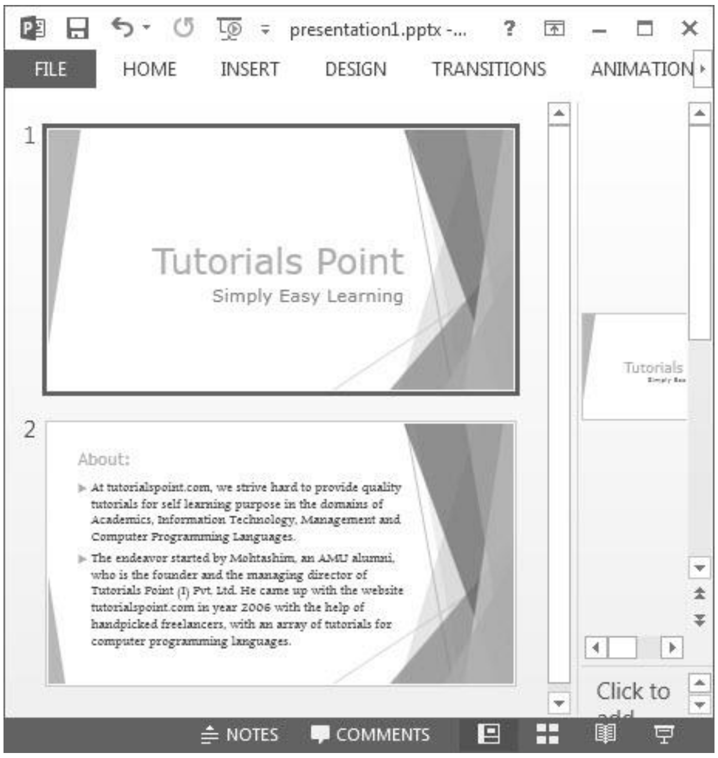
```
$javac  PpttoPNG.java

$java PpttoPNG
```

It will compile and execute to generate the following output:

```
Image created successfully
```

The following snapshot shows the presentation that is given as input:



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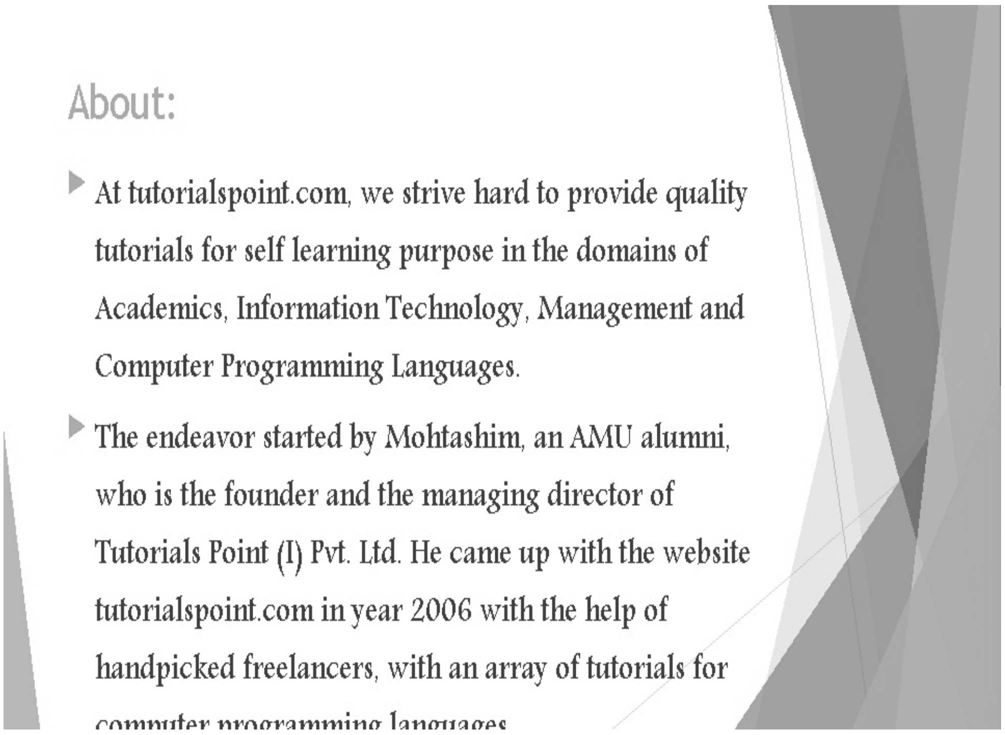
Given below is the snapshot of the image created at the specified location.



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