

Tech Note 728

Using GRAccess Toolkit to Determine Values and DataTypes for a Property

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Introduction

When implementing a GRAccess Application, you need to know the possible Values and DataTypes to use for certain Field Attribute properties of the \$Userdefined Object.

Note: Refer to Task 2 in [Technote 727 Automating Object Configuration Tasks in the GRAccess Toolkit: Configuring Properties for Analog FieldAttribute](#).

This *Tech Note* describes the technique of finding Values and DataTypes for the following items:

- **AccessMode** property of Analog Field Attribute (AF_001) needs to be set to **Output**
- **AnalogType** property of Analog Field Attribute (AF_001) needs to be set to **Float**
- **Desc** property of Analog Field Attribute (AF_001) needs to be set to **Adding description for AF_001 Field Attribute**

The Values and Data Type found after the procedure can be used in your C# code implementation.

Using this *Tech Note* as a guide, you can also find Values and DataTypes for other properties.

Application Versions

To execute the GRAccess sample application that is described in this document, you will need the following prerequisites:

- Visual Studio 2005
- Industrial Application Server 3.0 or later
- GRAccess 3.0

Procedure Overview

The overall procedure for finding the Values and DataTypes involves the following steps:

1. In the Logviewer, enable the log flag **SetAttribute** for the **WWFsObject** component (Figure 1 below).

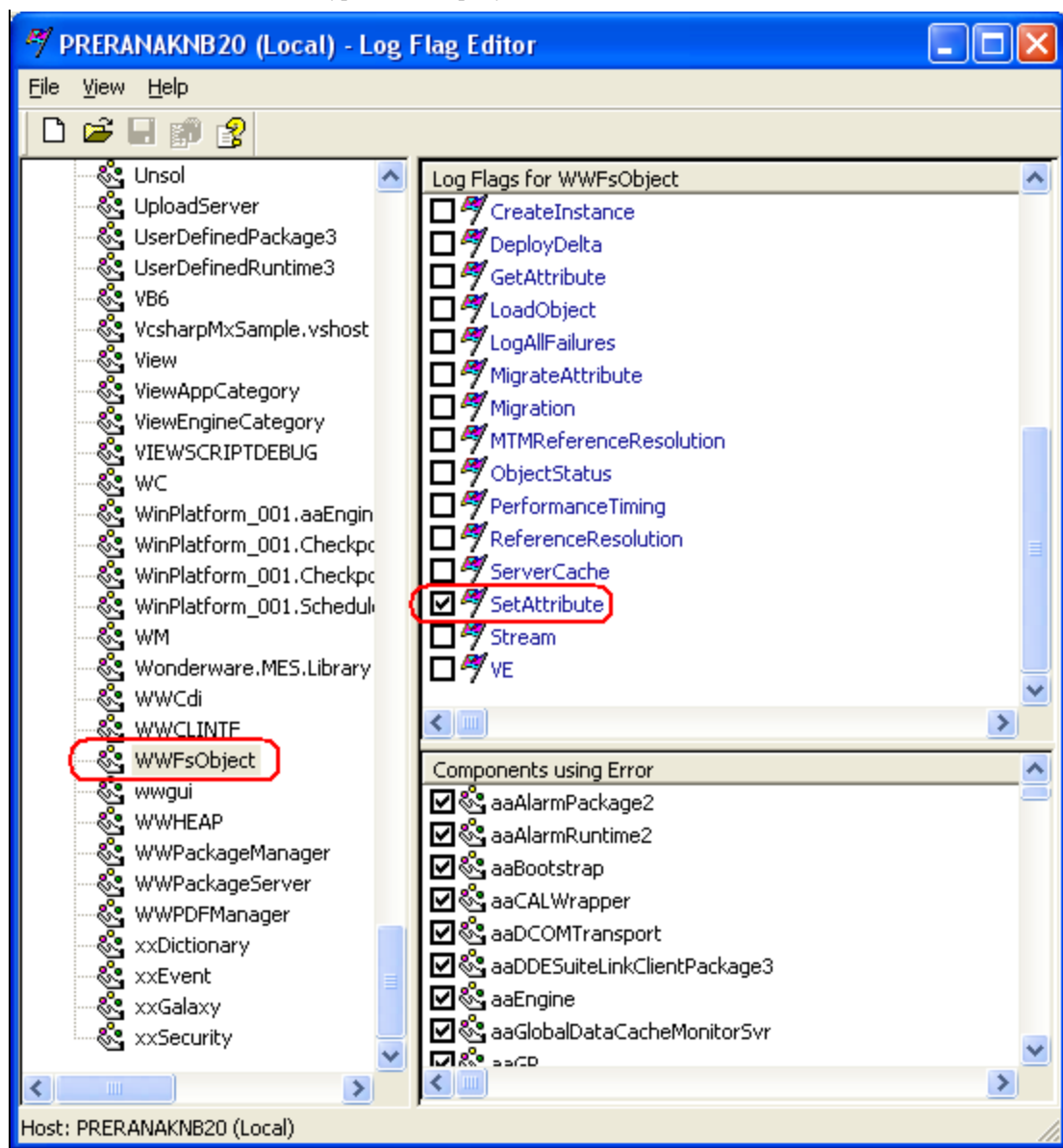


FIGURE 1: SETATTRIBUTE FOR WWFSOBJECT

2. Manually configure the **Access Mode**, **Data Type** and **Description** properties in the Arcestra IDE.
3. Then go back to Logviewer examine the log messages.

This process is briefly mentioned in [Tech Note 727 Automating Object Configuration Tasks in the GRAccess Toolkit: Configuring Properties for Analog FieldAttribute](#).

Access Mode – AF_001.AccessMode – Output

Data Type – AF_001.AnalogType – Float

Description – AF_001.Desc – "Adding description for AF_001 Field Attribute"

Discover the **Value** and **DataType** for setting Access Mode to **output** – AF_001.AccessMode

Manually configure the Access Mode to **output** and you will see the following log messages in logger:

166355 10/8/2010 3:13:11 PM 1112 2492 SetAttribute WWFsObject SetAttribute(PrimId:128 AttrId:101 PropId:10 Index:-1 Value:MxQualifiedEnum, Value=Output) entered.

166356 10/8/2010 3:13:11 PM 1112 2492 SetAttribute WWFsObject SetAutomationDirtyFlag: 1

166357 10/8/2010 3:13:11 PM 1112 2492 SetAttribute WWFsObject SetAttribute(PrimId:128 AttrId:101 PropId:10 Index:-1 Value:MxInteger, Value=3) entered.

166358 10/8/2010 3:13:11 PM 1112 2492 SetAttribute WWFsObject SetAutomationDirtyFlag: 1

166359 10/8/2010 3:13:11 PM 1112 2492 SetAttribute WWFsObject SetAttribute(PrimId:100 AttrId:107 PropId:1 Index:-1 Value:MxInteger, Value=10) entered.

166360 10/8/2010 3:13:11 PM 1112 2492 SetAttribute WWFsObject SetAttribute(PrimId:100 AttrId:107 PropId:1 Index:-1 AttrName:AF_001 Value:MxInteger, Value=10) returned.

166361 10/8/2010 3:13:11 PM 1112 2492 SetAttribute WWFsObject SetAttribute(PrimId:128 AttrId:101 PropId:10 Index:-1 AttrName:AF_001.AccessMode Value:MxInteger, Value=3) returned.

166362 10/8/2010 3:13:11 PM 1112 2492 SetAttribute WWFsObject SetAttribute(PrimId:100 AttrId:100 PropId:10 Index:-1 Value:MxString/MxBigString, Size=28, Value=writeonly:AF_001:integerattr) entered.

166363 10/8/2010 3:13:11 PM 1112 2492 SetAttribute WWFsObject SetAutomationDirtyFlag: 1

166364 10/8/2010 3:13:11 PM 1112 2492 SetAttribute WWFsObject SetAttribute(PrimId:100 AttrId:101 PropId:10 Index:-1 Value:MxString/MxBigString, Size=131, Value=<AttrXML><DiscreteAttr Name="DF_001" Template="\$UserDefined_021"/><AnalogAttr Name="AF_001" Template="\$UserDefined_021"/></AttrXML>) entered.

166365 10/8/2010 3:13:11 PM 1112 2492 SetAttribute WWFsObject SetAttribute(PrimId:100 AttrId:101 PropId:10 Index:-1 AttrName:UserAttrData Value:MxString/MxBigString, Size=131, Value=<AttrXML><DiscreteAttr Name="DF_001" Template="\$UserDefined_021"/><AnalogAttr Name="AF_001" Template="\$UserDefined_021"/></AttrXML>...

166366 10/8/2010 3:13:11 PM 1112 2492 SetAttribute WWFsObject SetAutomationDirtyFlag: 1

166367 10/8/2010 3:13:11 PM 1112 2492 SetAttribute WWFsObject SetAttribute(PrimId:132 AttrId:102 PropId:10 Index:-1 Value:MxDataTypeEnum, Value=MxInteger) entered.

166368 10/8/2010 3:13:11 PM 1112 2492 SetAttribute WWFsObject SetAutomationDirtyFlag: 1

166369 10/8/2010 3:13:11 PM 1112 2492 SetAttribute WWFsObject SetAttribute(PrimId:132 AttrId:102 PropId:10 Index:-1 AttrName:AF_001.Output.DataType Value:MxDataTypeEnum, Value=MxInteger) returned.

166370 10/8/2010 3:13:11 PM 1112 2492 SetAttribute WWFsObject SetAutomationDirtyFlag: 1

166371 10/8/2010 3:13:12 PM 1112 2492 SetAttribute WWFsObject SetAttribute(PrimId:100 AttrId:100 PropId:10 Index:-1 AttrName:_Command Value:MxString/MxBigString, Size=28, Value=writeonly:AF_001:integerattr) returned.

166372 10/8/2010 3:13:12 PM 1112 2492 SetAttribute WWFsObject SetAttribute(PrimId:128 AttrId:101 PropId:10 Index:-1 AttrName:AF_001.AccessMode Value:MxQualifiedEnum, Value=Output) returned.

Notice the highlighted lines in the logger messages above. From these logger lines you can conclude that in order to set **Access Mode** to **Output**, the Value to set in your C# code should be **3** and that it should be of type **MxInteger**.

Discover the Value and DataType for setting **AnalogType** to **Float** – AF_001.AnalogType.

Manually configure the Access Mode to **output** and you will see the following log messages in logger:

166376 10/8/2010 3:40:09 PM 1112 2492 SetAttribute WWFsObject SetAttribute(PrimId:100 AttrId:100 PropId:10 Index: -1 Value:MxString/MxBigString, Size=27, Value=ChangeType:AF_001:FloatAttr) entered.

166377 10/8/2010 3:40:09 PM 1112 2492 SetAttribute WWFsObject SetAutomationDirtyFlag: 1

166378 10/8/2010 3:40:09 PM 1112 2492 SetAttribute WWFsObject SetAttribute(PrimId:128 AttrId:115 PropId:10 Index: -1 Value:MxInteger, Value=2) entered.

166379 10/8/2010 3:40:09 PM 1112 2492 SetAttribute WWFsObject SetAutomationDirtyFlag: 1

166380 10/8/2010 3:40:09 PM 1112 2492 SetAttribute WWFsObject SetAttribute(PrimId:132 AttrId:102 PropId:10 Index: -1 Value:MxDataTypeEnum, Value=MxFloat) entered.

166381 10/8/2010 3:40:09 PM 1112 2492 SetAttribute WWFsObject SetAutomationDirtyFlag: 1

166382 10/8/2010 3:40:09 PM 1112 2492 SetAttribute WWFsObject SetAttribute(PrimId:132 AttrId:102 PropId:10 Index: -1 AttrName:AF_001.Output.DataType Value:MxDataTypeEnum, Value=MxFloat) returned.

166383 10/8/2010 3:40:09 PM 1112 2492 SetAttribute WWFsObject SetAttribute(PrimId:128 AttrId:115 PropId:10 Index: -1 Value:MxInteger, Value=2) entered.

166384 10/8/2010 3:40:09 PM 1112 2492 SetAttribute WWFsObject SetAutomationDirtyFlag: 1

166385 10/8/2010 3:40:09 PM 1112 2492 SetAttribute WWFsObject SetAttribute(PrimId:128 AttrId:115 PropId:10 Index: -1 AttrName:AF_001.AnalogType Value:MxInteger, Value=2) returned.

166386 10/8/2010 3:40:09 PM 1112 2492 SetAttribute WWFsObject SetAttribute(PrimId:128 AttrId:115 PropId:10 Index: -1 AttrName:AF_001.AnalogType Value:MxInteger, Value=2) returned.

166387 10/8/2010 3:40:09 PM 1112 2492 SetAttribute WWFsObject SetAttribute(PrimId:128 AttrId:118 PropId:10 Index: -1 Value:MxInteger, Value=10) entered.

166388 10/8/2010 3:40:09 PM 1112 2492 SetAttribute WWFsObject SetAttribute(PrimId:128 AttrId:118 PropId:10 Index: -1 AttrName:AF_001._AttrCat Value:MxInteger, Value=10) returned.

166389 10/8/2010 3:40:09 PM 1112 2492 SetAttribute WWFsObject SetAttribute(PrimId:100 AttrId:107 PropId:4 Index: -1 Value:MxDataTypeEnum, Value=MxFloat) entered.

166390 10/8/2010 3:40:09 PM 1112 2492 SetAttribute WWFsObject SetAutomationDirtyFlag: 1

166391 10/8/2010 3:40:09 PM 1112 2492 SetAttribute WWFsObject SetAttribute(PrimId:100 AttrId:107 PropId:4 Index: -1 AttrName:AF_001 Value:MxDataTypeEnum, Value=MxFloat) returned.

166392 10/8/2010 3:40:09 PM 1112 2492 SetAttribute WWFsObject SetAttribute(PrimId:100 AttrId:107 PropId:1 Index: -1 Value:MxInteger, Value=10) entered.

166393 10/8/2010 3:40:09 PM 1112 2492 SetAttribute WWFsObject SetAttribute(PrimId:100 AttrId:107 PropId:1 Index: -1 AttrName:AF_001 Value:MxInteger, Value=10) returned.

166394 10/8/2010 3:40:09 PM 1112 2492 SetAttribute WWFsObject SetAttribute(PrimId:100 AttrId:107 PropId:11 Index: -1

Value:MxInteger, Value=1) entered.

166395 10/8/2010 3:40:09 PM 1112 2492 SetAttribute WWFsObject SetAttribute(PrimId:100 AttrId:107 PropId:11 Index:-1 AttrName:AF_001 Value:MxInteger, Value=1) returned.

166396 10/8/2010 3:40:09 PM 1112 2492 SetAttribute WWFsObject SetAttribute(PrimId:100 AttrId:100 PropId:10 Index:-1 AttrName:_Command Value:MxString/MxBigString, Size=27, Value=ChangeType:AF_001:FloatAttr) returned.

Notice the highlighted lines in the logger messages above. From these logger lines you can conclude that in order to set **AnalogType** to **Float**, the Value to set in your C# code should be **2** and that it should be of type **MxInteger**.

Discover the DataType for setting Desc to **Adding description for AF_001 Field Attribute – AF_001.Desc**

Manually configure the Desc to **Adding description for AF_001 Field Attribute** and you will see the following log messages:

166400 10/8/2010 3:41:21 PM 1112 2492 SetAttribute WWFsObject SetAttribute(PrimId:128 AttrId:117 PropId:10 Index:-1 Value:MxInternationalizedString, Value=Adding description for AF_001 Field Attribute) entered.

166401 10/8/2010 3:41:21 PM 1112 2492 SetAttribute WWFsObject SetAutomationDirtyFlag: 1

166402 10/8/2010 3:41:21 PM 1112 2492 SetAttribute WWFsObject SetAttribute(PrimId:128 AttrId:117 PropId:10 Index:-1 Value:MxInternationalizedString, Value=Adding description for AF_001 Field Attribute) entered.

166403 10/8/2010 3:41:21 PM 1112 2492 SetAttribute WWFsObject SetAutomationDirtyFlag: 1

166404 10/8/2010 3:41:21 PM 1112 2492 SetAttribute WWFsObject SetAttribute(PrimId:128 AttrId:117 PropId:10 Index:-1 AttrName:AF_001.Desc Value:MxInternationalizedString, Value=Adding description for AF_001 Field Attribute) returned.

166405 10/8/2010 3:41:21 PM 1112 2492 SetAttribute WWFsObject SetAttribute(PrimId:128 AttrId:117 PropId:10 Index:-1 AttrName:AF_001.Desc Value:MxInternationalizedString, Value=Adding description for AF_001 Field Attribute) returned.

Notice the highlighted lines in the logger messages above. From these logger lines you can conclude that in order to set **Desc** to **Adding description for AF_001 Field Attribute**, the type set in your C# code should be of type **MxInternationalizedString**.

Summary and Conclusion

After examining the Log Messages, the Values and Data Types for properties **AccessMode**, **AnalogType** and **Desc** were found as follows:

Property	Value	Data Type
AF_001.AccessMode	3 (for Output)	MxInteger
AF_001.AnalogType	2 (for Float)	MxInteger
AF_001.Desc	Adding description for AF_001 Field Attribute	MxInternationalizedString

References

- [Tech Note 528 Automating Object Configuration Tasks Using GRAccess: Creating and Configuring Field Attributes](#)

- **Tech Note 727 Automating Object Configuration Tasks in the GRAccess Toolkit: Configuring Properties for Analog FieldAttribute**

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