

# String to ProtectedString Connector Configuration

Some connectors have `string` values for configuration items that should be protected, e.g. passwords. While this is clear problem of the connector there is a way how to work around that in midPoint. The basic idea is to manually change the type of the configuration item in the [connector schema](#).

## Find the Connector

In *Configuration > Repository objects* find the appropriate connector object. It contains a `<xsd:schema>` section. Find the problematic configuration item definition in the schema:

```
<xsd:element name="DirectoryAdminPassword" type="xsd:string">
  <xsd:annotation>
    <xsd:appinfo>
      <a:displayName>Directory Administrator's Password</a:displayName>
      <a:help>Directory Administrator's Password</a:help>
    </xsd:appinfo>
  </xsd:annotation>
</xsd:element>
```

Note the type definition: `type="xsd:string"`.

## Correct the type

Edit the schema by replacing the string type with `ProtectedStringType`:

```
<xsd:element name="DirectoryAdminPassword" type="c:ProtectedStringType">
  <xsd:annotation>
    <xsd:appinfo>
      <a:displayName>Directory Administrator's Password</a:displayName>
      <a:help>Directory Administrator's Password</a:help>
    </xsd:appinfo>
  </xsd:annotation>
</xsd:element>
```

Make sure that the appropriate namespace prefix is defined (the `c` prefix in this case):

```
<connector xmlns="http://midpoint.evolveum.com/xml/ns/public/common/common-2a" oid="8154bc3d-2eaa-4725-8b04-581c8balaa01" version="3">
  <name>ICF Org.IdentityConnectors.ActiveDirectory.ActiveDirectoryConnector @ICF Connector server on medusa: 8759</name>
  <framework>http://midpoint.evolveum.com/xml/ns/public/connector/icf-1</framework>
  <connectorType>Org.IdentityConnectors.ActiveDirectory.ActiveDirectoryConnector</connectorType>
  <connectorVersion>1.0.0.5570</connectorVersion>
  <connectorBundle>ActiveDirectory.Connector</connectorBundle>
  <namespace>http://midpoint.evolveum.com/xml/ns/public/connector/icf-1/bundle/ActiveDirectory.Connector/Org.IdentityConnectors.ActiveDirectory.ActiveDirectoryConnector</namespace>
  <connectorHostRef xmlns:c="http://midpoint.evolveum.com/xml/ns/public/common/common-2a" oid="91919191-76e0-59e2-86d6-44cc44cc44cc" type="c:ConnectorHostType"/>
  <schema>
    <definition>
      <xsd:schema xmlns="http://midpoint.evolveum.com/xml/ns/public/common/common-2a"
        xmlns:c="http://prism.evolveum.com/xml/ns/public/annotation-2">
        ...
        <!-- The following line has been added -->
        <xsd:import namespace="http://midpoint.evolveum.com/xml/ns/public/common/common-2a"/>
        ...
      </xsd:schema>
    </definition>
  </schema>
</connector>
```

## Fix resource definitions

Instead of using string in the resource definition use protected strings as usual:

```
<resource>
...
<configuration>
  <icfc:configurationProperties>
    ...
    <icfi:DirectoryAdminPassword>
      <clearValue>sup3rS3cr3t</clearValue>
    </icfi:DirectoryAdminPassword>
    ...
  </icfc:configurationProperties>
  ...
</configuration>
...
</resource>
```

The value will be encrypted as usual when such resource definition is imported.