Create upgrade rules for: File Based Config

One requirement after making a schema change is to write an FBC upgrade rule to perform commit-to-commit upgrade within latest.groovy. All FBC upgrade is manual via the use of the openam-config-upgrader and its rule files. The upgrader's associated rules perform that transformation. This page is here to help you get started with writing FBC upgrade rules for any schema change.

tl;dr

After a schema change add upgrade rules to latest.groovy. Use the existing rules as examples.

FBC files and their purpose

Description

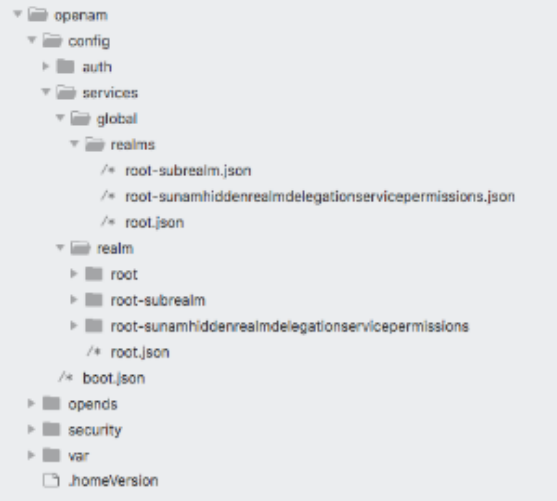
AM has the option of storing its configuration in

- LDAP, **or**
- File base

Other contents should be held in external data stores e.g. CTS, User store, applications and polices stores.

Structure

By default in ~/openam/config/services

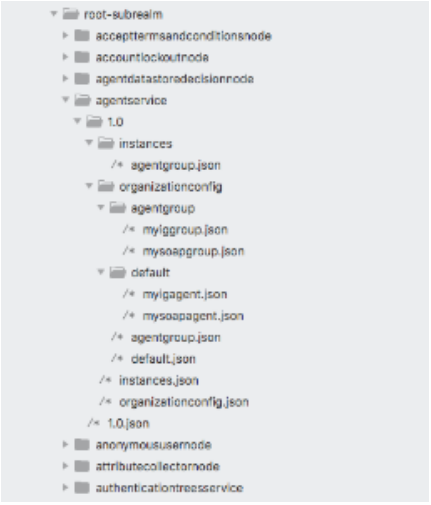


Above is the top level structure of the FBC. It has similarities with an Amster export but be aware that it is very different.

> Amster files != FBC files

N.B. Concentrating on the configuration files:

- services/
  - boot.json
  - global/
  - realm/
    - root.json
    - root/
    - <custom realms>/
    - root-sunamhiddenrealmdelegationservicepermissions/



Agent services for example

N.B.

- agentservice
  - 1.0.json
  - 1.0/
    - instances.json
    - instances/
      - agentgroup.json
    - organizationconfig.json
    - organizationconfig/
      - agentgroup.json
      - agentgroup/
        - <customgroup>.json
      - default.json
      - default/
        - <instance>.json

Rules to upgrade FBC

latest.groovy

Set of idempotent rules that will upgrade file based configuration files to be compatible with the latest version of AM on a branch. latest.groovy is contained in the AM.zip release.

> The rules within latest.groovy must be idempotent.

Examples

Idempotency can be achieved using the configuration version. More information can be found here Upgrade rule filtering based on version.

Idempotency using configuration version

```
def UPGRADE_TO_VERSION = "1.0.0.1"
def APPLICABLE_VERSIONS = ["1.1.0.0","2.0.0.0"]
return
    [
    setVersion(UPGRADE_TO_VERSION),
    forRealmService("authenticationTreesService",
       forVersionsBefore(APPLICABLE_VERSIONS,
           forRealmDefaults(
               addAttribute("new").with("attribute"))
            )
       )
    ]
```

From authenticationTreesService-realm-defaults-add-attribute.groovy

Guards can be used to achieve idempotency.

Idempotency using guards

```
return
    [
        forRealmService("OAuth2Provider",
            forRealmDefaults(
                within("advancedOIDCConfig",
                    where(key("authorisedIdmDelegationClients").isNotPresent(),
                        addAttribute("authorisedIdmDelegationClients").with(Collections.emptySet())))),
            forSettings(
                within("advancedOIDCConfig",
                    where(key("authorisedIdmDelegationClients").isNotPresent(),
                        addAttribute("authorisedIdmDelegationClients").with(Collections.emptySet())))),
    ]
```

From oauth2Provider-realm-instances-add-attribute-idempontent.groovy

Testing

Unit tests will run against latest.groovy for these test cases. When adding rules it is expected that test case files are added to test those rules.

Further advice can be found in the associated README.

How to find new FBC files - after a schema change

The following process could be followed to find out the contents of new or changed fbc as a result of a schema change, e.g. How to find the service name as it is not the Amster name.

- Make the schema change
- Install AM in FBC mode using this environment variable
    - -Dcom.sun.identity.sm.sms_object_filebased_enabled=true
- Examine the FBC in the AM configuration directory e.g. `~/openam/config/services`

The FBC service name != Amster service name