

AD Groups Quick Reference

Overview

The IKEA DocuScan application supports three Active Directory groups that are automatically mapped to role claims during authentication.

AD Groups

AD Group	Role Claim	Purpose	Permissions
ADGroup.Builtin.Reader	Reader	Read-only access	View and search documents only
ADGroup.Builtin.Publisher	Publisher	Document management	Create, edit, register, send documents
ADGroup.Builtin.SuperUser	SuperUser	Full admin access	All operations including delete and user management

Configuration

Location: appsettings.json

```
{
  "IkeaDocuScan": {
    "ADGroupReader": "ADGroup.Builtin.Reader",
    "ADGroupPublisher": "ADGroup.Builtin.Publisher",
    "ADGroupSuperUser": "ADGroup.Builtin.SuperUser"
  }
}
```

Customize for your organization:

```
{
  "IkeaDocuScan": {
    "ADGroupReader": "IKEA\\DocuScan_Readers",
    "ADGroupPublisher": "IKEA\\DocuScan_Publishers",
    "ADGroupSuperUser": "IKEA\\DocuScan_Admins"
  }
}
```

Usage in Code

Razor Pages/Components

```

@* Restrict entire page to Publishers and SuperUsers *@
@attribute [Authorize(Roles = "Publisher,SuperUser")]

@* Conditional rendering *@
<AuthorizeView Roles="Reader">
    <Authorized>
        <button @onclick="ViewDocument">View</button>
    </Authorized>
</AuthorizeView>

<AuthorizeView Roles="Publisher,SuperUser">
    <Authorized>
        <button @onclick="EditDocument">Edit</button>
    </Authorized>
</AuthorizeView>

<AuthorizeView Roles="SuperUser">
    <Authorized>
        <button @onclick="DeleteDocument">Delete</button>
    </Authorized>
</AuthorizeView>

```

Code-Behind

```

@Inject AuthenticationStateProvider AuthStateProvider

@code {
    private bool canEdit = false;
    private bool canDelete = false;

    protected override async Task OnInitializedAsync()
    {
        var authState = await AuthStateProvider.GetAuthenticationStateAsync();
        var user = authState.User;

        canEdit = user.IsInRole("Publisher") || user.IsInRole("SuperUser");
        canDelete = user.IsInRole("SuperUser");
    }
}

```

API Endpoints

```

public static void MapDocumentEndpoints(this WebApplication app)
{
    var group = app.MapGroup("/api/documents")
        .RequireAuthorization("HasAccess"); // ALL users with access

    // Read - ALL users (Reader, Publisher, SuperUser)
    group.MapGet("/", GetDocuments);

    // Create/Edit - Publisher and SuperUser only
    group.MapPost("/", CreateDocument)
        .RequireAuthorization(p => p.RequireRole("Publisher", "SuperUser"));

    group.MapPut("/{id}", UpdateDocument)
        .RequireAuthorization(p => p.RequireRole("Publisher", "SuperUser"));

    // Delete - SuperUser only
    group.MapDelete("/{id}", DeleteDocument)
        .RequireAuthorization(p => p.RequireRole("SuperUser"));
}

```

PowerShell Commands

Check User's AD Group Membership

```
# View all groups for a user
Get-ADUser -Identity "username" -Properties MemberOf |
    Select-Object -ExpandProperty MemberOf

# Check specific DocuScan groups
Get-ADUser -Identity "username" -Properties MemberOf |
    Select-Object -ExpandProperty MemberOf |
    Where-Object { $_ -like "*DocuScan*" -or $_ -like "*ADGroup.Builtin*" }
```

Add User to AD Group (Requires Admin Rights)

```
# Add to Reader group
Add-ADGroupMember -Identity "ADGroup.Builtin.Reader" -Members "username"

# Add to Publisher group
Add-ADGroupMember -Identity "ADGroup.Builtin.Publisher" -Members "username"

# Add to SuperUser group
Add-ADGroupMember -Identity "ADGroup.Builtin.SuperUser" -Members "username"
```

Remove User from AD Group

```
# Remove from Reader group
Remove-ADGroupMember -Identity "ADGroup.Builtin.Reader" -Members "username"

# Remove from Publisher group
Remove-ADGroupMember -Identity "ADGroup.Builtin.Publisher" -Members "username"

# Remove from SuperUser group
Remove-ADGroupMember -Identity "ADGroup.Builtin.SuperUser" -Members "username"
```

How It Works

1. User authenticates with Windows Authentication
2. WindowsIdentityMiddleware runs
3. Middleware checks if user is in configured AD groups using `WindowsPrincipal.IsInRole()`
4. For each AD group user is in, a corresponding role claim is added
5. Role claims are cached in the authentication ticket for the session
6. Use `@attribute [Authorize(Roles = "...")]` or `User.IsInRole(...)` to check

Important Notes

SuperUser Priority

- If user is in **SuperUser AD group**, they automatically get:
 - `IsSuperUser = true` claim (overrides database)
 - `HasAccess = true` claim (overrides database)
 - `ClaimTypes.Role = "SuperUser"`
- SuperUser bypasses **ALL** permission filters
- SuperUser sees **ALL** documents regardless of database permissions

Multiple Roles

- Users can be in **multiple AD groups** simultaneously
- User will receive **all corresponding role claims**
- Example: User in both Publisher and SuperUser groups gets both role claims

AD Group Changes

- AD group membership changes may take a few minutes to propagate
- User needs to **log out and log back in** for changes to take effect
- Claims are cached in the authentication ticket

Development Environment

- On **Linux/WSL**, TestAuthenticationHandler is used (no AD group checks)
- AD group functionality requires **Windows Authentication** on Windows/IIS
- Test AD groups in production or Windows development environment

Troubleshooting

User doesn't get role claim

1. **Verify AD group membership:**

```
Get-ADUser -Identity "username" -Properties MemberOf | Select -ExpandPr
```

2. **Check application logs** for WindowsIdentityMiddleware entries
3. **Verify configuration** in appsettings.json matches actual AD group name
4. **User may need to log out/in** after being added to group

IsInRole() returns false

1. Try both formats: "GroupName" and "DOMAIN\GroupName"
2. Ensure Windows Authentication is properly configured
3. IIS application pool identity must have permission to query AD

Performance concerns

- AD group checks are done **once per authentication**
- Role claims are **cached in the authentication ticket**
- No database queries needed for role checks
- Very efficient for operation-level authorization

Best Practices

1. **Use AD groups for “Can they do this?”** (operation authorization)

```
@attribute [Authorize(Roles = "Publisher")]
```

2. **Use CurrentUserService for “Which documents?”** (data filtering)

```
var currentUser = await CurrentUserService.GetCurrentUserAsync();  
var filtered = documents.Where(d => currentUser.CanAccessDocument(...))
```

3. **Prefer AD groups over database flags** for role management

- Easier to manage in centralized AD
- No database updates needed
- Leverages existing AD infrastructure

4. **Use database permissions for fine-grained filtering**

- Document types
- Counter parties

- Countries

Example Scenarios

Scenario 1: Basic Reader

- **AD Groups:** Reader
- **Database:** No permissions needed (or add for filtering)
- **Access:** View documents, respects database filters if present

Scenario 2: Department Publisher

- **AD Groups:** Publisher
- **Database:** Permissions for CountryCode = “US”, DocumentTypeId = 5
- **Access:** Can create/edit documents, only sees US documents of type 5

Scenario 3: Global Publisher

- **AD Groups:** Publisher
- **Database:** IsSuperUser = true (or just add SuperUser AD group)
- **Access:** Can create/edit documents, sees ALL documents

Scenario 4: Administrator

- **AD Groups:** SuperUser
- **Database:** Not required (AD group overrides)
- **Access:** Full admin access, all operations, all documents

Related Documentation

- Full Authorization Guide: `AUTHORIZATION_GUIDE.md`
- Database Schema: Migration scripts 04-07 in `/DbMigration/db-scripts/`
- Code Reference:
 - `WindowsIdentityMiddleware: /IkeaDocuScan-Web/Middleware/WindowsIdentityMiddleware.cs:127`
 - Configuration:
`/IkeaDocuScan.Shared/Configuration/IkeaDocuScanOptions.cs:55`
 - `appsettings.json: /IkeaDocuScan-Web/appsettings.json:12`