

# IdP Configuration Pattern

Get used to Spring, Beans and Properties



# SWITCH

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```
<!-- Connection Configuration -->
<bean id="connectionConfig"
      class="org.ldaptive.ConnectionConfig"
      abstract="true"
      p:ldapUrl="%{idp.authn.LDAP.ldapURL}"
      p:useStartTLS="%{idp.authn.LDAP.useStartTLS:true}"
      p:useSSL="%{idp.authn.LDAP.useSSL:false}"
      p:connectTimeout="%{idp.authn.LDAP.connectTimeout:3000}"
      p:sslConfig-ref="sslConfig" />

<!-- Attribute Resolver Configuration -->
<util:list id="shibboleth.AttributeResolverResources">
  <value>%{idp.home}/conf/attribute-resolver-switchaai-core.xml</value>
  <value>%{idp.home}/conf/attribute-resolver-connectors.xml</value>
  <value>%{idp.home}/conf/attribute-resolver-other.xml</value>
</util:list>

<!-- Attribute Filter Configuration -->
<util:list id="shibboleth.AttributeFilterResources">
  <ref bean="FileBackedSWITCHaaiAttributeFilter"/>
</util:list>
```

## What's that?

## Configuration Pattern of IdPv3

- The IdPv3 configuration builds upon the "Spring Framework"
  - Configuration is located in XML files
  - There are a lot of wired "beans"
- The whole configuration follows the same pattern
  - With some few exceptions
- Wonderfully flexible way to configure components  
... **but: quite complicated for deployers!**

## Understanding Beans and Properties

### **Bean:**

Some software object that is configurable by setting its attributes.

### **Property:**

A piece of information, keyed by some name  
(e.g. `idp.authn.LDAP.useSSL = true`)

## Understanding Beans and Properties

- The whole configuration of the IdP is specified by a lot of beans.
- For convenience, the essential configuration can be specified by properties stored in properties files.
- Still, from time to time, you will need to directly modify beans or create new ones.
- The beans are specified in XML notation, and the corresponding software objects are created at runtime when the IdP starts.

## Examples of Properties

Configuration file

`/opt/shibboleth-idp/conf/ldap.properties:`

```
# LDAP connection parameters
idp.authn.LDAP.ldapURL      = ldaps://ldap-test2.aai.switch.ch:636
idp.authn.LDAP.useStartTLS  = false
idp.authn.LDAP.useSSL      = true
idp.authn.LDAP.sslConfig   = jvmTrust
idp.authn.LDAP.baseDN      = ou=People,dc=example,dc=org
idp.authn.LDAP.subtreeSearch = true
idp.authn.LDAP.userFilter  = (uid={user})
idp.authn.LDAP.bindDN      = cn=idp,dc=example,dc=org
```

- Each line consists of a pair of a key and a value.
- Comment lines start with an # character.

## Examples of Beans

### Configuration file

`/opt/shibboleth-idp/conf/authn/ldap-authn-config.xml:`

```
<!-- Connection Configuration -->
<bean id="connectionConfig"
      class="org.ldaptive.ConnectionConfig"
      abstract="true"
      p:ldapUrl="%{idp.authn.LDAP.ldapURL}"
      p:useStartTLS="%{idp.authn.LDAP.useStartTLS:true}"
      p:useSSL="%{idp.authn.LDAP.useSSL:false}"
      p:connectTimeout="%{idp.authn.LDAP.connectTimeout:3000}"
      p:sslConfig-ref="sslConfig" />
```

- Each bean has some name ("id")
- Each bean has some type ("class")
- Attributes (parameters) specify the bean's configuration
- Beans can refer to other beans (wiring)

## Examples of Beans

- There are some helper constructs to define beans.

Example:

Beans that are lists of values or lists of other beans.

Configuration file

`/opt/shibboleth-idp/conf/services.xml:`

```
<util:list id="shibboleth.AttributeResolverResources">
  <value>%{idp.home}/conf/attribute-resolver-switchaai-core.xml</value>
  <value>%{idp.home}/conf/attribute-resolver-connectors.xml</value>
  <value>%{idp.home}/conf/attribute-resolver-other.xml</value>
</util:list>

<util:list id="shibboleth.AttributeFilterResources">
  <ref bean="FileBackedSWITCHaaiAttributeFilter"/>
</util:list>
```

## References

For comprehensive information, refer to the documentation on the Shibboleth Wiki.

### Documentation

- **Configuration**  
<https://wiki.shibboleth.net/confluence/display/IDP30/Configuration>
- **Spring Configuration**  
<https://wiki.shibboleth.net/confluence/display/IDP30/SpringConfiguration>