



# Stellaris Application Note

## Microsoft AD DS LDAP

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Applies to products: RNX UPDU, RNX SPDU, Bachmann BN Essential

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# 1 About this document

## 1.1 Scope

This document provides information about the Stellaris LDAP configuration for the usage with a Microsoft Active Directory Domain and Services server.

It applies to devices running at least version 4.2.0 of the Stellaris firmware.

### **Requires feature**

LDAP is only available on devices having the "REMOTE\_AUTH" feature. Please refer to the "show features" CLI command to verify if that feature is available on a given device.

## 1.2 Prerequisite

This document presumes following:

- Access to the configuration of a reachable Microsoft Active Directory Server exposing an LDAP end-point.
- Access to the CLI of a Stellaris device (console, SSH or TELNET).

## 2 Configuration

### 2.1 Microsoft Active Directory server setup

#### 2.1.1 Bind User

A user must be configured on the directory service allowing the Stellaris device to bind and read the content of the directory. The capabilities of this user should be limited as far as possible, because their password is configured in clear text on the device.

Example:

- Creating a user called pdu-bind-user :

The screenshot shows the 'pdu-bind-user Properties' dialog box. The 'General' tab is active, displaying the following fields:

- Member Of: Remote control
- Dial-in: Remote Desktop Services Profile
- Environment: COM+
- Sessions: COM+
- General: Address, Account, Profile, Telephones, Organization

The user's name is 'pdu-bind-user'. The 'First name' field is highlighted and contains 'pdu-bind-user'. The 'Initials' field is empty. The 'Last name' field is empty. The 'Display name' field contains 'pdu-bind-user'. The 'Description' field is empty. The 'Office' field is empty. The 'Telephone number' field is empty, with an 'Other...' button next to it. The 'E-mail' field is empty. The 'Web page' field is empty, with an 'Other...' button next to it. The 'OK' button is highlighted.

#### 2.1.2 Create Groups

The ldap directory needs groups on which device roles will be configured later.

Example:

- Creating two groups DC01 sysadmin and DC01 guests

Name	Type	Description
DC01 guests	Security Group - Global	Datacenter 01 Guests
DC01 sysadmins	Security Group - Global	Datacenter 01 System Administrators

## 2.1.3 Create Users

For users to be able to log into a Stellaris device, they must be member of at least one group which has configured roles on the device.

Example:

- Creating two users Alice and Bob. Alice being member of the `DC01 sysadmin` group and Bob being member of the `DC01 guests` group.

The image shows two side-by-side windows for user properties. The left window is titled 'Alice Properties' and the right is 'Bob Properties'. Both windows have a similar layout with tabs for 'Remote control', 'Remote Desktop Services Profile', and 'COM+'. The 'General' tab is selected, showing fields for 'Name', 'Address', 'Account', 'Profile', 'Telephones', and 'Organization'. Below these is a 'Member Of' section with a list of groups. In the 'Alice Properties' window, the 'Member Of' list contains 'DC01 sysadmins' and 'Domain Users'. In the 'Bob Properties' window, the 'Member Of' list contains 'DC01 guests' and 'Domain Users'. Below the 'Member Of' list is a 'Primary group' section with 'Domain Users' selected. At the bottom of each window are buttons for 'OK', 'Cancel', 'Apply', and 'Help'.

## 2.2 Stellaris device configuration

Now that the directory service is set up, the device can be configured.

### 2.2.1 Auth configuration context

LDAP configuration is done in the `auth` (authentication) configuration context:

```
hostname>
hostname> configure
hostname(config)# auth
hostname(config-auth)#
```

For context help, enter following command or refer to the CLI Reference Manual:

```
hostname(config-auth)# ldap ?
```

## 2.2.2 Minimal configuration

For a minimal configuration to work with a Microsoft Active Directory following must be set:

- Hostname or IP address of the server
- `bind-auth`
- `base-dn`
- Group roles configuration

Example:

```
hostname(config-auth)# ldap server authserver.local
hostname(config-auth)# ldap bind-auth CN=pdu-bind-user,CN=Users,DC=authserver,DC=local *bind-user-pass$
hostname(config-auth)# ldap base-dn CN=Users,DC=authserver,DC=local
hostname(config-auth)# ldap group "DC01 sysadmins" role admin
hostname(config-auth)# ldap group "DC01 guests" role snmp-read
```

After the configuration, the ldap authentication may be enabled:

```
hostname(config-auth)# ldap enabled
```

## 2.2.3 Testing

User Alice having admin roles :

- Console / Telnet:

```
Username: Alice
Password:

Welcome to Stellaris device RN3005 S/N 101787 running Stellaris 4.2.0-92c6ff33

hostname>
hostname> configure
hostname(config)#
```

- SSH:

```
> ssh Alice@r2-c32-lab.rnx.ch
Alice@r2-c32-lab.rnx.ch's password:

Welcome to Stellaris device RN3005 S/N 101787 running Stellaris 4.2.0-92c6ff33

hostname>
hostname> configure
hostname(config)#
```

User Bob having guest roles :

- Console / Telnet:

```
Username: Bob
Password:

Welcome to Stellaris device RN3005 S/N 101787 running Stellaris 4.2.0-92c6ff33

hostname>
hostname> configure
ERR: Unknown command.
```

- SSH:

```
> ssh Bob@r2-c32-lab.rnx.ch
Bob@r2-c32-lab.rnx.ch's password:

Welcome to Stellaris device RN3005 S/N 101787 running Stellaris 4.2.0-92c6ff33

hostname>
```

## 2.2.4 Bind user as UPN

With the MS ADDS it is also possible to configure the `bind-auth` using the users UPN.

Example :

```
hostname(config-auth)# ldap bind-auth pdu-bind-user@company.org *bind-user-pass$
```

## 2.2.5 Using different Login Name Attribute

If users should be able to log in with their UPN (by convention this is their email name), it is possible to configure the login-name-attribute to point to the directory's UserPrincipalName field.

Example :

```
hostname(config-auth)# ldap login-name-attribute userPrincipalName
```

User Alice would log in as follows:

- Console / Telnet:

```
Username: Alice@company.org
Password:

Welcome to Stellaris device RN3005 S/N 101787 running Stellaris 4.2.0-92c6ff33

hostname>
```

- SSH:



```
> ssh Alice@company.org@r2-c32-lab.rnx.ch  
Alice@company.org@r2-c32-lab.rnx.ch's password:
```

```
Welcome to Stellaris device RN3005 S/N 101787 running Stellaris 4.2.0-92c6ff33
```

```
hostname>
```

```
hostname> configure
```

```
hostname(config)#
```

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RNX Ltd  
Passage du Cardinal 5  
1700 Fribourg  
Switzerland

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[www.rnx.com](http://www.rnx.com)  
+41 26 505 50 00

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