# OX App Suite packaged integration for Nubus for Kubernetes

*Release latest*

**Univention GmbH**

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# CONTENTS:

# INTRODUCTION

Welcome to the documentation for the *OX App Suite* packaged integration for Nubus for Kubernetes.

This document describes how you can install the packaged integration for *OX App Suite* to Nubus for Kubernetes. A packaged integration is the way to extend Nubus for Kubernetes with plugins in the *Directory Service*, the *Management UI*, and the *UMC Server*. A packaged integration bundles the combination of different plugins. Together with the packaged integration, Nubus lets you manage users, groups, and resources for *OX App Suite* through the *Management UI*. For more information, see Packaged integrations[1] in *Univention Nubus for Kubernetes - Nubus Customization and Modification Manual* [1].

Furthermore, the document describes how you install the *OX Consumer* for *OX App Suite* to Nubus for Kubernetes. The consumer synchronizes user accounts to *OX App Suite*

This document addresses operators who have installed Nubus for Kubernetes. If you want to connect **OX App Suite** to Nubus for Kubernetes so that *OX App Suite* uses the user accounts from Nubus, then this documentation is for you.

If you want to connect **OX App Suite** with Nubus in the UCS appliance deployment, refer to OX Connector app documentation[2].

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**Important:** This documentation describes a **product preview** for packaged integrations in Nubus for Kubernetes. It shows by example how to install the packaged integration for *Open-Xchange*.

Univention **doesn't** provide support for the packaged integration referred to in this document, nor the installation and configuration of *OX App Suite*.

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This document assumes that you have knowledge of the following topics:

- Kubernetes, its concepts, and how to deploy, scale and manage applications.

- Helm and Helm Charts.

This document doesn't cover the installation and maintenance of a Kubernetes cluster, the installation of Nubus for Kubernetes, and the installation and configuration of *OX App Suite*. However, it provides links to respective documentation.

The document has the following structure:

1. *Install OX App Suite* (page 3) provides links to resources about the installation on Kubernetes.

2. *Install packaged integration* (page 5) provides steps and configuration guidance.

3. *Configure OX App Suite* (page 7) provides links to the documentation of *OX App Suite*.

4. *User provisioning* (page 9) provides steps and configuration guidance.

For further documentation for Univention Nubus for Kubernetes, see Univention Nubus[3].

You find a summary of the changes in the *document's changelog section* (page 13).

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[1] https://docs.software-univention.de/nubus-kubernetes-customization/latest/en/packaged-integrations/index.html#nubus-packaged-integrations

[2] https://docs.software-univention.de/ox-connector-app/latest/index.html#doc-entry

[3] https://docs.software-univention.de/n/en/nubus.html#page-nubus

Your feedback on this documentation is welcome and highly appreciated. If you have any comments, suggestions, or criticisms, please submit your feedback[4] to improve the document.

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[4] https://www.univention.com/feedback/?packaged-integration-open-xchange=generic

# INSTALL *OX APP SUITE*

This section only applies to you, if you don't have an *OX App Suite* installation yet.

How to install *OX App Suite* is beyond the scope of this document. For resources, refer to the following *see also* box.

**Important:** Univention doesn't provide support for the installation of *OX App Suite*.

**See also:**

**OX App Suite product information**[5]
>    for general information about the product.

**OX App Suite 8 Operations Guide**[6]
>    for information about the deployment of OX App Suite 8.

**OX App Suite 7**[7]
>    for information about installation of OX App Suite 7.

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[5] https://www.open-xchange.com/products/ox-app-suite
[6] https://documentation.open-xchange.com/appsuite/operation-guides/
[7] https://oxpedia.org/wiki/index.php?title=AppSuite:Main_Page_AppSuite

# INSTALL PACKAGED INTEGRATION

This section describes how an operator installs the packaged integration for *OX App Suite* to Nubus for Kubernetes. The packaged integration for *OX App Suite* installs the following customizations to Nubus:

- A tile in the Nubus *Portal* that links to the *OX App Suite* instance.

- Management capability in the *Management UI* for the following objects of *OX App Suite*:

    - Access profile

    - Functional accounts

    - OX Context

    - OX Resources

    - Select user accounts in Nubus for access to *OX App Suite*

    - Organize users in groups

For more information about loading packaged integrations, see Load packaged integrations[8] in *Univention Nubus for Kubernetes - Nubus Customization and Modification Manual* [1].

Before you begin, you need to the location and name of the container image from the software developer, or responsible entity of the packaged integration. The example uses the following values:

**Registry**
> artifacts.software-univention.de

**Repository**
> nubus/images/ox-extension

To install the packaged integration to your Nubus for Kubernetes installation, use the following steps:

1. Add the content from `nubus-values.yaml` to the `custom_values.yaml` values file of your Nubus for Kubernetes installation. Listing 3.1 shows the Helm Chart values of that file. You **must** define values for the following variables here:

    **oxDefaultContext**
    > You must define the name for the first and default context in *OX App Suite*.

    **oxSystemUserPassword**
    > You can pick any secure password and use it later to set up LDAP in *Open-Xchange*.

    **portalOxLinkBase**
    > It's the URL to your *OX App Suite* instance. You have it after you installed *OX App Suite*. See *Install OX App Suite* (page 3).

    To pick an appropriate version number for the packaged integration in the `tag` attribute, see the tags[9] and the changelog[10] in the repository.

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[8] https://docs.software-univention.de/nubus-kubernetes-customization/latest/en/packaged-integrations/load.html#nubus-packaged-integrations-load

[9] https://github.com/univention/ox-connector/tags

[10] https://github.com/univention/ox-connector/blob/ucs5.0/CHANGELOG.md

Listing 3.1: Helm Chart values for adding the *Open-Xchange* packaged
integration

```yaml
# SPDX-License-Identifier: AGPL-3.0-only
# SPDX-FileCopyrightText: 2025 Univention GmbH


global:
  extensions:
    - name: "ox"
      image:
        registry: "artifacts.software-univention.de"
        repository: "nubus/images/ox-extension"
        tag: "0.22.0"
        imagePullPolicy: "IfNotPresent"


nubusStackDataUms:
  templateContext:
    oxDefaultContext: "<The name of the first and default context in OX App␣
↪Suite>"
    oxSystemUserPassword: "<Password for the LDAP search user>"
    portalOxLinkBase: "<Base URL to your OX App Suite instance>"
```

2. To apply the changes to your Nubus for Kubernetes installation, run the commands in Listing 3.2

Listing 3.2: Install the *Open-Xchange* packaged integration

```console
$ export NAMESPACE_FOR_NUBUS="Set to your Kubernetes namespace"
$ export RELEASE_NAME="The Helm Chart release name"
$ export VERSION="Your version of Nubus"
$ helm upgrade \
  "$RELEASE_NAME" \
  --namespace="$NAMESPACE_FOR_NUBUS" \
  oci://artifacts.software-univention.de/nubus/charts/nubus \
  --values custom_values.yaml \
  --version "$VERSION"
```

# CONFIGURE *OX APP SUITE*

Describing how to configure *OX App Suite* for connection with Nubus for Kubernetes is out of scope of this document.

If you want to use LDAP authentication, you have to set the LDAP search user in *OX App Suite* that you configured in the packaged integration in Listing 3.1.

If you want to use single sign-on with OpenID Connect or SAML, you need to create a suitable client in *Keycloak*, the *Identity Provider* in Nubus for Kubernetes.

For particular details and necessary settings, follow the Technical Documentation from Open-Xchange.

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**Important:** Univention doesn't provide support for the configuration *OX App Suite*.

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**See also:**

**Technical Documentation - Open-Xchange**[Page 7, 11]
    for the documentation for *OX App Suite*.

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[11] https://documentation.open-xchange.com/index.html

# USER PROVISIONING

User provisioning is the unidirectional synchronization of selected directory objects, such as user accounts, user groups, and resources, from the *Directory Service* in Nubus to a remote *OX App Suite* installation through the *OX SOAP API*. The *OX Consumer* is the responsible component. In particular, the *OX Consumer* enables users created in Nubus to appear in the *OX App Suite*'s address book, and resources, such as meeting rooms, created in Nubus so that users can book them in *OX App Suite*. The *OX Consumer* provides the same functionality to *OX App Suite* in connection with Nubus for Kubernetes, as the *OX Connector app* provides to *OX App Suite* in connection with the UCS appliance. Both use the same business logic.

This section addresses operators and describes how to install and configure the *OX Consumer* in the same Kubernetes cluster as Nubus using Helm.

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**Important:** The *OX Consumer* **requires** the packaged integration for the *OX App Suite* which installs the necessary LDAP schema to the *Directory Service*, and customizations to the *Management UI* in Nubus for the management of user accounts, user groups, and resources.

For information about installing the packaged integration, see *Install packaged integration* (page 5).

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This section guides you through the setup of the *OX Consumer*:

1. *Create subscription* (page 9)

2. *Prepare configuration* (page 10)

3. *Install consumer* (page 12)

## 5.1 Create subscription

Before the *OX Consumer* can use the *Provisioning Service* in Nubus for Kubernetes, you must create a subscription that provides access to the Provisioning API. The *Provisioning Service* notifies interested services about updates to directory objects. It's the source for the data that you want to provision. In the case of *OX App Suite*, the directory objects of interest are user accounts, user groups, and resources such as meeting rooms and functional mailboxes related to Open-Xchange.

To create a subscription for the *OX Consumer*, use the following steps:

1. Read the example in Create subscription[12] in *Univention Nubus for Kubernetes - Nubus Customization and Modification Manual* [1]. The section describes the steps for the subscription configuration. It also contains information about the parameter constraints, such as naming conventions.

2. Create a text file in JSON format for the subscription configuration with the filename `provisioning-api.json` for the *OX Consumer* with the content in Listing 5.1.

   You can define any value for the `password`. The credentials for the *OX Consumer* are the `name` and the `password`.

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[12] https://docs.software-univention.de/nubus-kubernetes-customization/latest/en/api/provisioning.html#customization-api-provisioning-subscription

Listing 5.1: Subscription configuration for the *OX Consumer*

```json
{
  "name": "ox-consumer",
  "realms_topics": [
    {
      "realm": "udm",
      "topic": "groups/group"
    },
    {
      "realm": "udm",
      "topic": "oxmail/accessprofile"
    },
    {
      "realm": "udm",
      "topic": "oxmail/functional_account"
    },
    {
      "realm": "udm",
      "topic": "oxmail/oxcontext"
    },
    {
      "realm": "udm",
      "topic": "oxresources/oxresources"
    },
    {
      "realm": "udm",
      "topic": "users/user"
    }
  ],
  "request_prefill": true,
  "password": "<your desired password>"
}
```

3. Create the subscription by following the steps outlined in Create subscription[13].

**See also:**

Create subscription[Page 10, 14]

in *Univention Nubus for Kubernetes - Nubus Customization and Modification Manual* [1] for information about how to create a subscription in the *Provisioning Service* using the *Provisioning API*.

## 5.2 Prepare configuration

Before you can install the *OX Consumer* in a Kubernetes cluster, you need to prepare the configuration. The configuration defines the location of the data source, the *Provisioning API*, and the data target, your *OX App Suite instance*.

To prepare the configuration for the *OX Consumer*, use the following steps:

1. Create the `ox-consumer-values.yaml` values file with the structure in Listing 5.2.

Listing 5.2: Configuration for *OX Consumer* in values file

```yaml
---
# Configuration for OX CONNECTOR
oxConnector:
  # -- OX-Mail-Domain to generate OX-email-addresses
  domainName: null
```

(continues on next page)

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[13] https://docs.software-univention.de/nubus-kubernetes-customization/latest/en/api/provisioning.html#customization-api-provisioning-subscription

[14] https://docs.software-univention.de/nubus-kubernetes-customization/latest/en/api/provisioning.html#customization-api-provisioning-subscription

```
    # -- OX Admin username (the OX Admin can create, modify, delete contexts;␣
↪has to exist)
    oxMasterAdmin: "oxadminmaster"
    # -- OX Admin password
    oxMasterPassword: null
    # -- Default timezone for new users
    oxLocalTimezone: "Europe/Berlin"
    # -- Default language for new users
    oxLanguage: "de_DE"
    # -- Default context for users (has to exist)
    oxDefaultContext: "10"
    # -- Default SMTP server for new users (if not set explicitely there)
    oxSmtpServer: null
    # -- Default IMAP server for new users (if not set explicitely there)
    oxImapServer: null
    # -- The server where Open-Xchange is installed
    oxSoapServer: null
    # -- OX Connector log level
    # Chose from "DEBUG", "INFO", "WARNING" and "ERROR".
    logLevel: "INFO"

# Configuration for the communication with the provisioning API.
provisioningApi:
  # -- Connection parameters
  connection:
    # -- The base URL the provisioning API is reachable at. (e.g. "https://
↪provisioning-api")
    baseUrl: ""
  # -- Authentication parameters
  auth:
    # -- The username to authenticate with.
    username: "ox-consumer"
    # -- The password to authenticate with.
    password: ""
...
```

2. Fill in the mandatory values for the following settings.

   For the optional settings with their default values, see README file of the OX Consumer[15].

   **Section `oxConnector`**
   For information about their meaning, see the references to *OX Connector app* [2].

   > **`domainName`**
   > OX mail to domain to generate email addresses.
   >
   > **`oxMasterPassword`**
   > OX_MASTER_PASSWORD[16]
   >
   > **`oxSmtpServer`**
   > OX_SMTP_SERVER[17]
   >
   > **`oxImapServer`**
   > OX_IMAP_SERVER[18]
   >
   > **`oxSoapServer`**
   > OX_SOAP_SERVER[19]

   **Section `provisioningApi`**

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[15] https://github.com/univention/ox-connector/blob/ucs5.0/helm/ox-connector/README.md

[16] https://docs.software-univention.de/ox-connector-app/latest/configuration.html#envvar-OX_MASTER_PASSWORD

[17] https://docs.software-univention.de/ox-connector-app/latest/configuration.html#envvar-OX_SMTP_SERVER

[18] https://docs.software-univention.de/ox-connector-app/latest/configuration.html#envvar-OX_IMAP_SERVER

[19] https://docs.software-univention.de/ox-connector-app/latest/configuration.html#envvar-OX_SOAP_SERVER

**auth.username**
    The value from the `name` attribute in Listing 5.1.

**auth.password**
    The value from the `password` attribute in Listing 5.1.

**connection.baseUrl**
    The base URL to the *Provisioning API* in the *Provisioning Service*.

The URL points to the Kubernetes service for the *Provisioning API*.

**Example:**

```
http://release-name-provisioning-api
```

Replace `release-name` with the value that you use in your Helm command in Listing 5.3.

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**Important:** Nubus for Kubernetes doesn't expose the *Provisioning API* to the outside of the cluster for security reasons.

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**See also:**

**README file of the OX Consumer**<sup>Page 12, 20</sup>
    for information about the available Helm Chart values and their default settings.

**Access to Provisioning API endpoint**[21]
    in *Univention Nubus for Kubernetes - Nubus Customization and Modification Manual* [1] for information about how to access the *Provisioning API* where it locates.

## 5.3 Install consumer

To install *OX Consumer* with the configuration in *Prepare configuration* (page 10), use the command in Listing 5.3. For the version of the *OX Consumer*, look at project repository[22] for the value in the *Version* badge.

Listing 5.3: Install the *OX Consumer* through Helm

```
$ export NAMESPACE_FOR_CONSUMER="Set to your Kubernetes namespace"
$ export RELEASE_NAME="The Helm Chart release name"
$ export VERSION="Your version of the OX Consumer"

$ helm upgrade \
  "$RELEASE_NAME" \
  --namespace "$NAMESPACE_FOR_CONSUMER" \
  oci://artifacts.software-univention.de/nubus/charts/ox-connector \
  --values ox-consumer-values.yaml \
  --version "$VERSION"
```

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<sup>20</sup> https://github.com/univention/ox-connector/blob/ucs5.0/helm/ox-connector/README.md
<sup>21</sup> https://docs.software-univention.de/nubus-kubernetes-customization/latest/en/api/provisioning.html#customization-api-provisioning-endpoint-access
<sup>22</sup> https://github.com/univention/ox-connector/tree/ucs5.0/helm/ox-connector

# DOCUMENT CHANGELOG

This section shows the history of updates to the *OX App Suite packaged integration for Nubus for Kubernetes* documentation.

| Date | Section | Change |
| --- | --- | --- |
| 23. May 2025 | *User provisioning* (page 9) | Add section about user provisioning with the *OX Consumer*. |
| 22. May 2025 | Document | Initial release |

# BIBLIOGRAPHY

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[1] *Univention Nubus for Kubernetes - Nubus Customization and Modification Manual*. Univention GmbH, 2024. URL: https://docs.software-univention.de/nubus-kubernetes-customization/latest/en/.

[2] *OX Connector app*. Univention GmbH, 2021-2025. URL: https://docs.software-univention.de/ox-connector-app/latest/.

# E

environment variable
    OX_IMAP_SERVER, 11
    OX_MASTER_PASSWORD, 11
    OX_SMTP_SERVER, 11
    OX_SOAP_SERVER, 11

# O

OX_IMAP_SERVER, 11
OX_MASTER_PASSWORD, 11
OX_SMTP_SERVER, 11
OX_SOAP_SERVER, 11