

Step 1: Create a New Java Project

Project Name: FactoryMethodPatternExample

Step 2: Define Document Interface

File: Document.java

```
public interface Document {  
    void open();  
}
```

Step 3: Create Concrete Document Classes

File: WordDocument.java

```
public class WordDocument implements Document {  
    @Override  
    public void open() {  
        System.out.println("Opening a Word document.");  
    }  
}
```

File: PdfDocument.java

```
public class PdfDocument implements Document {  
    @Override  
    public void open() {  
        System.out.println("Opening a PDF document.");  
    }  
}
```

File: ExcelDocument.java

```
public class ExcelDocument implements Document {  
    @Override  
    public void open() {  
        System.out.println("Opening an Excel document.");  
    }  
}
```

Step 4: Implement the Factory Method

File: DocumentFactory.java

```
public abstract class DocumentFactory {  
    public abstract Document createDocument();  
}
```

File: WordDocumentFactory.java

```
public class WordDocumentFactory extends DocumentFactory {  
    @Override  
    public Document createDocument() {  
        return new WordDocument();  
    }  
}
```

File: PdfDocumentFactory.java

```
public class PdfDocumentFactory extends DocumentFactory {  
    @Override  
    public Document createDocument() {  
        return new PdfDocument();  
    }  
}
```

File: ExcelDocumentFactory.java

```
public class ExcelDocumentFactory extends DocumentFactory {  
    @Override  
    public Document createDocument() {  
        return new ExcelDocument();  
    }  
}
```

Step 5: Test the Factory Method Implementation

File: Main.java

```
public class Main {  
    public static void main(String[] args) {  
        DocumentFactory wordFactory = new WordDocumentFactory();  
        Document wordDoc = wordFactory.createDocument();  
        wordDoc.open();  
  
        DocumentFactory pdfFactory = new PdfDocumentFactory();  
        Document pdfDoc = pdfFactory.createDocument();  
        pdfDoc.open();  
  
        DocumentFactory excelFactory = new ExcelDocumentFactory();  
        Document excelDoc = excelFactory.createDocument();  
        excelDoc.open();  
    }  
}
```

Expected Output:

Opening a Word document.

Opening a PDF document.

Opening an Excel document.

Final output:

