

# Directory Manager Plugin

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## Usages

- To provide the ability to integrate users from external system. E.g. Active Directory or LDAP
- Directory Manager Plugin can be used in [Settings - Directory Manager](#).
- A useable Directory Manager plugin must extends `org.joget.directory.model.service.DefaultDirectoryManagerPlugin` abstract class.

## Abstract Class

### `org.joget.directory.model.service.DefaultDirectoryManagerPlugin`

- Under wflow-directory module
- Extended `org.joget.plugin.base.ExtDefaultPlugin`. Please refer to [Plugin Base Abstract Class and Interface](#).
- Implemented `org.joget.plugin.property.model.PropertyEditable`. Please refer to [Plugin Base Abstract Class and Interface](#).
- A base abstract class to develop a Directory Manager Plugin

### Method Detail

#### Abstract Methods

authenticate

```
public boolean authenticate(java.lang.String username, java.lang.String password)
```

Method called to authenticate a particular User against the directory

getDepartmentById

```
public org.joget.directory.model.Department getDepartmentById(java.lang.String departmentId)
```

Method called to retrieve a specific Department by Department Id

getDepartmentByName

```
public org.joget.directory.model.Department getDepartmentByName(java.lang.String name)
```

Method called to retrieve a specific Department by Department Name

getDepartmentHod

```
public org.joget.directory.model.User getDepartmentHod(java.lang.String departmentId)
```

Method called to return a specific HOD for a Department

getDepartmentList

```
public java.util.Collection<org.joget.directory.model.Department> getDepartmentList()
```

Generic method called to retrieve all Departments within the directory

getDepartmentList

```
public java.util.Collection<org.joget.directory.model.Department> getDepartmentList(java.lang.String sort, java.lang.Boolean desc, java.lang.Integer start, java.lang.Integer rows)
```

Method called to retrieve all Departments within the directory filtered by search parameters

getDepartmentListByOrganization

```
public java.util.Collection<org.joget.directory.model.Department> getDepartmentListByOrganization(java.lang.String organizationId, java.lang.String sort, java.lang.Boolean desc, java.lang.Integer start, java.lang.Integer rows)
```

Method called to retrieve all Departments within a specific Organization filtered by search parameters

getDepartmentsByOrganizationId

```
public java.util.Collection<org.joget.directory.model.Department> getDepartmentsByOrganizationId(java.lang.String filterString, java.lang.String organizationId, java.lang.String sort, java.lang.Boolean desc, java.lang.Integer start, java.lang.Integer rows)
```

Method called to retrieve all Departments within a specific Organization filtered by search parameters

getDepartmentsByParentId

```
public java.util.Collection<org.joget.directory.model.Department> getDepartmentsByParentId(java.lang.String filterString, java.lang.String parentId, java.lang.String sort, java.lang.Boolean desc, java.lang.Integer start, java.lang.Integer rows)
```

Method called to retrieve all sub Department within a specific Department filtered by search parameters

getDepartmentUserByGradeId

```
public java.util.Collection<org.joget.directory.model.User> getDepartmentUserByGradeId(java.lang.String departmentId, java.lang.String gradeId)
```

Method called to retrieve a listing of Users which belongs to a specified Department and Grade

getParentDepartment

```
public org.joget.directory.model.Department getParentDepartment(java.lang.String id)
```

Method called to retrieve a parent Department of a Department

getParentDepartmentByName

```
public org.joget.directory.model.Department getParentDepartmentByName(java.lang.String name)
```

Method called to retrieve a parent Department of a Department by Department Name

getTotalDepartments

```
public java.lang.Long getTotalDepartments(java.lang.String organizationId)
```

Method called to retrieve the number of Departments within the directory

getTotalDepartmentsByOrganizationId

```
public java.lang.Long getTotalDepartmentsByOrganizationId(java.lang.String filterString, java.lang.String organizationId)
```

Method called to retrieve the number of Departments within a specific Organization filtered by search parameters

getTotalDepartmentsByParentId

```
public java.lang.Long getTotalDepartmentsByParentId(java.lang.String filterString, java.lang.String parentId)
```

Method called to retrieve the number of sub Departments within a specific Department

getEmployment

```
public org.joget.directory.model.Employment getEmployment(java.lang.String id)
```

Method called to retrieve a specific Employment info

getEmployments

```
public java.util.Collection<org.joget.directory.model.Employment> getEmployments(java.lang.String filterString, java.lang.String organizationId, java.lang.String departmentId, java.lang.String gradeId, java.lang.String sort, java.lang.Boolean desc, java.lang.Integer start, java.lang.Integer rows)
```

Method called to retrieve the users' employment info within the directory filtered by search parameters

getTotalEmployments

```
public java.lang.Long getTotalEmployments(java.lang.String filterString, java.lang.String organizationId, java.lang.String departmentId, java.lang.String gradeId)
```

Method called to retrieve the number of users' employment info within the directory

getGradeById

```
public org.joget.directory.model.Grade getGradeById(java.lang.String gradeId)
```

Method called to retrieve a specific Grade by Grade id

getGradeByName

```
public org.joget.directory.model.Grade getGradeByName(java.lang.String name)
```

Method called to retrieve a specific Grade by Grade Name

getGradeList

```
public java.util.Collection<org.joget.directory.model.Grade> getGradeList()
```

Generic method called to retrieve all Grades within the directory

getGradesByOrganizationId

```
public java.util.Collection<org.joget.directory.model.Grade> getGradesByOrganizationId(java.lang.String filterString, java.lang.String organizationId, java.lang.String sort, java.lang.Boolean desc, java.lang.Integer start, java.lang.Integer rows)
```

Method called to retrieve all Grades within a specific Organization filtered by search parameters

getTotalGradesByOrganizationId

```
public java.lang.Long getTotalGradesByOrganizationId(java.lang.String filterString, java.lang.String organizationId)
```

Method called to retrieve the number of Grades within a specific Organization filtered by search parameters

getGroupById

```
public org.joget.directory.model.Group getGroupById(java.lang.String groupId)
```

Method called to retrieve a specific Group by id

getGroupByName

```
public org.joget.directory.model.Group getGroupByName(java.lang.String groupName)
```

Method called to retrieve a specific Group by name

getGroupsByUserId

```
public java.util.Collection<org.joget.directory.model.Group> getGroupsByUserId(java.lang.String filterString, java.lang.String userId, java.lang.String organizationId, java.lang.Boolean inGroup, java.lang.String sort, java.lang.Boolean desc, java.lang.Integer start, java.lang.Integer rows)
```

Method called to retrieve a collection of Group in/not in which a user belongs to and filtered by search parameters

getGroupByUsername

```
public java.util.Collection<org.joget.directory.model.Group> getGroupByUsername(java.lang.String username)
```

Method called to retrieve a collection of Group in which a user belongs to

getGroupList

```
public java.util.Collection<org.joget.directory.model.Group> getGroupList()
```

Generic method called to retrieve the entire Group listing within the directory

getGroupList

```
public java.util.Collection<org.joget.directory.model.Group> getGroupList(java.lang.String nameFilter, java.lang.String sort, java.lang.Boolean desc, java.lang.Integer start, java.lang.Integer rows)
```

Method called to retrieve the entire Group listing within the directory filtered by search parameters

getGroupsByOrganizationId

```
public java.util.Collection<org.joget.directory.model.Group> getGroupsByOrganizationId(java.lang.String filterString, java.lang.String organizationId, java.lang.String sort, java.lang.Boolean desc, java.lang.Integer start, java.lang.Integer rows)
```

Method called to retrieve all groups within a specific Organization filtered by search parameters

getTotalGroups

```
public java.lang.Long getTotalGroups()
```

Method call to retrieve the number of Groups available

getTotalGroupsByOrganizationId

```
public java.lang.Long getTotalGroupsByOrganizationId(java.lang.String filterString, java.lang.String organizationId)
```

Method call to retrieve the number of Groups available within a specific Organization filtered by search parameters

getTotalGroupsByUserId

```
public java.lang.Long getTotalGroupsByUserId(java.lang.String filterString, java.lang.String userId, java.lang.String organizationId, java.lang.Boolean inGroup)
```

Method called to retrieve the number of Group in/not in which a user belongs to

getOrganization

```
public org.joget.directory.model.Organization getOrganization(java.lang.String id)
```

Method called to retrieve a specific Organization by Id

getOrganizationByName

```
public org.joget.directory.model.Organization getOrganizationByName(String name)
```

Method called to retrieve a specific Organization by Name

getOrganizationsByFilter

```
public java.util.Collection<org.joget.directory.model.Organization> getOrganizationsByFilter(java.lang.String filterString, java.lang.String sort, java.lang.Boolean desc, java.lang.Integer start, java.lang.Integer rows)
```

Method called to retrieve all Organizations filtered by search parameters

getTotalOrganizationsByFilter

```
public java.lang.Long getTotalOrganizationsByFilter(java.lang.String filterString)
```

Method called to retrieve the number of Organizations

getUserByDepartmentId

```
public java.util.Collection<org.joget.directory.model.User> getUserByDepartmentId(java.lang.String departmentId)
```

Method called to retrieve a listing of Users by Department id

getUserByGradeId

```
public java.util.Collection<org.joget.directory.model.User> getUserByGradeId(java.lang.String gradeId)
```

Method called to retrieve a listing of Users by Grade id

getUserByGroupId

```
public java.util.Collection<org.joget.directory.model.User> getUserByGroupId(java.lang.String groupId)
```

Method called to retrieve a listing of Users by Group id

getUserByGroupName

```
public java.util.Collection<org.joget.directory.model.User> getUserByGroupName(java.lang.String groupName)
```

Method called to retrieve a listing of Users by Group name

getUserById

```
public org.joget.directory.model.User getUserById(java.lang.String userId)
```

Method called to retrieve a specific User by User id

getUserByOrganizationId

```
public java.util.Collection<org.joget.directory.model.User> getUserByOrganizationId(java.lang.String organizationId)
```

Method called to retrieve a listing of Users by Organization id

getUserByUsername

```
public org.joget.directory.model.User getUserByUsername(java.lang.String username)
```

Method called to retrieve a specific User by Username

getUserList

```
public java.util.Collection<org.joget.directory.model.User> getUserList()
```

Generic method called to retrieve the entire User listing within the directory

getUserList

```
public java.util.Collection<org.joget.directory.model.User> getUserList(java.lang.String nameFilter, java.lang.String sort, java.lang.Boolean desc, java.lang.Integer start, java.lang.Integer rows)
```

Method called to retrieve the entire User listing within the directory filtered by search parameters

getUsers

```
public java.util.Collection<org.joget.directory.model.User> getUsers(java.lang.String filterString, java.lang.String organizationId, java.lang.String departmentId, java.lang.String gardeId, java.lang.String groupId, java.lang.String roleId, java.lang.String active, java.lang.String sort, java.lang.Boolean desc, java.lang.Integer start, java.lang.Integer rows)
```

Method called to retrieve the users within the directory filtered by search parameters

getTotalUsers

```
public java.lang.Long getTotalUsers()
```

Method called to retrieve the number of Users available

getTotalUsers

```
public java.lang.Long getTotalUsers(java.lang.String filterString, java.lang.String organizationId, java.lang.String departmentId, java.lang.String gardeId, java.lang.String groupId, java.lang.String roleId, java.lang.String active)
```

Method call to retrieve the number of Users available within the directory filtered by search parameters isUserInGroup

isUserInGroup

```
public boolean isUserInGroup(java.lang.String username, java.lang.String groupName)
```

Method called to check if a User belongs to a specific Group

getUserDepartmentUser

```
public java.util.Collection<org.joget.directory.model.User> getUserDepartmentUser(java.lang.String username)
```

Method called to retrieve a listing of Users which belongs to the same Department as the specific Username

getUserHod

```
public java.util.Collection<org.joget.directory.model.User> getUserHod(java.lang.String username)
```

Method called to retrieve a listing of HODs in which a specific User reports to

[getUserSubordinate](#)

```
public java.util.Collection<org.joget.directory.model.User> getUserSubordinate(java.lang.String username)
```

Method called to retrieve a listing of all the subordinates which reports to a specific User

[getUsersSubordinate](#)

```
public java.util.Collection<org.joget.directory.model.User> getUsersSubordinate(java.lang.String username,  
java.lang.String sort, java.lang.Boolean desc, java.lang.Integer start, java.lang.Integer rows)
```

Method called to retrieve a listing of all the subordinates which reports to a specific User filtered by search parameters

[getTotalUsersSubordinate](#)

```
public java.lang.Long getTotalUsersSubordinate(java.lang.String username)
```

Method called to retrieve the number of subordinates which reports to a specific User

[getUserRoles](#)

```
public java.util.Collection<org.joget.directory.model.Role> getUserRoles(java.lang.String username)
```

Method called to retrieve the Roles belonging to a specific User by Username

#### Utility Methods

[getDirectoryManagerImpl](#)

```
public org.joget.directory.model.service.DirectoryManager getDirectoryManagerImpl(java.util.Map properties)
```

Used by System to retrieve a directory manager implementation

## Interface

### **org.joget.directory.model.service.UserSecurityFactory**

- Under wflow-directory module
- An interface that can be implement by a DirectoryManager implementation to provide a UserSecurity implementation

#### Method Detail

##### Interface Methods

[getUserSecurity](#)

```
public org.joget.directory.model.service.UserSecurity getUserSecurity()
```

Method to return a UserSecurity implementation to enhance the user security

### **org.joget.directory.model.service.UserSecurity**

- Under wflow-directory module
- Interface for user security enhancement.
- Used to extend the ability of Directory Manager Plugin when managing local user directory.
- An implementation need to return through the [getUserSecurity](#) method in a Directory Manager plugin.

#### Method Detail

##### Interface Methods

[getPropertyOptions](#)

```
public java.lang.String getPropertyOptions()
```

Get JSON property options to embed into the property options of Directory Manager Plugin

[setProperties](#)

```
public void setProperties(java.util.Map<java.lang.String, java.lang.Object> properties)
```

Set properties to use in User Security Implementation

getProperties

```
public java.util.Map<java.lang.String, java.lang.Object> getProperties()
```

Get properties to use in User Security Implementation

getDisableHashLogin

```
public java.lang.Boolean getDisableHashLogin()
```

Disable Hash Login?

getAllowSessionTimeout

```
public java.lang.Boolean getAllowSessionTimeout()
```

Allow Session Timeout?

getForceSessionTimeout

```
public java.lang.Boolean getForceSessionTimeout()
```

Force Session Timeout?

getAuthenticateAllApi

```
public java.lang.Boolean getAuthenticateAllApi()
```

Authenticate all API?

encryptPassword

```
public java.lang.String encryptPassword (java.lang.String username, java.lang.String password)
```

Encrypt Password with custom methodology

verifyPassword

```
public java.lang.Boolean verifyPassword (org.joget.directory.model.User user, java.lang.String password)
```

Verify Password with custom methodology.

passwordPolicies

```
public java.util.Collection<java.lang.String> passwordPolicies ()
```

To get a set of password policies to display in user profile form.

validatePassword

```
public java.util.Collection<java.lang.String> validatePassword (java.lang.String username, java.lang.String oldPassword, java.lang.String newPassword, java.lang.String confirmPassword)
```

To validate password format and validity.

**Return** Collection of error message String.

validateUserOnInsert

```
public java.util.Collection<java.lang.String> validateUserOnInsert(org.joget.directory.model.User user)
```

To validate user before insert to database

**Return** Collection of error message String.

validateUserOnUpdate

```
public java.util.Collection<java.lang.String> validateUserOnUpdate(org.joget.directory.model.User user)
```

To validate user before updating

**Return** Collection of error message String.

validateUserOnProfileUpdate



```
public java.util.Collection<java.lang.String> validateUserOnProfileUpdate(org.joget.directory.model.User user)
```

To validate user before updating profile

**Return** Collection of error message String.

insertUserPostProcessing

```
public void insertUserPostProcessing(org.joget.directory.model.User user)
```

Processing after a user is added.

updateUserPostProcessing

```
public void updateUserPostProcessing(org.joget.directory.model.User user)
```

Processing after a user is modified.

updateUserProfilePostProcessing

```
public void updateUserProfilePostProcessing(org.joget.directory.model.User user)
```

Processing after a user profile is updated.

passwordResetPostProcessing

```
public void passwordResetPostProcessing(org.joget.directory.model.User user)
```

Processing after a user password is reset.

deleteUserPostProcessing

```
public void deleteUserPostProcessing(java.lang.String username)
```

Processing after a user is deleted.

getLoginFormFooter

```
public java.lang.String getLoginFormFooter()
```

HTML to add below login form

getUserCreationFormFooter

```
public java.lang.String getUserCreationFormFooter()
```

HTML to add below user creation form

getUserEditingFormFooter

```
public java.lang.String getUserEditingFormFooter(org.joget.directory.model.User user)
```

HTML to add below user editing form

getUserProfileFooter

```
public java.lang.String getUserProfileFooter(org.joget.directory.model.User user)
```

HTML to add below user profile form

getUserDetailsButtons

```
public java.lang.String getUserDetailsButtons(org.joget.directory.model.User user)
```

HTML to extend user details page button

loginPreProcessing

```
public void loginPreProcessing(org.joget.directory.model.User user, java.lang.String password)
```

Processing before user login authentication

loginPostProcessing

```
public void loginPostProcessing(org.joget.directory.model.User user, java.lang.String password, java.lang.Boolean loggedIn)
```

Processing after user login authentication.

requestPostProcessing

```
public void requestPostProcessing()
```

Processing after HTTP Request Completed.

isDataExist

```
public boolean isDataExist(java.lang.String username)
```

Check whether a custom security data is exist for a user.

## Plugin Properties Options

- Please refer to [Plugin Properties Options](#) for more information.

## Tutorials

- [Guideline for developing a plugin](#)

## Related Community Plugins

- Not Available