XCIDATADEF - Data Definition

With an XCIDATADEF control, you can define data structures that are exchanged between a page and its adapter, but which are not visually represented on the page. Examples are Natural control variables, which can be assigned to controls on a page after they have been defined in an XCIDATADEF control. They are not visually represented on the page, but can be evaluated by the application to control the modification status of the page and its controls.
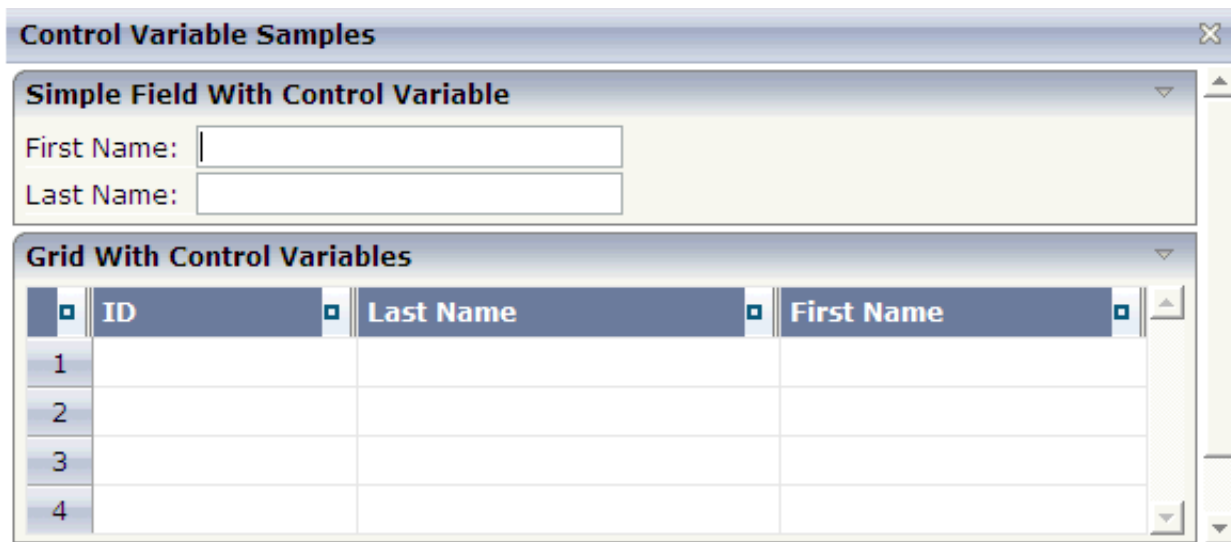
The XCIDATADEF control allows the definition of scalar variables, structures, arrays, structures of arrays and arrays of structures. When an adapter is generated from a page that contains one or more XCIDATADEF controls, corresponding Natural data structures are generated into the parameter data area of the adapter.

The following topics are covered below:

- Example

- Properties

Example

The following example shows several field controls and a grid control. It uses XCIDATADEF controls to define control variables and assigns these in various ways to the fields and grid elements of the page.

The XML layout definition is:

```
<?xml version="1.0" encoding="UTF-8"?>
<natpage hotkeys="13;onEnter" natsource="CTRCV-A" natsinglebyte="true" natcv="cv-page"
  xmlns:njx="http://www.softwareag.com/njx/njxMapConverter">
    <titlebar name="Control Variable Samples">
    </titlebar>
    <pagebody takefullheight="true">
        <rowarea name="Simple Field With Control Variable">
            <itr>
                <label name="First Name:" width="80">
```

```
                        </label>
                        <field valueprop="firstname" width="200" njx:natcv="cv-firstname">
                        </field>
                        <hdist width="50">
                        </hdist>
                </itr>
                <itr>
                        <label name="Last Name:" width="80">
                        </label>
                        <field valueprop="lastname" width="200" njx:natcv="cv-lastname">
                        </field>
                </itr>
            </rowarea>
            <rowarea name="Grid With Control Variables">
                <rowtablearea2 griddataprop="persons" rowcount="4" width="100%">
                    <tr>
                        <gridcolheader width="30" propref="selected">
                        </gridcolheader>
                        <gridcolheader name="ID" width="25%" propref="id">
                        </gridcolheader>
                        <gridcolheader name="Last Name" width="40%" propref="last">
                        </gridcolheader>
                        <gridcolheader name="First Name" width="35%" propref="first">
                        </gridcolheader>
                    </tr>
                    <repeat>
                        <str valueprop="selected">
                            <selector valueprop="selected" singleselect="true">
                            </selector>
                            <field valueprop="id" width="25%" noborder="true"
                              transparentbackground="true">
                            </field>
                            <field valueprop="last" width="40%" noborder="true"
                              transparentbackground="true" njx:natcv="persons(*).cv-last">
                            </field>
                            <xcidatadef dataprop="cv-last" datatype="C">
                            </xcidatadef>
                            <field valueprop="first" width="35%" noborder="true"
                              transparentbackground="true" njx:natcv="cv-first(*)">
                            </field>
                        </str>
                    </repeat>
                </rowtablearea2>
            </rowarea>
            <rowarea name="Description" height="100%">
                <itr takefullwidth="true" height="100%">
                    <subpage valueprop="infopagename" height="100%" width="100%">
                    </subpage>
                </itr>
            </rowarea>
    </pagebody>
    <statusbar withdistance="false">
    </statusbar>
    <xcidatadef dataprop="cv-page" datatype="C">
    </xcidatadef>
    <xcidatadef dataprop="cv-firstname" datatype="C">
    </xcidatadef>
    <xcidatadef dataprop="cv-lastname" datatype="C">
    </xcidatadef>
    <xcidatadef dataprop="cv-first" datatype="C" array="true">
    </xcidatadef>
</natpage>
```

The above example shows various ways in which control variables can be defined and assigned to controls:

- `cv-page` is a scalar control variable that is assigned to the page as a whole. In the application, it reflects the modification status of the entire page.

- `cv-firstname` and `cv-lastname` are scalar control variables that are assigned to the FIELD controls `firstname` and `lastname`. They reflect the modification status of the respective controls.

- `cv-last` is a control variable that is defined as an element of the grid `persons`. Consequently, it is implicitly an array and is assigned to the element `last` as `persons(*).cv-last`. Each occurrence of `persons(*).cv-last` reflects the modification status of the corresponding occurrence of `persons.last`.

- `cv-first` is an array of control variables that is defined outside the grid `persons`. Consequently, it is assigned to the element `first` as `cv-first(*)`. Each occurrence of `cv-first(*)` reflects the modification status of the corresponding occurrence of `persons.first`. Note the difference to the previous case: because `cv-first(*)` is defined outside the grid `persons`, it is not automatically resized together with `persons.first`. Resizing `cv-first(*)` appropriately is in the responsibility of the application program.

The corresponding adapter code looks as follows:

```
DEFINE DATA PARAMETER
/*( PARAMETER
1 CV-FIRST (C/1:*)
1 CV-FIRSTNAME (C)
1 CV-LASTNAME (C)
1 CV-PAGE (C)
1 FIRSTNAME (A) DYNAMIC
1 INFOPAGENAME (A) DYNAMIC
1 LASTNAME (A) DYNAMIC
1 PERSONS (1:*)
2 CV-LAST (C)
2 FIRST (A) DYNAMIC
2 ID (A) DYNAMIC
2 LAST (A) DYNAMIC
2 SELECTED (L)
/*) END-PARAMETER
END-DEFINE
...
/*( PROCESS PAGE
PROCESS PAGE (CV=CV-PAGE) U'/njxdemos/ctrlcontrolvar' WITH
PARAMETERS
 NAME U'firstname'
  VALUE FIRSTNAME (CV=CV-FIRSTNAME)
 NAME U'infopagename'
  VALUE INFOPAGENAME
 NAME U'lastname'
  VALUE LASTNAME (CV=CV-LASTNAME)
 NAME U'persons(*).first'
  VALUE PERSONS.FIRST(*) (CV=CV-FIRST(*))
 NAME U'persons(*).id'
  VALUE PERSONS.ID(*)
 NAME U'persons(*).last'
  VALUE PERSONS.LAST(*) (CV=PERSONS.CV-LAST(*))
 NAME U'persons(*).selected'
```

```
   VALUE PERSONS.SELECTED(*) (EM='false'/'true')
END-PARAMETERS
/*) END-PROCESS
...
```

The example code is contained in the library SYSEXNJX as program CTRCV-P.

Properties

Basic			
dataprop	The XCIDATADEF control allows to create data structures for the processing side that are created in addition to data structures that are created by the normal controls. The DATAPROP represents the name of the data element that provides the content of the control.	Optional	
datatype	Data type of the data element. One of the list of valid values. Using the reserved word "type" you can nest multiple XCIDATADEF structures.	Optional	type xs:string xs:int xs:float xs:decimal xs:double xs:date xs:dateTime xs:time xs:byte xs:short ---------------------- N n.n P n.n string n C
array	If set to true, the XCIDATADEF will be an array.	Optional	true false

clientdata	Default is false. If set to true then the data is also send to the browser. Usually applications use the default setting. Only set this to true for small data that is really rendered in the browser.	Optional	true false
Natural			
njx:natname	If a Natural variable with a name not valid for Application Designer (for instance #FIELD1) shall be bound to the control, a different name (for instance HFIELD1) can be bound instead. If the original name (in this case #FIELD1) is then specified in this attribute, the original name is generated into the parameter data area of the Natural adapter and a mapping between the two names is generated into the PROCESS PAGE statement of the Natural adapter.	Optional	
njx:natsysvar	If the control shall be bound to a Natural system variable, this attribute specifies the name of the system variable.	Optional	
njx:natsysio	If the control shall be bound to a Natural system variable with the attribute njx:natsysvar, this attribute indicates if the system variable is modifiable. The default is false.	Optional	
njx:natstringtype	If the control shall be bound to a Natural system variable of string format with the attribute njx:natsysvar, this attribute indicates the format of the string, A (code page) or U (Unicode). The default is A.	Optional	
njx:natcv	Name of a Natural control variable that shall be assigned to the control. The control variable must be defined in a Data Definition (XCIDATADEF) control on the same page. The application can use the control variable to check the modification status of the control.	Optional	
njx:natcomment	The value of this attribute is generated as comment line into the parameter data area of the Natural adapter, before the field name. The Map Converter, for instance, uses this attributes to indicate for a generated statusprop variable to which field the statusprop belongs.	Optional	