JSP Syntax:

JavaServer Pages (JSP) is a technology used for building dynamic web applications in Java. It allows you to embed Java code within HTML pages to create dynamic content. JSP files typically have a `.jsp` extension and are compiled into servlets by the web container at runtime. Here, I'll explain the basic syntax of JSP with two code examples.

1. JSP Syntax:

JSP combines HTML with Java code by using special tags, and it allows you to execute Java code within your web page. Here are some of the key syntax elements in JSP:

- **Directives:** Directives are instructions provided to the JSP container. They begin with `` `<%@` `` and end with `` `'%>'` ``. Common directives include:
  - `` `<%@ page import="java.util.*" %>` ``: Imports Java packages and classes.
  - `` `<%@ page contentType="text/html; charset=UTF-8" %>` ``: Sets the content type of the page.

- **Scriptlets:** Java code enclosed in `<% %>` tags. For example:
  ```jsp
  <% int x = 10; %>
  ```

- **Expressions:** Java expressions enclosed in `<%= %>` tags are evaluated and the result is inserted into the HTML. For example:
  ```jsp
  <p>The value of x is <%= x %></p>
  ```

- **Declarations:** Java variable and method declarations enclosed in `<%! %>` tags. For example:
  ```jsp
  <%!
  int y = 20;
  public void printMessage() {
     out.println("Hello, World!");
  }
  %>
  ```

- **Scriptlet Comments:** Comments enclosed in `<%-- --%>` tags. These comments are not visible in the rendered HTML.

2. JSP Examples:

Example 1: Simple JSP Page

In this example, we will create a simple JSP page that displays a message using expressions and scriptlets.

```jsp
<%@ page contentType="text/html; charset=UTF-8" %>
<!DOCTYPE html>
<html>
<head>
    <title>Simple JSP Example</title>
</head>
<body>
    <h1>Welcome to JSP Example</h1>
    <%
        String name = "John";
    %>
    <p>Hello, <%= name %></p>
</body>
</html>
```

This JSP page sets the content type to HTML, declares a `name` variable in a scriptlet, and uses an expression to display the variable's value in the HTML.

Example 2: JSP with a Java Method

In this example, we will create a JSP page that calls a Java method within a declaration to display a message.

```jsp
<%@ page contentType="text/html; charset=UTF-8" %>
<!DOCTYPE html>
<html>
<head>
    <title>JSP with Java Method</title>
</head>
<body>
    <h1>Welcome to JSP Example</h1>
    <%
        String message = getMessage();
    %>
    <p><%= message %></p>
```

```
    <%
        // Java method declaration
        String getMessage() {
            return "Hello, World!";
        }
    %>
</body>
</html>
```
```

In this JSP page, we declare a Java method `getMessage()` using a declaration and call it within a scriptlet to display the message.

When you access these JSP pages through a web server, the Java code is executed on the server, and the resulting HTML is sent to the client's browser, allowing you to create dynamic web pages with embedded Java code.