



QAD Adaptive Applications
QAD Adaptive ERP 2020

Installation Guide
QAD Adaptive UX On-Premise

70-3392-AUX2020
QAD Adaptive Applications
QAD Adaptive UX
March 2020

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QAD Inc.

100 Innovation Place
Santa Barbara, California 93108
Phone (805) 566-6000
<http://www.qad.com>

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QAD Adaptive UX On-Premise Installation Guide

This guide describes the steps required to install QAD Adaptive UX March 2020 release of Channel Islands Apps into an existing QAD Enterprise Edition environment or to upgrade an existing installation of Channel Islands Apps.

Product Name Changes

Starting in September 2019, the new name for QAD's complete portfolio of products is QAD Adaptive Applications. Additionally, QAD Adaptive ERP is the new name for QAD's flagship ERP solution. QAD Adaptive ERP includes the functionality previously associated with QAD Cloud ERP and QAD Enterprise Applications - Enterprise Edition, plus the QAD Enterprise Platform and Adaptive UX which resulted from the Channel Islands program. Going forward, the terms QAD Enterprise Applications, QAD Cloud ERP, and Channel Islands will be deprecated but will remain in previous documentation and training materials. QAD's intention is to—as soon as possible—eliminate the use of the deprecated terms going forward.

Assumptions

1. This guide assumes all necessary software and prerequisites have been made available on the server being used for the installation.
2. The user performing the installations should be familiar with basic Linux administration, OpenEdge environment administration, and YAB.
3. QAD Adaptive UX is only supported on the QAD Reference Architecture. This consists of
 - a. Linux Operating System
 - b. UTF-8 based databases

Prerequisites

Additional details are provided in subsequent sections where appropriate, but the following prerequisites are necessary to complete a successful QAD Adaptive UX installation.

Technical prerequisites

1. RedHat 7 or CentOS 7
2. Progress OpenEdge, minimum version OE11.7.5 hotfix 9
3. Java 8
 - a. Oracle JDK version 1.8.0_221 or
 - b. OpenJDK version 8u222
4. Python 2.7
5. Zip64 support

The channel-islands-apps-image zip file is a zip64 formatted archive. The zip program installed must support this format.
6. Disk space
 - a. The installation of the channel-islands-apps-image zip file requires approximately 10 GB of temp file space. It is recommended that you have 15 GB temp space available before performing the installation.
 - b. The location used by YAB for temp space can be controlled by setting the YAB_JAVA_OPTS option. See the Temporary Files section of the *QAD Configuration and Administration Guide YAB 1.11* for details

QAD Software prerequisites

1. QAD Enterprise Edition 2016 or later
2. QAD Operations Patch
 - a. For QAD Enterprise Edition 2016:

With QAD Enterprise Financials 2019 and QAD Adaptive UX 2020, 2016 EE Operations Patch 6 is mandatory

Without QAD Enterprise Financials 2019 and QAD Adaptive UX 2020, 2016 EE Operations Patch 4 is mandatory
 - b. For QAD Enterprise Edition 2017:

With QAD Enterprise Financials 2019 and QAD Adaptive UX 2020, 2017 EE Operations Patch 3 is mandatory

Without QAD Enterprise Financials 2019 and QAD Adaptive UX 2020, 2017 EE Operations Patch 2 is recommended
 - c. For QAD Enterprise Edition 2018 or 2019 no patch is required
3. QAD Enterprise Financials
 - a. QAD Enterprise Financials 2017.1 patch 11 or later
 - b. QAD Enterprise Financials 2018 patch 1 or later
 - c. QAD Enterprise Financials 2019 patch 1 or later
 - d. QAD Enterprise Financials 2019.1 patch 1 or later
 - e. QAD Enterprise Financials 2020
4. QAD Enterprise Asset Management 2017.1 is required for systems that have EAM installed
5. QAD .NET UI
 - a. If QAD .NET UI 3.2 is in use, then Cumulative Patch 15 (netui-module-32-cumulative-3.2.201.0) must be installed
 - b. If QAD .NET UI 3.3 is in use, then Cumulative Patch 6 (netui-cumulative-3.3.5.89) must be installed
 - c. If QAD .NET UI 3.4 is in use, then Cumulative Patch 4 (netui-cumulative-3.4.3.54) must be installed
 - d. If QAD .NET UI 3.5 is in use, then Cumulative Patch 4 (netui-cumulative-3.5.3.38) must be installed
6. QAD QXtend
 - a. QAD QXtend 1.8.7 with qxtend-bundled-patch-1.8.7.4 or higher is required
 - b. If a version of QAD QXtend higher than 1.8.7 is installed, no patch is required
7. QAD Production Orders 3.1 is required for systems that have Production Orders installed
8. If implementing a secure configuration as described in the *QAD Security Administration Guide*
 - a. QAD QXtend 1.9.2 is required for systems using QXtend
 - b. QAD Alerts 1.3.3 is required for systems using Alerts
9. If QAD BPM is in use, QAD BPM 2.4+ is required due to OE 11.7 prerequisite.

External file prerequisites

In the default configuration a Logi Platform Service license will be automatically generated and assigned via a remote call to the Logi licensing service. If this remote call is not possible from the server being used for the installation then a Logi Platform Services License file may be provided by QAD and is required before proceeding with the installation. This file should be placed in a directory accessible from your installation server.



This document describes the process for the installation of these prerequisites as part of a QAD Adaptive UX install.

These prerequisites may also be installed before beginning the QAD Adaptive UX install. If this approach is taken refer to the relevant Installation Guide for these products.

Preparation Steps

Validate technical prerequisites

Operating System Account

The QAD Adaptive UX installation must be executed by the same OS user account used to perform the QAD Enterprise Edition installation.

Due to restrictions in some of the technologies used and for security reasons, it is strongly recommended that this account not be the root account. Executing the installation as a root may result in errors.

Validate Operating System Version

QAD Adaptive UX 2020 is only supported on RHEL 7 or CentOS 7. Before proceeding validate that you are running on RHEL 7 or CentOS 7.

How to check if the server is running RHEL 7

```
mfg@qvaranaldb01:~$ cat /etc/redhat-release
Red Hat Enterprise Linux Server release 7.6 (Maipo)
```

How to check if the server is running CentOS 7

```
[mfg@vmlszz0005 ~]$ cat /etc/centos-release
CentOS Linux release 7.4.1708 (Core)
```

Refer to your Operating System Provider documentation for additional details.

Ensure appropriate Java is Installed

Validate the Java version installed and compare to the minimum version as outlined in the Prerequisites section. If not correct install an appropriate version.

Refer to your OS provider or Oracle documentation on installing Java JDK.

Validate Python Version

Ensure that Python is version 2.7.

To validate the Python version installed, enter the following command:

```
> python --version
```

Validate OpenSSL Libraries

For enhanced security, QAD Adaptive UX generates an access token during login. The token is signed using the OpenSSL library to verify its authenticity.



The QAD Adaptive UX installer validates your system's OpenSSL library during installation. If you do not have the appropriate OpenSSL library, the install will fail.

Refer to the Installation Guide of your QAD Enterprise Edition release for details on how to configure the OpenSSL libraries.

Review Available Semaphores

Installing QAD Adaptive UX introduces a number of new architectural components that require a significant number of free semaphores on the installation server. Review the available semaphores on your server and ensure they are sufficient before continuing.

Review vm.max_map_count value

Installing QAD Adaptive UX includes the installation of Elasticsearch which requires a minimum value for `vm.max_map_count` to avoid out of memory exceptions. In the `/etc/sysctl.conf` file, review `vm.max_map_count` and set to 262144 if not already set.

Refer to <https://www.kernel.org/doc/Documentation/sysctl/vm.txt> and your Operating System Provider documentation for additional details.

Validate Existing QAD Instance Configuration

Installing QAD Adaptive UX requires the execution of a `yab` update command. To ensure this is successful, a number of pre-checks are recommended.

Validate User Configuration in YAB

Run the following commands to determine the YAB configured username and password.

```
> yab config user
> yab config password
```

Log in to the existing QAD Enterprise Edition installation using the .NET UI or CHUI client to confirm the username and password configuration is valid.

Ensure Existing Patches or Customizations Compile


Execute the appropriate YAB commands to ensure all existing patches and customizations compile successfully.

For example, execute

```
> yab code-mfg-customizations-update
> yab code-mfg-update
```

Export any extension apps in development

If you are upgrading from an existing QAD Adaptive UX environment and have extension apps under active development these must be exported before continuing.

 If these apps are not exported before proceeding with the update then any changes that have not been exported may be lost.

Refer to the *QAD Enterprise Platform Developer Guide* for additional details.

Update to YAB 1.11


If not already installed, download and install the YAB 1.11 release.

This installation is performed by running the command

```
> yab install <path to media download>/yab-ee-image-1.11.0.XXX.zip
```

Refer to the documentation with the YAB 1.11 release for detailed instructions and any upgrade considerations.

If you have installed the YAB client script outside of your environment, the client will not automatically update and must be updated before proceeding. Refer to the YAB 1.11 release notes for details on this step.

 YAB 1.11 requires Java 1.8. Ensure your `JAVA_HOME` and `PATH` environment variables are using Java 1.8 before proceeding.



If you have installed the YAB client outside of the QAD Enterprise Edition environment, you must update the client before proceeding.

Configure New Database Storage Areas

Installing QAD Adaptive UX requires the inclusion of new database storage areas for the new schema.

2016EE with Custom Structure File

If installing into a QAD Enterprise Edition 2016 environment that uses a customized database structure file, the custom structure file must be modified to append the new required storage areas.

To identify the configured structure file run the command

```
> yab config db.qaddb.structurefile
```

The following areas must be added if a custom structure is in use

```
d "QRA":16,64;8 ./ f 512
d "QRA":16,64;8 ./
#
d "QRA_IDX":17,1;8 ./ f 512
d "QRA_IDX":17,1;8 ./
#
d "QRA_LOB":18,1;8 ./ f 512
d "QRA_LOB":18,1;8 ./
```

2017EE, 2018EE, or 2019EE

These areas are already defined and no action is needed.

Upgrading an Existing Channel Islands or QAD Adaptive UX Installation

These areas are already defined and no action is needed.

Review Appserver startup parameters

If you have not previously installed QAD Adaptive UX 2019 the installation of QAD Adaptive UX 2020 includes an update to define database connections in a pf file rather than the previous bootstrap.xml file.

When databases are defined in a parameter file they are processed as startup parameters and a shared memory connection only requires read permission on the database files. This removes the previous requirement to open file permissions on the database files.

When the value is true, all Progress sessions that use bootstrapping MUST reference the bootstrap's parameter file. When the value is false, all Progress sessions that use bootstrapping MUST NOT reference the bootstrap's parameter file.

The factory default settings for standard Enterprise Edition sessions respect this option, but if these values have been overridden (i.e. svrstartupparam) they should be reviewed for compatibility. Review any custom sessions as well.

To use database connections defined in bootstrap.xml, edit install.conf before installation and remove the line

```
bootstrap._useparameterfile=true
```

Or set this value to false in configuration.properties after executing the yab install command but before running yab update.

Installation Steps - Introduction

There are two approaches available to install QAD Adaptive UX. The selected approach depends on the environment into which QAD Adaptive UX is being installed.

Using a Prepared Context installs QAD Adaptive UX into an isolated context so the installation can be prepared without impacting the running environment. This allows changes to be reviewed and prepared without disrupting users and increases confidence that updating the environment will be successful.

This approach is recommended when installing into a live environment with existing users. For more information on Prepared Context see the *QAD Configuration and Administration Guide YAB 1.11*.

A direct installation immediately impacts the running environment and is recommended if running an installation into an isolated environment that is not currently in use.



Certain types of changes are not supported in a Prepared Context. If you are performing an OpenEdge upgrade as part of the installation, then you must use the direct installation technique.

Upgrading an Existing Channel Islands or QAD Adaptive UX Installation

If you have previously installed Channel Islands or QAD Adaptive UX and are upgrading to the QAD Adaptive UX 2020 release, the same basic installation process should be followed. Any steps that were performed as part of the previous installation can be skipped.

Installation Steps - Direct Installation

Prerequisite installation

Operations Patch

If an Operations Patch is required and not installed, install it now.

```
> yab -install-update:false install <mfg-patch>.zip
```

QAD .NET UI Cumulative patch

If a .NET UI cumulative patch is required and not installed, install it now.

```
> yab -install-update:false install netui-module-32-cumulative-3.2.183.0.zip
```

QAD Enterprise Financials

If QAD Enterprise Financials 2017.1 or 2018 is installed, ensure the required qad-ee-fin-patch is installed. Refer to the Prerequisites section for details of the specific patches required.

```
> yab -install-update:false install qad-ee-fin-patch-2017.1.x.0.zip
```

If QAD Enterprise Financials 2019 or later is installed, ensure the required enterprise-financials-app patch is installed. Refer to the Prerequisites section for details of the specific patches required.

```
> yab -install-update:false install enterprise-financials-app-2019.1.1.x.zip
```

If performing a backward compatible upgrade to a later Enterprise Financials version, install the appropriate additional packages.

Refer to the Financials Backward Compatibility Installation Guide for additional details.

Note: If you have an existing Channel Islands or QAD Adaptive UX installation and are upgrading your Enterprise Financials version, this step must be executed at the same time as the QAD Adaptive UX installation. Refer to the QAD Adaptive UX installation section below.

```
> yab -install-update:false install enterprise-financials-app-2019.1.1.x.zip
```

QAD Adaptive UX installation

Download the QAD Adaptive UX image zip file, [channel-islands-apps-image](#), into a location available on the server.

Execute the QAD Adaptive UX installation by running a YAB install command against the downloaded image. If you are upgrading from a previous Channel Islands or QAD Adaptive UX release, each prompt will be populated from your previous installation. Review and adjust the values as needed.

If you are not upgrading your Enterprise Financials version run this command

```
> yab -install-update:false install <path to image zip above>
```

If you are upgrading an existing Channel Islands or QAD Adaptive UX installation and also upgrading your Enterprise Financials version, install both files with the following command

```
> yab -install-update:false install <path to image zip above> enterprise-financials-app-2019.1.1.x.zip
```

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The QAD Adaptive UX installer will now execute and guide you through the installation of QAD Adaptive UX.

Press enter to confirm you want to begin the installation process.

```
This installer will guide you through the process of installing QAD Adaptive ERP 2020 (Web UI).

The installation is being recorded in the file:
/tmp/install.mfg.log

At the prompt the ENTER key submits a response and moves to the next question.
'!' will enter command mode to navigate through the questions.

Hit ENTER to continue
>
```

Enter the location of the Progress OpenEdge installation.

The current value from the environment will be populated but can be updated if required.

```
[Progress OpenEdge]

Enter the location of Progress OpenEdge:
> /tech/progress/dlc1175_009
```

Enter the location of the Java JDK installation.

The current value from the environment will be populated but can be updated if required.

```
[Java]

Enter the location of Java:
> /tech/java/jdk1.8.0_221
```

Enter the location of the Python installation.

The current value from the environment will be populated but can be updated if required.

```
[Python]

Enter the location of the Python interpreter:
> /usr/bin/python
```

Enter the QAD End User Number for the customer associated with this environment.

```
[Customer End User Number]

Enter the QAD End User Number for the customer associated with this environment:

Ex. 00012345
> 12345678
```

Enter the vertical market for the customer associated with this environment. This information is used to provide vertical specific help content.

```
[Customer Vertical]

Enter the vertical market for the customer associated with this environment:

Used to provide help content specific to your vertical.

Valid values: - auto (Automotive) - food (Food & Beverage) - comp (Consumer Products) - elec
(Electric/High Tech) - ind (Industrial) - lsm (Life Science Medical) - lsp (Life Science Pharma)
> auto
```

Enter the type of environment being installed. The type of environment being installed is used to configure appropriate functionality.

```
[Environment Type]

Enter the type of environment being installed:

Describes the role of the environment and is used to configure appropriate functionality.

Valid values: - development - test - production
>
```

Enter the Namespace of the environment into which you are installing. This Namespace controls the set of apps that can be maintained in the environment.

When installing into multiple environments (for example Dev, Test, and Production) the same Namespace should be used.

```
[Environment Namespace]

Enter the namespace to associate with this environment:

The namespace identifies the organization using "Reverse Domain Notation" and is used to control
which Apps can be maintained using this environment.

Ex. com.[ORGANIZATION]
>
```

Enter the default app to be created. This is the app that is used as default by the maintenance programs for app-related system data.

```
[Default App]

Enter the default app:

Configures the app that will be used by default when platform extensions are developed.

Ex. [ORGANIZATION]App
>
```

If you are using a proxy server for external access to the Web UI, enter the URL.

This is typically an Apache server instance used to control external access to the Web UI.

```
[WebUI Proxy URL]

Enter the URL of the WebUI proxy (Optional):
>
```

Select whether to enable integration with QAD BI. If enabled, QAD BI data will be used to populate dashboards within the Web UI.

```
[QAD BI]

Enable integration with QAD BI?

[ ] y - Yes
[X] n - No

> n
```

If integration with QAD BI is selected, enter the URL of the QAD BI Portal.


```
[QAD BI Portal URL]


Enter the QAD BI Portal URL:

>
```

Select whether to enable integration with QAD EAM requisitions. If enabled, QAD EAM-based requisitions will be used.

This integration is typically disabled if QAD EAM is installed but not in use or configured.

 This question is only provided when QAD EAM is installed.

 To enable this integration, QAD EAM 2017.1 must be installed. If you are using an earlier version of QAD EAM and want to use this functionality, you must upgrade QAD EAM before proceeding.

```
[EAM Requisitions Integration]

Enable EAM Requisitions integration?

[ ] y - Yes
[X] n - No

> n
```

Enter the path to the Logi Platform Services License file if received from QAD.

By default a Logi Platform Service license will be automatically generated and assigned via a remote call to the Logi licensing service. If this remote call is not possible from the server being used for the installation then a Logi Platform Services License file may be provided by QAD. Enter the location of this file if provided.

```
[Logi Platform Services License]

Enter the location of the Logi Platform Services license file if received from QAD:

>
```

Select whether to proceed with the installation or not.

If you continue, the QAD Adaptive UX packages will be added into the environment and configured.

If you do not continue at this point, no changes are made to the environment.

```
[Start Installation]

Start installing QAD Adaptive ERP 2020 (Web UI)?

n - No
y - Yes

>
```

Review the current configuration using yab config to determine if the configuration needs to be adjusted.

Apply any configuration changes in the configuration.properties file.

Some common configuration options are discussed in the section "QAD Adaptive UX tuning and configuration options."

Review the appserver configuration using yab config to determine if the configuration needs to be adjusted.

Review the appserver configuration and ensure it is configured correctly for your database connections. Refer to the *Review Appserver startup parameters* section of *Preparation Steps* for background.

If you have accepted the default

```
bootstrap._useparameterfile=true
```

review the appserver startup parameters defined in your environment

```
> yab config appserver.*.srvrstartuppam
```

If any of these definitions do not include the relevant pf file, review the location of the definition using -trace and update it to include the bootstrap connection.

For example run

```
> yab config appserver.mfg.srvrstartuppam -trace
appserver.mfg.srvrstartuppam=-T /tmp -d mdy -yy 1950 -s 32768 -mmax 10000 -inp 32000 -
rereadnolock -c 30 -D 1000 -Bt 350 -nb 200 -h 25 -tok 4096 -tmpbsize 8 -TB 31 -TM 32 -cpinternal
utf-8 -cpstream utf-8 -cpcoll ICU-UCA -cpcase basic -mmax 20408 -Bt 20000 -tmpbsize 4

[1: build/config/system/environment.properties]

appserver.mfg.srvrstartuppam=${appserver._base.srvrstartuppam} -mmax 20408 -Bt 20000 -
tmpbsize 4

[2: build/config/packages/yab-ee-foundation/1/6/7/3/default/yab-ee-foundation.properties]

# @if bootstrap._useparameterfile=true
appserver.mfg.srvrstartuppam=-pf ${bootstrap.default.parameterfile} -mmax 16384 -Bt 10000 -
tmpbsize 4
```

Edit build/config/system/environment.properties and update the entry to include \${bootstrap.default.parameterfile}

```
appserver.mfg.srvrstartuppam=-pf ${bootstrap.default.parameterfile} -mmax 20408 -Bt 20000 -
tmpbsize 4
```

Review the updated value using yab config and ensure it now includes the bootstrap pf file

```
> yab config appserver.mfg.srvrstartuppam
```

Repeat this for other appserver definitions.

Apply the update



Before applying the update to the environment refer to the installation documentation of any additional updates for any pre-update steps. For example if you have upgraded QAD Enterprise Financials you must run the Enterprise Financials conversions at this point.

```
> yab update
```

The update installs QAD Adaptive UX as well as any additional updates included in the configuration.

The status of the update can be monitored in `build/logs/yab.log`.

Installation Steps - Prepared Context



Certain types of changes are not supported in a Prepared Context. If you are performing an OpenEdge upgrade as part of the installation, you must use the direct installation technique.

A prepared context is created and referenced by providing the `-c` parameter to each YAB command. The following examples use the context name `ciapps` for the installation.

Each command must use the same `-c` parameter to link them together into a single prepared change.

Prerequisite installation

Operations Patch

If an Operations Patch is required and not installed, install it now

```
> yab -c:ciapps -install-update:false install <mfg-patch>.zip
```

QAD .NET UI Cumulative Patch

If a .NET UI cumulative patch is required and not installed, install it now.

```
> yab -c:ciapps -install-update:false install netui-module-32-cumulative-3.2.183.0.zip
```

QAD Enterprise Financials

If QAD Enterprise Financials 2017.1 or 2018 is installed, ensure the required `qad-ee-fin-patch` is installed. Refer to the Prerequisites section for details of the specific patches required.

```
> yab -c:ciapps -install-update:false install qad-ee-fin-patch-2017.1.x.0.zip
```

If QAD Enterprise Financials 2019 or later is installed, ensure the required `enterprise-financials-app` patch is installed. Refer to the Prerequisites section for details of the specific patches required.

```
> yab -c:ciapps -install-update:false install enterprise-financials-app-2019.1.1.x.zip
```



If performing a backward compatible upgrade to a later Enterprise Financials version, then the direct installation approach must be taken as Enterprise Financial conversions cannot be run in a prepared context.

Refer to the Installation Steps - Direct Installation section.

Note: If you have an existing Channel Islands or QAD Adaptive UX installation and are upgrading to your Enterprise Financials version, this step must be executed at the same time as the QAD Adaptive UX installation. Refer to the QAD Adaptive UX installation section below.

QAD Adaptive UX installation

Download the QAD Adaptive UX image zip file, `channel-islands-apps-image`, into a location available on the server.

Execute the QAD Adaptive UX installation by running a YAB install command against the downloaded image.

If you are not upgrading your Enterprise Financials version run this command

```
> yab -c:ciapps -install-update:false install <path to image zip above>
```

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If you are upgrading an existing Channel Islands or QAD Adaptive UX installation and also upgrading your Enterprise Financials version, install both files with the following command

```
> yab -install-update:false install <path to image zip above> enterprise-financials-app-2019.0.0.x.zip
```

The QAD Adaptive UX installer will now execute and guide you through the installation of QAD Adaptive UX. If you are upgrading from a previous Channel Islands or QAD Adaptive UX release each prompt will be populated from your previous installation. Review and adjust the values as needed.

Press enter to confirm you want to begin the installation process

```
This installer will guide you through the process of installing QAD Adaptive ERP 2020 (Web UI).

The installation is being recorded in the file:
/tmp/install.mfg.log

At the prompt the ENTER key submits a response and moves to the next question.
'!' will enter command mode to navigate through the questions.

Hit ENTER to continue
>
```

Enter the location of the Progress OpenEdge installation.

The current value from the environment will be populated but can be updated if required.

```
[Progress OpenEdge]

Enter the location of Progress OpenEdge:
> /tech/progress/dlc1175_009
```

Enter the location of the Java JDK installation.

The current value from the environment will be populated but can be updated if required.

```
[Java]

Enter the location of Java:
> /tech/java/jdk1.8.0_222
```

Enter the location of the Python installation.

The current value from the environment will be populated but can be updated if required.

```
[Python]

Enter the location of the Python interpreter:
> /usr/bin/python
```

Enter the QAD End User Number for the customer associated with this environment.

[Customer End User Number]

Enter the QAD End User Number for the customer associated with this environment:

Ex. 00012345
> 12345678

Enter the vertical market for the customer associated with this environment. This information is used to provide vertical specific help content.

[Customer Vertical]

Enter the vertical market for the customer associated with this environment:

Used to provide help content specific to your vertical.

Valid values: - auto (Automotive) - food (Food & Beverage) - conp (Consumer Products) - elec (Electric/High Tech) - ind (Industrial) - lsm (Life Science Medical) - lsp (Life Science Pharma)
> auto

Enter the type of environment being installed. The type of environment being installed is used to configure appropriate functionality.

[Environment Type]

Enter the type of environment being installed:

Describes the role of the environment and is used to configure appropriate functionality.

Valid values: - development - test - production
>

Enter the Namespace of the environment into which you are installing. This Namespace controls the set of apps that can be maintained in the environment.

When installing into multiple environments (for example Dev, Test, and Production) the same Namespace should be used.

[Environment Namespace]

Enter the namespace to associate with this environment:

The namespace identifies the organization using "Reverse Domain Notation" and is used to control which Apps can be maintained using this environment.

Ex. com.[ORGANIZATION]
>

Enter the default app to be created. This is the app that is used as default by the maintenance programs for app-related system data.

[Default App]

Enter the default app:

Configures the app that will be used by default when platform extensions are developed.

Ex. [ORGANIZATION]App
>

If you are using a proxy server for external access to the Web UI, enter the URL.

This is typically an Apache server instance used to control external access to the Web UI.

```
[WebUI Proxy URL]

Enter the URL of the WebUI proxy (Optional):
>
```

Select whether to enable integration with QAD BI. If enabled, QAD BI data will be used to populate dashboards within the Web UI.

```
[QAD BI]

Enable integration with QAD BI?

[ ] y - Yes
[X] n - No

> n
```


If integration with QAD BI is selected, enter the URL of the QAD BI Portal.


```
[QAD BI Portal URL]

Enter the QAD BI Portal URL:
>
```

Select whether to enable integration with QAD EAM requisitions. If enabled, QAD EAM-based requisitions will be used.

This integration is typically disabled if QAD EAM is installed but not in use or configured.

 This question is only provided when QAD EAM is installed.

 To enable this integration QAD EAM 2017.1 must be installed. If you are using an earlier version of QAD EAM and want to use this functionality, you must upgrade QAD EAM before proceeding.

```
[EAM Requisitions Integration]

Enable EAM Requisitions integration?

[ ] y - Yes
[X] n - No

> n
```

Enter the path to the Logi Platform Services License file if received from QAD.

By default a Logi Platform Service license will be automatically generated and assigned via a remote call to the Logi licensing service. If this remote call is not possible from the server being used for the installation then a Logi Platform Services License file may be provided by QAD. Enter the location of this file if provided.

```
[Logi Platform Services License]

Enter the location of the Logi Platform Services license file if received from QAD:

>
```

Select whether to proceed with the installation or not.

If you continue, the QAD Adaptive UX packages will be added into the context and configured.

If you do not continue at this point, no changes are made to the context.

```
[Start Installation]

Start installing QAD Adaptive ERP 2020 (Web UI)?

n - No
y - Yes

>
```

Review and verify the packages and configuration

You can review the updates installed into the context by running the info command in the context.

```
> yab -c:ciapps info
```

Review the current configuration using yab config to determine if the configuration needs to be adjusted.

Apply any configuration changes in the configuration.properties file within your context. To locate the file run the command

```
> yab -c:ciapps -pull system-context-locate build/config/configuration.properties
```

Some common configuration options are discussed in the section "QAD Adaptive UX tuning and configuration options."

Review the appserver configuration using yab config to determine if the configuration needs to be adjusted.

Review the appserver configuration and ensure it is configured correctly for your database connections. Refer to the *Review Appserver startup parameters* section of *Preparation Steps* for background.

If you have accepted the default

```
bootstrap._useparameterfile=true
```

review the appserver startup parameters defined in your environment

```
> yab config appserver.*.srvrstartupparam
```

If any of these definitions do not include the relevant pf file review the location of the definition using -trace and update it to include the bootstrap connection.

For example run

```
> yab config appserver.mfg.srvrstartupparam -trace
appserver.mfg.srvrstartupparam=-T /tmp -d mdy -yy 1950 -s 32768 -mmax 10000 -inp 32000 -
rereadnolock -c 30 -D 1000 -Bt 350 -nb 200 -h 25 -tok 4096 -tmpbsize 8 -TB 31 -TM 32 -cpinternal
utf-8 -cpstream utf-8 -cpcoll ICU-UCA -cpcase basic -mmax 20408 -Bt 20000 -tmpbsize 4

[1: build/config/system/environment.properties]

appserver.mfg.srvrstartupparam=${appserver._base.srvrstartupparam} -mmax 20408 -Bt 20000 -
tmpbsize 4

[2: build/config/packages/yab-ee-foundation/1/6/7/3/default/yab-ee-foundation.properties]

# @if bootstrap._useparameterfile=true
appserver.mfg.srvrstartupparam=-pf ${bootstrap.default.parameterfile} -mmax 16384 -Bt 10000 -
tmpbsize 4
```

Edit `build/config/system/environment.properties` in your context and update the entry to include `${bootstrap.default.parameterfile}`. To locate the file run the command

```
> yab -c:ciapps -pull system-context-locate build/config/system/environment.properties
```

Edit the entry

```
appserver.mfg.srvrstartupparam=-pf ${bootstrap.default.parameterfile} -mmax 20408 -Bt 20000 -
tmpbsize 4
```

Review the updated value using `yab config` and ensure it now includes the bootstrap pf file

```
> yab -c:ciapps config appserver.mfg.srvrstartupparam
```

Repeat this for other appserver definitions.

Run an update in the context

The update installs QAD Adaptive UX as well as any additional updates in the context. These changes are isolated to the context but limited to commands that are currently supported in this mode.

These consist of OpenEdge code compilation, schema load preparation, and data load preparation.

The status of the update can be monitored in `build/contexts/prepared/ciapps/logs/yab.log`.

```
> yab -c:ciapps update
```

Review the changes in the context.

Use the `explain-apply` command to get a detailed view of what would happen if the changes in the context were applied, without actually applying the changes.

The detailed output of this command is recorded in `build/contexts/prepared/ciapps/logs/yab.log`.

```
> yab -c:ciapps explain-apply
```

Apply the context to the environment

When you are ready to apply the changes prepared in the context to the environment, use the `apply` command. This applies the prepared changes to the environment and executes any deferred steps. This consists of an update in the environment, including downtime.

```
> yab -c:ciapps apply
```

Post-Installation Steps

Update File Permissions of Newly Added Databases

The QAD Adaptive UX installation can introduce a number of new database instances. If you did not accept the default `bootstrap._useparameterfile=true` setting, the database files of these new databases must be writable to all users who will initiate sessions, which includes the user who runs Connection Manager sessions and any CHUI users.

If you are using `bootstrap.xml` database connections, edit the file permissions of these databases to ensure these permissions are set. For example, update the `bisgen` database.

```
> yab stop
> chmod 666 /dr01/qadapps/qa/databases/bis*
> yab start
```



Depending on the products installed in your initial environment, a number of databases may be created. Ensure you review and update permissions on each.

Remove Unneeded Databases

If you are upgrading from a Channel Islands version prior to the March 2019 release of Channel Islands, the `crm-app` App has been obsoleted and removed from the QAD Adaptive UX release. If QAD CRM is not in use, the `bisgen` database is no longer required and has been removed from the application configuration.

The `bisgen` database files are not automatically deleted and should be reviewed to ensure they are no longer required. If no longer required, the database files can be deleted.

If QAD CRM is in use, then the database has not been removed from the configuration and no action is required.

Re-compile any Code Not Managed by YAB

The QAD Adaptive UX installation can include schema changes to existing tables, therefore any third-party products or similar code managed outside of YAB that reference QAD Enterprise Edition schema may need to be re-compiled.

Apply PLA License code

To use the Action Centers in QAD Adaptive UX, you need to apply the PLA license code you received from QAD. If you do not apply this license code, you will not have access to Action Centers nor KPIs in the Web UI.

Log into the QAD .NET UI and enter the license using the License Registration screen. Add the necessary users to this license. See the "Registering QAD Enterprise Edition" section of the *QAD Enterprise Edition Installation Guide* for step-by-step instructions.



To support the batch updating of Action Center data, the batch user defined in YAB must have the PLA license added.

Install the QAD Reporting Framework Service

The QAD Reporting Framework Service allows users to run reports within the QAD Web UI and must be installed on one or more Windows machines. See the "Setting Up QAD Reporting Framework Service" section of the *QAD Reporting Framework User Guide* for detailed information on installation and configuration.

Additional Post-Installation Steps

If additional products are installed as part of the QAD Adaptive UX install, refer to those products' installation guides for additional post-installation steps.

For example, if a Financials Backward Compatibility installation has been performed, a conversion must be executed at this point.

Initial Environment Validation

To verify the environment installation, first configure the necessary users to allow access to the QAD Web UI.

Refer to the *QAD Security Administration Guide* for information on how to set up the necessary access.

Once a user has been granted access to the Web UI, log in and verify the user can access the correct Web UI screens based on the roles assigned.

1. Hybrid Browsers, such as Sales Orders or Items
2. Reports
3. Action Centers
4. QAD Inbox



Installing QAD Adaptive UX introduces changes that impact the existing QAD .NET UI and character clients. These should also be validated after the installation.

QAD Adaptive UX Installation Considerations

Extension database

The initial installation of QAD Adaptive UX introduces a new extension database, which is configured in YAB using the db.extension instance. The extension database is empty upon creation and is intended to be used for any Platform Business Components created. It is connected to all standard YAB runtime sessions by default and should be added to any custom sessions that may execute these platform extensions.

The detailed configuration of this database can be reviewed by executing

```
> yab config db.extension*
```

Data stores and environment type

When installing QAD Adaptive UX, a database or databases may be marked as being available as a development data store for platform development. Development data stores can only be configured when the environment is identified as a development environment and should not be configured in a test or production environment.

To configure an environment as a development environment update the environment type.

```
environment.type=development
```

To configure a database as a development data store, ensure it is configured as a data store

```
db.extension.datastore=true
```

and configure the associated data store as type development

```
datastore.extension.type=development
```

To support platform development, a database must have a SQL Broker enabled. Refer to "Configuring a SQL-92 Secondary Login Broker" in the *QAD Configuration and Administration Guide YAB 1.11* for additional details of how to enable a SQL Broker.



Standard QAD databases such as db.qaddb should not be configured as development data stores. The new db.extension is provided for this purpose or a custom database can be used.

If these settings have been changed after the initial installation they are applied by running

```
> yab update
```

Customizing the QAD Adaptive UX Installation

Running a non-interactive headless installation

The main installation section of this document describes how to run an interactive installation of QAD Adaptive UX. This installation can also be executed in a non-interactive headless mode by providing the necessary configuration before running the installation.

To do this, first extract the QAD Adaptive UX Installation media and locate the `install.conf` file at the root of the directory. Copy this file into a working directory.

Edit this file and complete the entries in the USER INTERFACE section.



Do not edit or remove any of the annotation lines before the entries beginning with the # symbol. Changing or removing these lines may result in an unsuccessful or invalid installation.

In the following example, the `openedge.dir` and `java.default.dir` locations have been completed.

```
# -----
# USER INTERFACE
#
# When the installer is run interactively, the installer will prompt for the
# settings in this section.
# -----

# [Progress OpenEdge]
#
# Enter the location of Progress OpenEdge:
# @path
# @validation req
# @validation dir
# @validation openEdge [11.7.5.9)
# @validation openSSL
openedge.dir=/dr01/openedge

# [Java]
#
# Enter the location of Java:
# @path
# @validation req
# @validation dir
# @validation java [1.8.0.221,1.9) jdk * true
java.default.dir=/dr01/java
```

Review and complete all entries as required up to the entry

```
install-ui-end=
```

Save and exit the file.

Execute the installation, skipping the interactive UI and providing your preconfigured `install.conf` file.

```
> yab -install-update:false -install-ui:false -install-conf:<path to configured install.conf>
install <path to channel-islands-apps-image zip file>
```




The sample command uses a direction installation. To install using a prepared context refer to the *Installation Steps - Prepared Context* section of this document.

The installation will now execute with the preconfigured values and not prompt you for further input.



Running the installation in a non-interactive headless mode does not skip the validations on your input values and errors may still be received if invalid values have been provided.

 To run the install as a background process then include the `-install-background` option in your command. The installer may hang if it is run as a background process without `(-install-background)` set.


Refer to `yab help install` for additional details.


Customizing tuning parameters

Installing QAD Adaptive UX may introduce a number of new databases into the system and also provides a number of new configuration and tuning parameters. Many of these can be changed after installation as needed but you can also provide your customized values before installing.

To do this first extract the QAD Adaptive UX Installation media and locate the `install.conf` file at the root of the directory. Copy this file into a working directory.

Edit this file and go to the "QAD Adaptive UX specific environment tuning" section. Review and edit the values as required in this section. If necessary, new values can be added to this section.

 Do not edit or remove any of the annotation lines beginning with the `#` symbol. Changing or removing these lines may result in an unsuccessful or invalid installation.

 Do not change any of the values in the later "Installer Features" or "Installer Settings" sections. Changing or removing these entries may result in an unsuccessful or invalid installation.

Once complete save and exit the file. Then execute the installation providing your preconfigured `install.conf` file.

```
> yab -c:ciapps -install-update:false -install-conf:<path to configured install.conf> install  
<path to channel-islands-apps-image zip file>
```

The installation now executes with your preconfigured values.

QAD Adaptive UX Tuning and Configuration Options

Configuring QAD Adaptive UX to use SSL

By default, QAD Adaptive UX is installed with http access enabled but it is recommended that you disable http access and instead use SSL access.



If enabling SSL on an existing environment, ensure the environment is stopped by executing `yab stop` before making any changes.

If you do not stop the environment, the Tomcat instance continues running and must be stopped directly before proceeding. This can be done by running

```
> ./scripts/tomcat-webui-stop
```

Add the following YAB configuration to disable http access and enable SSL.

```
tomcat.webui.usessl=true  
tomcat.webui.usehttp=false
```

To support SSL you must also configure an SSL certificate in a Java keystore and configure your Tomcat instance to use this.

Refer to the "Secured Configuration" chapter of the *QAD Security Administration Guide* for steps on how to configure the keystore and SSL certificate.

To configure YAB to use this keystore, add the suitable configuration and apply it. The section below shows an example of the configuration but should be adjusted for your environment.

```
tomcat.webui.keystore=/dr01/java/certificate/keystore.jks  
tomcat.webui.keystorepassword=samplepassword
```

To apply these changes to your environment, run a yab update.

```
> yab update
```

Secure configuration

To deploy a fully secure configuration refer to the *QAD Security Administration Guide*.

Installing New Versions of QAD Products

When installing QAD Adaptive UX, a number of apps are conditionally installed based on the QAD products that are already installed in your environment. If you add or upgrade products in your environment, it may be necessary to rerun the QAD Adaptive UX installer to install the related updates.

When you run the QAD Adaptive UX installer for a second time, the full install command is executed but only the necessary changes are applied. Previously installed packages are not reinstalled. Refer to the Installation Steps section for details on running the installer.

The following sections address the steps required when installing a new version of some QAD products.

Installing a New Version of QAD Financials

Introduction

If you upgrade the version of QAD Financials (**backward compatible upgrade**) in your environment, you must rerun the QAD Adaptive UX installer to update the Financials-related components of the installation.

Preparing the update

Before installing a new version of QAD Financials, review the release notes for the release you are installing. Review and apply any required prerequisites before proceeding.

Installing the update

To upgrade QAD Financials, download the media from your Download Center and stage it in a location accessible from your QAD Adaptive ERP location.

Review the release notes for your new QAD Financials release before proceeding with the installation. Apply any necessary YAB configuration changes or other upgrade considerations as outlined in the release notes.



When upgrading to a new version of QAD Financials, the install must reference both the new QAD Financials and QAD Adaptive UX versions at the same time. Failing to do this will result in errors in the installation.

To install the new QAD Financials version execute the command

```
> yab -install-update:false install <path to QAD Adaptive UX zip> <path to QAD Financials zip>
```

For example:

```
> yab -install-update:false install channel-islands-apps-image-4.4.0.11.zip enterprise-financials-app-2020.0.0.x.zip
```

Review the versions added using yab info.



When installing a new version of QAD Financials, a set of conversion routines must be executed before the yab update. Refer to the Financials Backward Compatibility Guide for details of these steps before continuing.

Execute the Financial conversions

```
> yab conversion-ee-upgrade-reset  
> yab conversion-ee-upgrade
```

Apply the changes to the environment by executing a yab update

```
> yab update
```



A yab update includes restarting the environment so downtime should be scheduled.

Verifying the update

After the update has been applied, use yab info to verify the version is now installed in the environment.

Refer to the release notes for the newly installed QAD Financials for additional verification steps or post-installation steps.

Installing a New Version of QAD Enterprise Platform

Introduction

QAD Enterprise Platform enables you to extend the functionality and user interface of QAD Adaptive ERP and can be upgraded independently of the overall QAD Adaptive ERP release.

Preparing the update

Before installing an update, review the release notes for the release you are installing. Upgrading QAD Enterprise Platform may introduce new prerequisites such as a new OpenEdge version, and these prerequisites must be applied before starting the installation.

The installer does not prompt for these changes during the installation. Review and apply required prerequisites before proceeding.

Installing the update

To upgrade QAD Enterprise Platform, download the media from your Download Center and stage it in a location accessible from your QAD Adaptive ERP location.

Review the release notes for your new QAD Enterprise Platform release before proceeding with the installation. Apply any necessary YAB configuration changes or other upgrade considerations as outlined in the release notes.

To install the new QAD Enterprise Platform version execute the command

```
> yab install <zip file>
```

For example:

```
> yab install qad-enterprise-platform-3.8.0.288.zip
```



The yab install command executes a yab update, which includes restarting the environment.



This example shows the installation of an update using a direct installation. A prepared context can also be used to install an update. Refer to the *QAD Configuration and Administration Guide YAB 1.11* for details.

Verifying the update

After the update has been applied, use yab info to verify the version is now installed in the environment.

Refer to the release notes for the newly installed QAD Enterprise Platform for additional verification steps or post-installation steps.

Installing QAD Production Orders

Introduction

If you are installing QAD Production Orders, you must rerun the QAD Adaptive UX installer to install the necessary Production Orders-related apps. This will remove the Work Order QAD Adaptive UX App from your environment and instead install the Production Order QAD Adaptive UX App.

Preparing the update

Before installing an update, review the release notes for the release you are installing. Review and apply any required prerequisites before proceeding.

Installing the update

To install QAD Production Orders, download the media from your Download Center and stage it in a location accessible from your QAD Adaptive ERP location.

Review the release notes for your new QAD Production Orders release before proceeding with the installation. Apply any necessary YAB configuration changes or other upgrade considerations as outlined in the release notes.



This example uses the `-install-update:false` option of the `install` command, which allows multiple products to be installed before applying the changes.

To install the new QAD Production Orders execute the command

```
> yab -install-update:false install <path to QAD Production Order zip>
```

Then rerun the QAD Adaptive UX installation

```
> yab -install-update:false install channel-islands-apps-image-4.4.0.11.zip
```

Review the versions added using `yab info`.

Apply the changes to the environment by executing a `yab update`

```
> yab update
```



A `yab update` will include restarting the environment so downtime should be scheduled.

Verifying the update

After the update has been applied, use `yab info` to verify the version is now installed in the environment.

Refer to the *QAD Production Orders Installation Guide* for any additional steps required when installing QAD Production Orders.

Installing QAD Enterprise Asset Management

Introduction

QAD Enterprise Asset Management has a corresponding app included in the QAD Adaptive UX installation. If you install QAD EAM into your QAD Adaptive UX environment, you must rerun the QAD Adaptive UX installation.

Preparing the update

Before installing an update, review the release notes for the release you are installing. Review and apply any required prerequisites before proceeding.

Installing the update

To install QAD Enterprise Asset Management, download the media from your Download Center and stage it in a location accessible from your QAD Adaptive ERP location.

Review the release notes for your new QAD EAM release before proceeding with the installation. Apply any necessary YAB configuration changes or other upgrade considerations as outlined in the release notes.



This example uses the `-install-update:false` option of the `install` command, which allows multiple products to be installed before applying the changes.

To install QAD EAM execute the command

```
> yab -install-update:false install <path to QAD EAM zip>
```

Then rerun the QAD Adaptive UX installation

```
> yab -install-update:false install channel-islands-apps-image-4.4.0.11.zip
```

Review the versions added using `yab info`.

Apply the changes to the environment by executing a `yab update`

```
> yab update
```



A `yab update` will include restarting the environment so downtime should be scheduled.

Verifying the update

After the update has been applied, use `yab info` to verify the version is now installed in the environment.

Refer to the release notes for the newly installed QAD EAM for additional verification steps or post-installation steps.

Installing Updates

After the initial QAD Adaptive UX installation, future updates can be applied to the environment. These updates may consist of patch releases for individual apps, new releases of individual apps, or a new release of QAD Adaptive UX.

Preparing to apply an update

Before installing an update, review the release notes for the app you are installing. If any dependencies are documented, then compare the dependencies to the current environment to determine if additional updates are needed. These dependencies should be installed before, or as part of, this update.

Installing the update

To execute the installation of an individual app release:

1. Download the zip file from QAD Fulfillment.
2. Stage the zip file into a directory that is accessible from your QAD Adaptive UX installation.
3. Execute the command:

```
> yab install <zip file>
```

For example:

```
> yab install sales-app-2.2.1.2.zip
```



The yab install command executes a yab update, which includes restarting the environment



This example shows the installation of an update using a direct installation. A prepared context can also be used to install an update. Refer to the *QAD Configuration and Administration Guide YAB 1.11* for details.

When the installation has dependencies or you have multiple updates to install, you can use the `-install-update:false` option to delay the update of the environment until all updates are included. If you take this approach, you must execute a yab update to apply the changes and complete the installation.

For example:

```
> yab install -install-update:false sales-app-2.2.1.2.zip  
> yab install -install-update:false service-app-2.2.1.0.zip
```

Use the yab info command to review the versions installed before proceeding.

```
> yab update
```

Verifying the update

After the update has been applied, use yab info to verify the versions that are now installed in the environment.

Refer to the release notes for the newly installed apps for additional verification steps.

Troubleshooting

Log files

Installation Log

When the installation is executing, the output is recorded in a log file in the temp directory. The file name includes the name of the user executing the installation.

Assuming the default temp location and mfg user, the file is

```
/tmp/install.mfg.log
```

The location of this file is noted when the installation is executed.

If you encounter errors during the initial installation of a product, review this log file for any additional details.

YAB log

When executing any YAB command, status is written to the build/logs/yab.log file.

If errors are received when running YAB commands, including a yab update, review this log file for any additional details.

For additional details on YAB logging and log options, refer to the *QAD Configuration and Administration Guide YAB 1.11*.

Application logs

Each component of the QAD Adaptive UX installation maintains its own log files. By default many of these logs are stored in the build/logs directory but each location can be configured as needed.

The Tomcat log files are stored in the logs directory of each Tomcat instance. If errors are encountered these logs should be reviewed for additional details.

The location of each log can be confirmed by querying the YAB configuration.

Tomcat logs

Tomcat logs are stored in the logs directory of each Tomcat instance. To find the root directory of each Tomcat instance, query the YAB configuration

```
> yab config tomcat.*.base
```

Appserver logs

To find the Progress Appserver logs, query the YAB configuration

```
> yab config appserver.*.svrlogfile
```

MongoDB log

To find the MongoDB log file, query the YAB configuration

```
> yab config mongodb.qad-collaboration.logfile
```

Cassandra log

To find the Cassandra log file, query the YAB configuration

```
> yab config cassandra.default.node.jvm.logs.dir
```

Spark logs

To find the Spark log files, query the YAB configuration

```
> yab config spark.masterdefault.env.spark.log.dir
```

```
> yab config spark.slavedefault.env.spark.log.dir
```

Common Installation Errors

Incorrect YAB version

If you have not successfully updated your YAB version to 1.11 before beginning the installation an error will be seen

```
INSTALL FAILED

BUILD FAILED (0.828 s)

Unable to resolve the validation class [OpenSSLValidation].
```

Install YAB 1.11 to resolve this error and continue.

Dependency errors

If you receive an error related to dependencies or "The package request could not be satisfied:" review the installed prerequisites and ensure all necessary updates have been applied.

The package highlighted in the error will provide guidance as to the missing dependency.

Sample error caused by missing QAD Enterprise Financials dependency.

```
Please review the following constraints:
financials-2.20171.3.11 is out of scope
financials-2.20180.0.104 is out of scope
inventory-2.2.0.207 is required
inventory-2.2.0.207 requires financials[2.20171.0.30,3.0)

Resolving and copying packages           FAIL
Restoring configuration                 OK
Cleaning up                             OK

INSTALL FAILED

BUILD FAILED (28.949 s)

Unable to process the merged properties.
```

Login/Session errors during installation

A number of steps in the QAD Adaptive UX installation involve logging into the application to call an API. If these steps fail with a login- or session-related error, review the Appserver log files for any errors.

For example the fin-sync-run-update or metadata-qracore-update step may fail with these errors.

The error in these cases can vary but may be similar to:

```
ExecuteAction end: Action= synchronize Full * ReturnStatus= -1 * ErrorMsg= Session.Login
failed: vcSyncLogin=sysadmin, ReturnStatus=-1, vlValid=no
Error=<BLF-348,An error occurred while authenticating user. Look at the following messages for
details.>
Error=<BLF-347,tt_msg_sev = * tt_msg_nbr = * tt_msg_data = * tt_msg_context = *
tt_msg_field = * tt_msg_index =>
Return status: -1
```

```
ExecuteAction end: Action= synchronize Full * ReturnStatus= -98 * ErrorMsg= Session.Login
failed: vcSyncLogin=mfg, ReturnStatus=-98, vlValid=no
S=<,AUTHENTICATION_FAILURE>
Return status: -98
```

Timeout error on webapp-webshell-started

The webapp-webshell-started process is used to verify the QAD Adaptive UX webapp has successfully started before continuing with the remaining steps. If this step errors on a timeout it means the qad-central webapp in tomcat.webui has not started successfully in the allocated time.

Review the catalina.out log file of the tomcat.webui instance for additional details.

Sample error

```
2020-01-31 00:46:23,114 DEBUG [main:af62] APPLY - webapp-webshell-started
2020-01-31 00:48:10,624 DEBUG [main:af62] SpinWait - Testing Web Application [webshell] for up to
10:00 m
2020-01-31 00:56:23,530 DEBUG [main:af62] APPLY - webapp-webshell-started ERROR
2020-01-31 00:56:23,532 ERROR [main:af62] Main - BUILD FAILED (35:25 m)
java.lang.RuntimeException: The task has exceeded the configured timeout of [10:00 m]. This
timeout may be individually configured by the [timeout.webapp.start.webshell] property and
currently is defaulted by the [timeout] property.
    at com.qad.build.utilities.SpinWait.waitFor(SpinWait.java:305)
```

HTTP 404 error on action-center-dashboard-update

If an HTTP 404 error is encountered in the action-center-dashboard-update, review the log file of the tomcat.webui instance.

The error suggests that the Tomcat instance has not started successfully and additional details will be available in the catalina.out log file of the Tomcat instance.

Sample error

```
2018-09-19 23:43:22,097 DEBUG [main] APPLY - action-center-dashboard-update ERROR
2018-09-19 23:43:22,102 ERROR [main] Main - BUILD FAILED (25:23 m)
java.lang.RuntimeException: HTTP/1.1 404 Not Found
```

HTTP 401 error on action-center-dashboard-update

If an HTTP 401 error is encountered in the action-center-dashboard-update review the log file of the tomcat.webui instance.

The error can be encountered when SSL is enabled on the tomcat.webui instance and the keystore or SSL Certificate has not been correctly configured.

Sample error

```
2018-09-14 09:57:17,004 DEBUG [main] HttpCallCommand - HttpResponseProxy{HTTP/1.1 401
Unauthorized [Server: Apache-Coyote/1.1, X-Frame-Options: SAMEORIGIN, Cache-Control: no-store,
Content-Type: text/plain;charset=ISO-8859-1, Content-Length: 113, Date: Fri, 14 Sep 2018 13:57:16
GMT] ResponseEntityProxy{[Content-Type: text/plain;charset=ISO-8859-1,Content-Length: 113,
Chunked: false]}}
2018-09-14 09:57:17,073 DEBUG [main] APPLY - action-center-dashboard-update ERROR
2018-09-14 09:57:17,635 ERROR [main] Main - BUILD FAILED (42:11 m)
java.lang.RuntimeException: HTTP/1.1 401 Unauthorized
```

HTTP 403 error on lps-<module>-referencedataview-update

Sample error in yab.log

```

2019-08-26 06:38:30,002 DEBUG [main] HttpCallCommand - POST https://vmlszz0102.qad.com:22011/qad-central/api/analytics/lps/deployment/artifacts?type=referenceDataview&appUri=urn:app:com.qad.assetmgmt
2019-08-26 06:38:33,099 DEBUG [main] HttpCallCommand - HttpResponseProxy{HTTP/1.1 403 Forbidden [Server: Apache-Coyote/1.1, Set-Cookie: JSESSIONID=7DB09EA721966A1DF93C9F2BC95BC191; Path=/qad-central;-Type: application/json;charset=UTF-8, Transfer-Encoding: chunked, Date: Mon, 26 Aug 2019 13:38:33 GMT] ResponseEntityProxy{[Content-Type: application/json;charset=UTF-8,Chunked: true]}}
2019-08-26 06:38:33,100 DEBUG [main] APPLY - lps-assetmgmt-referencedataview-update ERROR
2019-08-26 06:38:33,111 ERROR [main] Main - BUILD FAILED (3:11 h)
java.lang.RuntimeException: HTTP/1.1 403 Forbidden
    
```

If an HTTP 403 error is encountered in the lps-<module>-referencedataview-update process review the log file of the tomcat.webui instance.

The encountered may be similar to

```

[19/08/26@06:38:33.088-0700] ERROR mfg com.qad.qrview.mvc.controller.
ControllerExceptionHandler: Error thrown by controller. SessionID=...C95BC191 ; Request URL=/qad-central/api/analytics/lps/deployment/artifacts?type=referenceDataview&appUri=urn:app:com.qad.assetmgmt
[19/08/26@06:38:33.089-0700] ERROR mfg com.qad.qrview.mvc.controller.
ControllerExceptionHandler: Error details:
org.springframework.security.access.AccessDeniedException: Access is denied
    at org.springframework.security.access.vote.AffirmativeBased.decide(AffirmativeBased.java:84)
    at org.springframework.security.access.intercept.AbstractSecurityInterceptor.beforeInvocation(AbstractSecurityInterceptor.java:233)
    at org.springframework.security.access.intercept.aopalliance.MethodSecurityInterceptor.invoke(MethodSecurityInterceptor.java:65)
    at org.springframework.aop.framework.ReflectiveMethodInvocation.proceed(ReflectiveMethodInvocation.java:179)
    at org.springframework.aop.framework.JdkDynamicAopProxy.invoke(JdkDynamicAopProxy.java:213)
    
```

This error is caused by the YAB user not having the PLA license code assigned.