NetIQ Access Manager Template Condition Policy Readme

Policy extension examples include:

- PolicyConditionExtnFactoryTemplate.java
- PolicyConditionExtnTemplate.java

Purpose

You can use this example as a template to implement a policy extension of type *Condition* that is com.novell.nxpe.NxpeCondition. This example provides a basic framework that can be used as a starting point for creating such policy extensions.

It provides details about:

- How to configure and install a *Condition* policy extension in the Administration Console.
- Major implementation details of the Condition policy extension factory and extension classes.

Functionality

This policy extension performs a simple condition check on user's LDAP UserDN and returns *True* if it is not null or empty otherwise returns *False*. In this example, this *Condition* policy extension is used in an Access Gateway Authorization policy to decide whether to permit the access to a protected resource.

Implementation Details

- This *Condition Policy Extension* example consists of two Java classes:

  PolicyConditionExtnFactoryTemplate.java: Implements the com.novell.nxpe.NxpeConditionFactory interface. This factory creates the PolicyConditionExtnTemplate objects.

  PolicyConditionExtnTemplate.java: Implements the com.novell.nxpe.NxpeCondition interface. It contains the methods required to evaluate the condition.

- This class needs a configuration parameter for evaluating condition LDAP User DN of the user. Configuration parameters are set for a policy extension through the Administration Console. In the policy extension, the values for these configuration parameters are retrieved at the time of evaluation from the NxpeInformationContext object that is sent to it by the policy engine.
- The *evaluate* method in the NxpeCondition interface contains the condition evaluation logic and it is called by the policy engine when the condition extension needs to be evaluated for a policy. It executes the logic present in the policy extension and returns the results.
- The getLDAPUserDN method in PolicyConditionExtnTemplate is used to retrieve the value of the LDAP User DN configuration parameter from the NxpeInformationContext object.
- The NxpeResult class is used to return codes and the NxpeException class is used for

exceptions in PolicyConditionExtnTemplate.

- The Condition Policy extensions can be used in the Access Gateway Authorization policies and Identity Server Role policies. In this example the *Condition Policy* extension is used in a Access Gateway Authorization policy.

How to Customize This Example to Meet Your Needs?

- Factory: Modify the PolicyConditionExtnFactoryTemplate class to control the creation of PolicyConditionExtnTemplate as needed. Synchronize the methods of PolicyConditionExtnTemplate accordingly to avoid problems due to concurrency.
- Configuration parameters: Identify and set the required configuration parameters and provide their mappings in the Administration Console.
- Implement getter methods for all of your configuration parameters in the PolicyConditionExtnTemplate class as it has been done for retrieving LDAP User DN in this example.
- Modify evaluate method to contain your own condition evaluation logic in PolicyConditionExtnTemplate.
- For creating condition extension for role policy, create a policy extension of the type *Identity Server: Roles* from your customized extension classes and then create a Role policy that uses this extension. For more information, see Section 2.2, Creating Role in the NetIQ Access Manager 3.2 Policy Guide.

For more details on the implementation, see comments in the PolicyConditionExtnFactoryTemplate and PolicyConditionExtnTemplate classes or NetIQ Access Manager 3.2 Developer Kit.

Installation

Before you start the installation, you need the following:

- The following Java classes and nxpe.jar:
  NameAttributeFromMailID.java
  NameAttributeFromMailIDFactory.java

  Download novell-nacm3_2.tar.gz (SDK tar) from http://www.novell.com/developer/ndk/novell_access_manager_developer_tools_and_examples.html.

  For information on how to obtain nxpe.jar, see section 4.1.1 Prerequisites in the NetIQ Access Manager Developer Kit 3.2.
- Java SDK (jdk1.6) to compile the Java sources.
- Apache Ant. You can download it from http://ant.apache.org/bindownload.cgi.
- An Access Manager setup with the Identity Server, Access Gateway, and policies.
- The user must have an email ID set in the user store.
- A basic knowledge of Java programming.

Setup

1. Extract the SDK tar (novell-nacm3_2.tar.gz). Go to nacm-3_2_0 > samples-jar folder. The PolicyExtensions.jar will be present at this location. This jar contains all the policy extension example's compiled classes. This jar can be used for this example. If you want to customize this example before installation, modify its java source, compile, and generate a Jar file.

   Steps :

   Go to nacm-3_2_0 > samples > PolicyExtension > TemplateConditionExtension_Example and run the build.xml.
   This will generate the PolicyExtensions.jar in the same location where build.xml is available.

   To run build.xml:

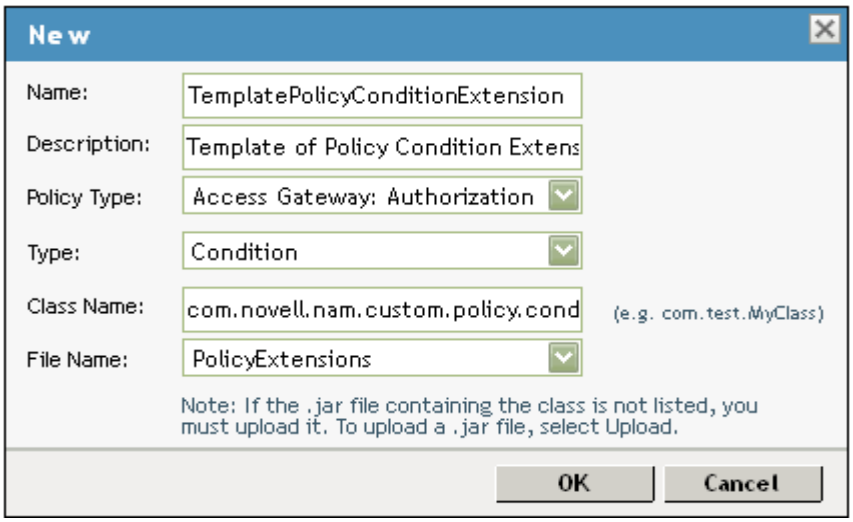
   You need to copy nxpe.jar in the nacm-3_2 > samples > PolicyExtension > nxpe folder before running build.xml.
   Note the location where Java and Ant are installed on your system. Set them in the Path environment variable and run the *ant dist* command. For example, run the following commands in the Linux environment:

   - export ANT_HOME=/usr/apache-ant-1.8.1<set it as per your environment>
   - export JAVA_HOME=/usr/java/jdk1.6.0_27<set it as per your environment>
   - export PATH=$ANT_HOME/bin:$JAVA_HOME/bin:$PATH
   - ant all

2. Create a policy extension of the type *Access Gateway: Authorization*. For steps, see Installing the Extension on the Administration Console in the NetIQ Access Manager 3.2 Policy Guide.

   2.1. Create a new policy extension:

   - Name: TemplatePolicyConditionExtension
   - Type: Access Gateway: Authorization
   - Class Name: com.novell.nam.custom.policy.condition.PolicyConditionExtnFactoryTemplate
   - File name: name of the jar file created in step 1



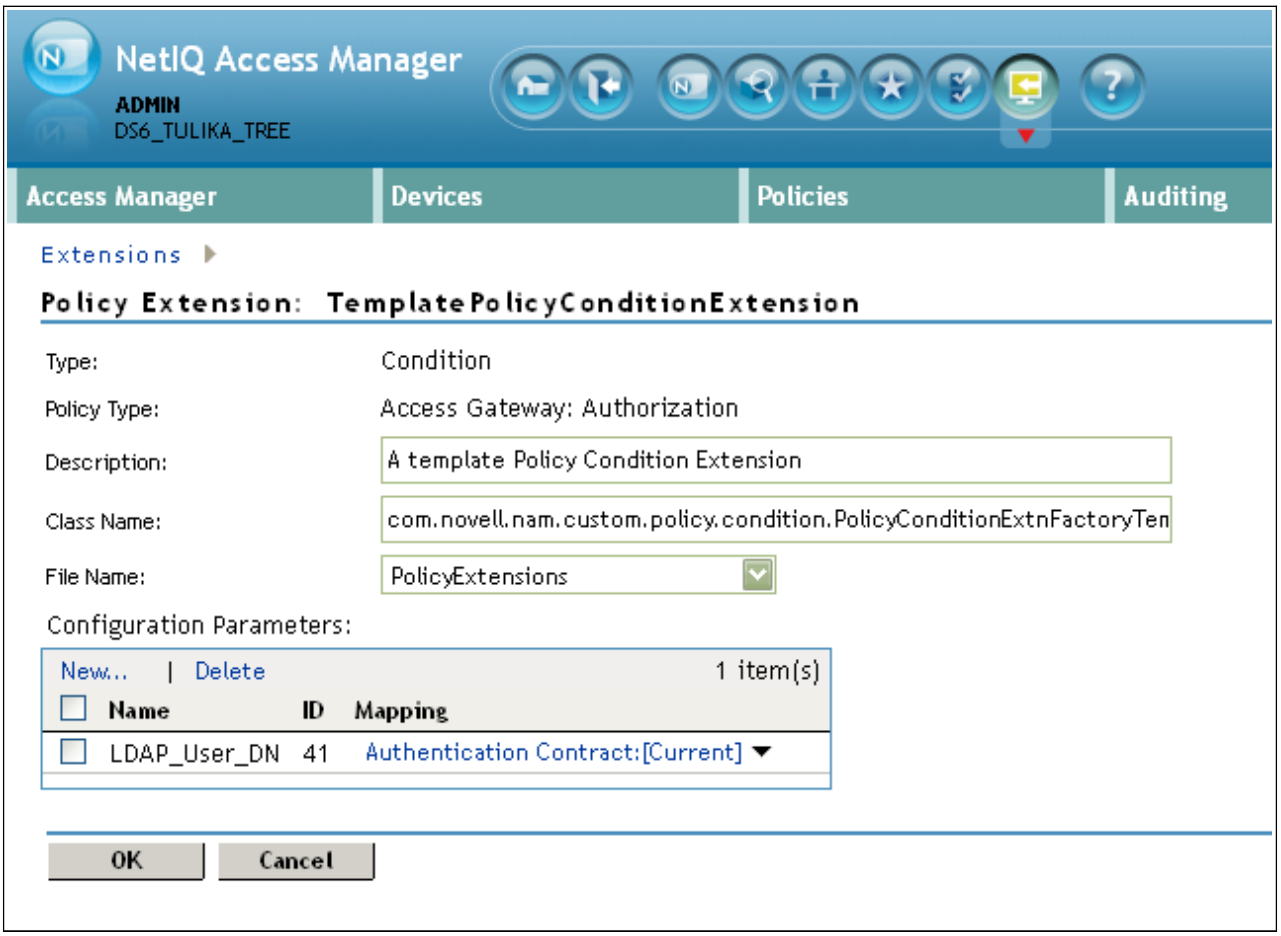
2.2. Policy extensions configuration parameters: Configuration parameters are sent to the policy extension for execution.

- Name: LDAP_User_DN (Name can be anything)
- ID: 41 (This must match the parameter ID as mentioned in the policy extension implementation in code)

  Corresponding extract from PolicyDataExtnTemplate.java:

  ```
  private static final String LDAP_USER_DN_NAME = "LDAP User DN";
  private static final int EV_LDAP_USER_DN = 41;
  ```

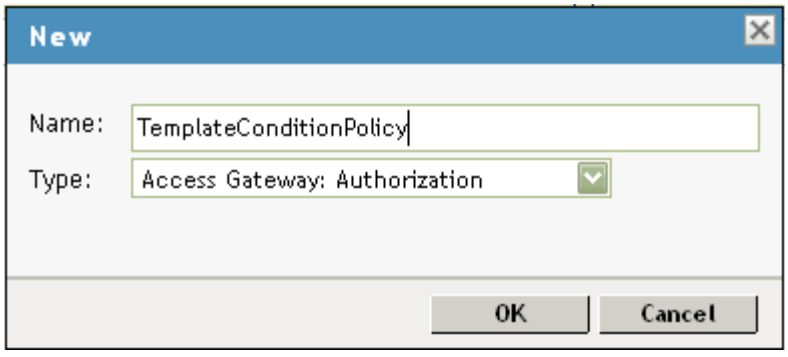
This parameter has to be mapped to LDAP User DN of the user in the credential profile as shown in the following image:



3. Distribute the policy extension. For the steps, see "Distributing Policy Extension". Create an authorization policy from the data extension, assign the policy to the Access Gateway, and distribute the policy extension created in step 3.

   The *TemplateConditionPolicy* authorization policy created in this step will be assigned to a protected resource. For more information, see Assigning an Authorization Policy to a Protected Resource. This policy will evaluate the TemplatePolicyConditionExtension – Policy "Condition" Extension created in step 2 and will decide whether to provide access to the protected resource based on the value of LDAP User DN.

   New *Access Gateway: Authorization* policy



   Rules defined in this policy:

- Condition Group: Extension:TemplatePolicyConditionExtension
- Action: Permit

Access to the protected resource is provided if the user's LDAP User DN is not null or empty otherwise access will be denied.