Dynamic & Dependency Plugin Properties Options

Plugin Properties Options allowed us to provide an UI for user to configure a plugin. This tutorial is to demonstrate how we can make use of Element (Plugin) Select property type "elementselect" to achieve a dynamic and dependency configuration page.

In this tutorial, I will create a sample process tool which will print out all the values of the dependency fields in that plugin. Please download the source code and sample plugin KB:here.

As usual, we need a JSON file for plugin properties options in our plugin. My sample plugin only has 1 "elementselect" field named "option" and the url pointed to its own web service implementation to retrieve dependency properties options.

```
File : /properties/app/pluginOptions.json
[
    {
        title : 'Edit Dependency Plugin Options Sample Tool',
        properties : [
            {
                name:'option',
                label:'Option',
                type : 'elementselect',
                options : [
                    {value : '', label : ''},
                    {value : 'option1', label : 'Option 1'},
                    {value : 'option2', label : 'Option 2'}
                ],
                required : 'true',
                url : '[CONTEXT_PATH]/web/json/app[APP_PATH]/plugin/org.joget.sample.DependencyPluginOptions
/service?action=getJson',
            }
        ]
    }
]
```

And then, create another 2 JSON files for properties options which dependent on value "option1" and "option2" as below:

```
File : /properties/app/pluginOptions_option1.json
[
    {
        title : 'Option 1',
        properties : [
            {
                name:'field1',
                label:'field 1',
                type : 'textfield'
            },
            {
                name:'field2',
                label:'field 2',
                type : 'textfield'
            },
            {
                name:'field3',
                label:'field 3',
                type : 'textfield'
            }
        ]
    }
]
```

```
File : /properties/app/pluginOptions_option2.json
[
    {
        title : 'Option 2',
        properties : [
            {
                name:'field4',
                label:'field 4',
                type : 'textfield'
            },
            {
                name:'field5',
                label:'field 5',
                type : 'textfield'
            },
            {
                name:'field6',
                label:'field 6',
                type : 'textfield'
            }
        ]
    }
]
```

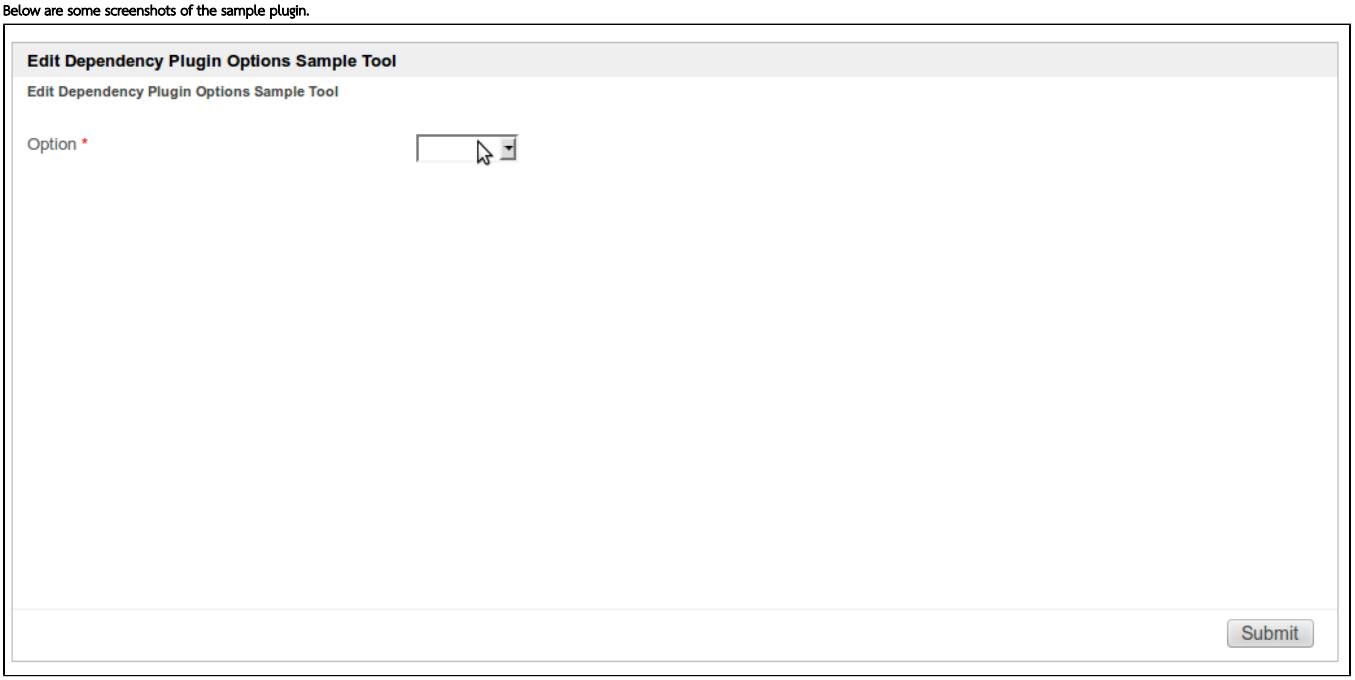
Once we done the properties options JSON definition files, we need to implement the PluginWebSupport interface to return the dependency properties options based on the selected value.

```
public void webService(HttpServletRequest request, HttpServletResponse response) throws ServletException,
IOException {
     boolean isAdmin = WorkflowUtil.isCurrentUserInRole(WorkflowUserManager.ROLE_ADMIN);
     if (!isAdmin) {
         response.sendError(HttpServletResponse.SC_UNAUTHORIZED);
         return;
     }

     String action = request.getParameter("action");
     if ("getJson".equals(action)) {
         String value = request.getParameter("value");

         String output = "";
         if (value != null && !value.isEmpty()) {
             output = AppUtil.readPluginResource(getClass().getName(), "/properties/app/pluginOptions_"+value+".
json", null, true, null);
         }
         response.getWriter().write(output);
     } else {
         response.setStatus(HttpServletResponse.SC_NO_CONTENT);
     }
}
```

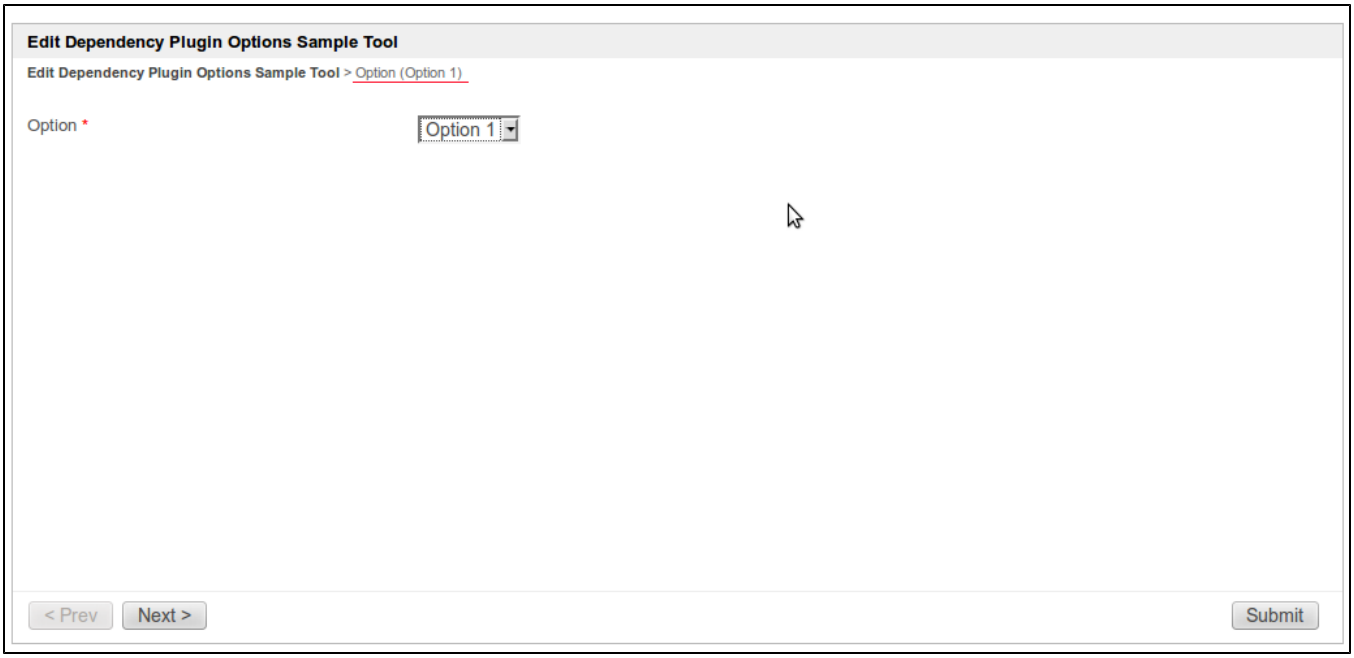
In my sample Process Tool plugin execute method, retrieve and print out the dependency options value.

```
public Object execute(Map properties) {
    //To retrieve the values of dependecy options object
    Object optionObj = properties.get("option");
    if (optionObj instanceof Map) {
        Map temp = (Map) optionObj;

        // to get the value of option
        String option = temp.get("className").toString();
        System.out.println("Option : " + option);

        // to get the value of dependecy fields
        Map optionProp = (Map) temp.get("properties");
        for (String key : (Set<String>) optionProp.keySet()) {
            System.out.println(key + " : " + optionProp.get(key));
        }
    }

    return null;
}
```

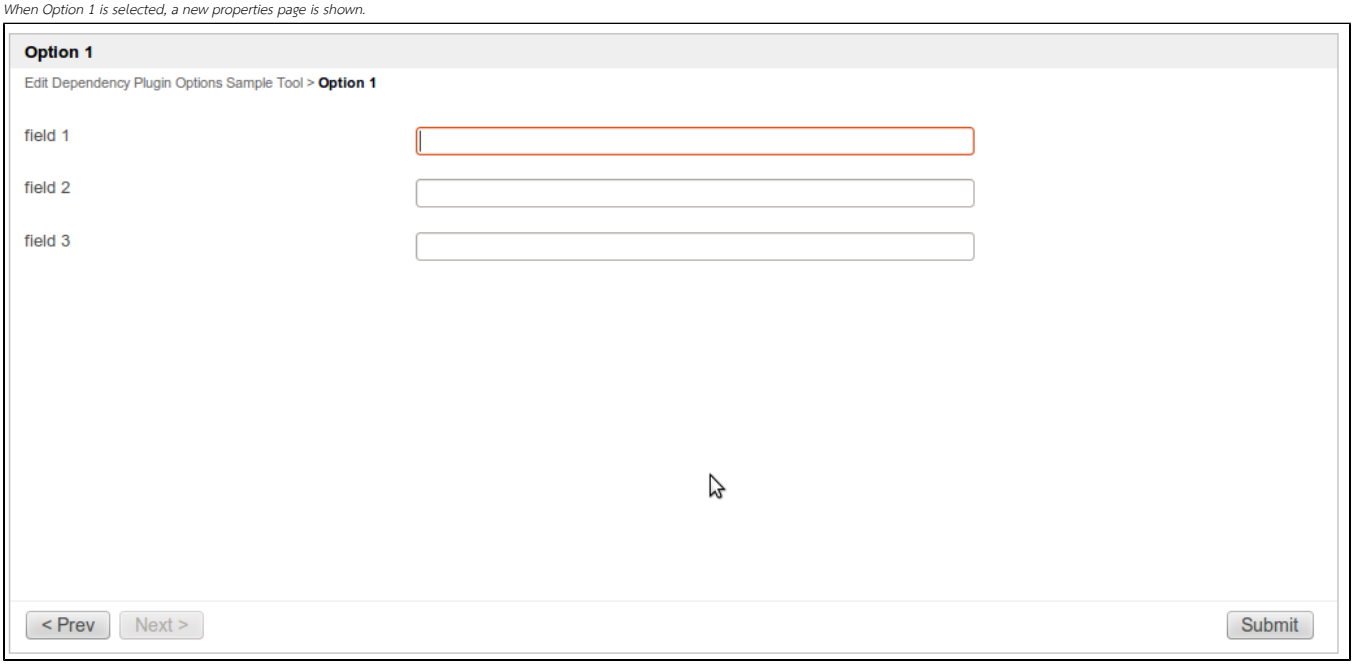
Below are some screenshots of the sample plugin.



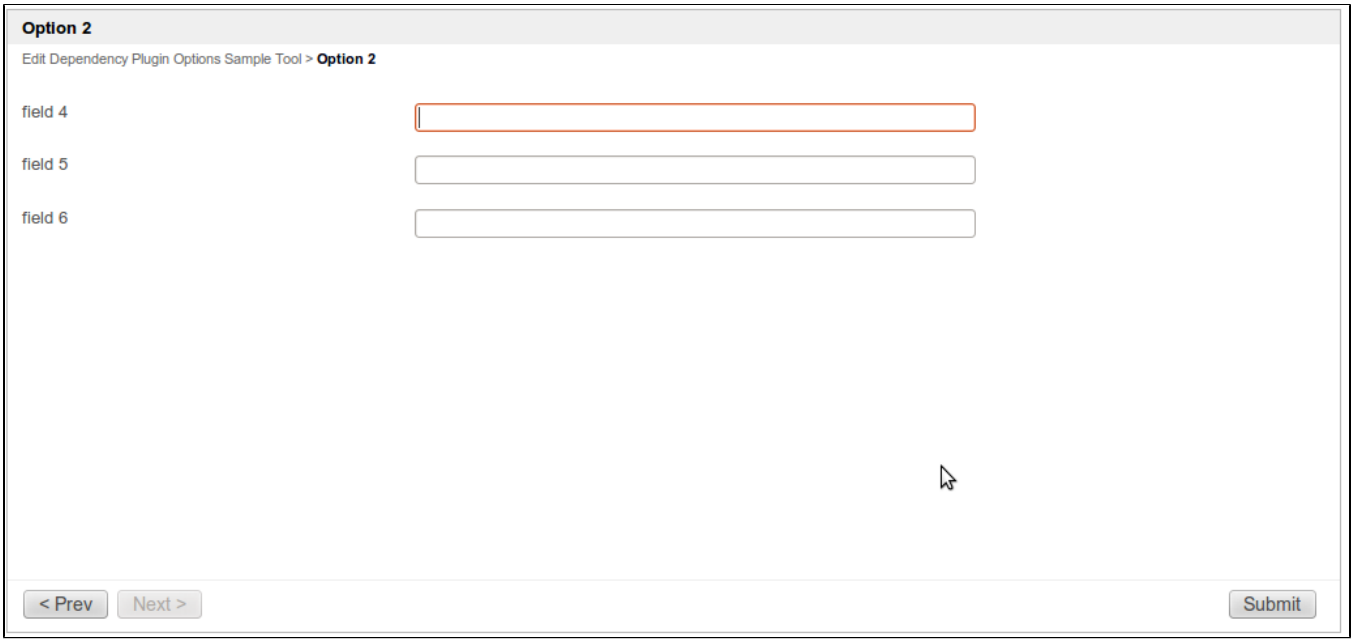
Plugin properties configuration screen when Option is empty.



When Option 1 is selected, a new properties page is shown.



Dependency properties options based on Option 1.



Dependency properties options based on Option 2.

Plugin output when Option 1 is selected.

Plugin output when Option 2 is selected.