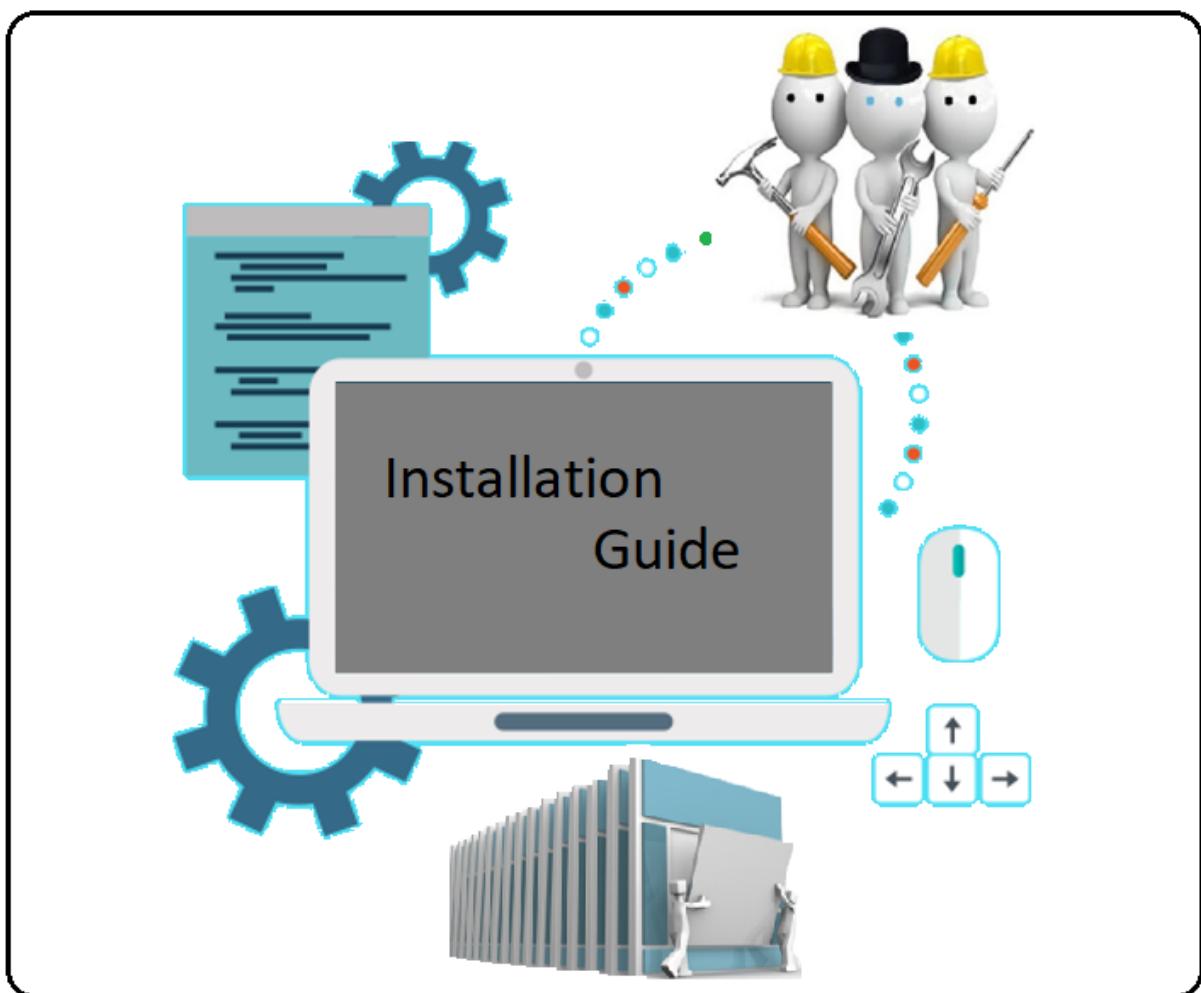




# 3DEXPERIENCE R2019x

## Windows/OracleDB On-Premise Installation



3DEXPERIENCE

Version 2.0 - 7/9/2019

Written by: Surya NERELLA, Swapnil MASUTAGE and Amol AMRUTKAR  
Validated by: Jérôme LESOURD  
Edited by: Arati DESAI

3DEXPERIENCE Platform R2019x

## **Executive Summary**

***This document covers all prerequisite installation/configuration steps required for all mandatory services of 3DEXPERIENCE Platform.***

***The 3DEXPERIENCE platform R2019x GA level is used for procedural specification.***

***The target audience for this Best Practices is Site IT, Software Architect, and Administrator who want to install 3DEXPERIENCE R2019x On-premise Environment on Windows O.S. Server, using Oracle Database Server and Apache as Reverse Proxy.***

## Contents

1.	Introduction .....	6
1.1.	Prerequisites.....	7
2.	3DEXPERIENCE Services Covered in this Installation .....	8
3.	Preparation .....	9
3.1.	Deployment of Services.....	9
3.2.	H/W and S/W (Machine) Configuration .....	9
3.3.	Planning the Installation.....	10
3.4.	Service Endpoints .....	10
3.5.	Database and Database User Creation.....	11
3.5.1.	3DPassport .....	11
3.5.2.	3DDashboard .....	12
3.5.3.	3DSpace .....	13
3.5.4.	3DSwym .....	14
3.5.5.	3DComment.....	16
3.5.6.	3DNotification .....	16
3.5.7.	3DOrchestrate.....	17
3.6.	HTTPS and Certificates .....	18
3.6.1.	Install Apache Haus.....	18
3.6.2.	Configure Apache Haus.....	19
3.6.3.	Configuring the Platform Services.....	21
3.6.4.	Generating SSL Certificates.....	22
3.7.	Usage of Java and Tomcat.....	23
4.	Installation of 3DEXPERIENCE Platform Services.....	24
4.1.	3DPassport .....	24
4.1.1.	Installing 3DPassport.....	24
4.1.2.	Post Installation Task.....	33
4.2.	3DDashboard .....	33
4.2.1.	Configure Hostnames.....	34
4.2.2.	Installing 3DDashboard.....	34

Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

4.2.3. Post Installation Task.....	41
4.3. 3DSearch.....	41
4.3.1. Installing 3DSearch .....	41
4.3.2. Post Installation Task.....	47
4.4. 3DSpace .....	47
4.4.1. Installing 3DSpace.....	47
4.4.2. Post Installation Task.....	57
4.5. File Collaboration Server .....	57
4.5.1. Installing the File Collaboration Server .....	58
4.5.2. Post Installation Task.....	63
4.6. 3DSpace Index .....	63
4.6.1. Installing 3DSpace Index in Simple Mode .....	64
4.6.2. Post Installation Task.....	68
4.7. 3DSwym .....	68
4.7.1. Installing 3DSwym Foundation and 3DSwym Video Convertor .....	69
4.7.2. Installing EXALEAD CloudView.....	79
4.7.3. Installing 3DSwym Index.....	82
4.7.4. Post Installation Tasks .....	89
4.8. 3DComment.....	89
4.8.1. Installing 3DComment .....	89
4.8.2. Post Installation Task.....	96
4.9. 3DNotification .....	96
4.9.1. Installing 3DNotification.....	96
4.9.2. Post Installation Task.....	103
5. Simulation Apps and Services .....	103
5.1. X3D_Web_Simulation: .....	103
5.1.1. Post Installation Task.....	107
5.2. 3DOrchestrate.....	107
5.2.1. Installing the 3DOrchestrate Distribution Server.....	108
5.2.2. Post Installation Task.....	113
5.2.3. Deploying 3DOrchestrate in the Java Application Server .....	113

Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

5.2.4. Reverse Proxy Configuration for 3DOrchestrator .....	118
5.2.5. Post Deployment Task .....	118
5.3. Installing the 3DOrchestrator Platform Services (SIMULIA_EEP) .....	119
5.3.1. Post Installation Task.....	122
5.4. Installing and Starting a Public (Regular) Station.....	123
5.5. Native Client Configuration Task.....	124
6. Web Apps Installation Information .....	125
7. Use of InstallData.xml and UserIntentions_CODE.xml .....	126
8. Document History .....	127

### 1. Introduction

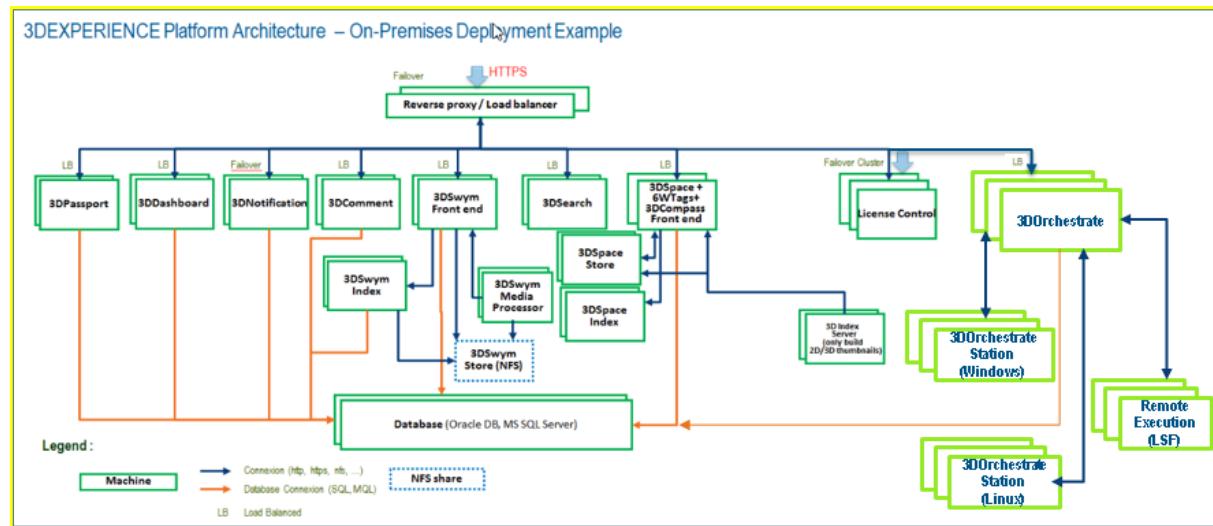
The 3DEXPERIENCE platform comprises of the following services:

- ▶ License Control based on the DS License server.
- ▶ 3DPassport: provides authentication and single sign-on (SSO) services for the applications across 3DEXPERIENCE Platform.
- ▶ 3DDashboard: brings information from diverse sources into one customizable web page.
- ▶ 3DSearch: federated indexing services including full-text searching and 3D indexing.
- ▶ 3DSpace: simplified, powerful management of data and content, including 3DCompass providing unified access to all applications including 3rd party apps, and 6WTags providing intelligent, structured, and fast tagging system for refining searches.
- ▶ 3DSwym: A cross-discipline collaboration of users anywhere in the extended enterprise.
- ▶ 3DComment: provides the ability to interact with other 3DEXPERIENCE platform members and commenting on the content.
- ▶ 3DNotification: provides timely updates about the activities going on. 3DNotification is the service used to send push notification messages to 3DEXPERIENCE platform users.
- ▶ Simulation Apps: This app explores the boundaries between the virtual world and real world. These solutions reduce physical prototyping, increase confidence in product performance, accelerate design decisions, and enhance knowledge of real-world behavior in a virtual environment. SIMULIA apps provide a full spectrum of solutions that enable you to simulate the behavior of your designs in a multiphysics modeling environment. These apps span a scalable portfolio of finite element analysis solutions that include simulating structural, thermal, and fluid dynamics problems. SIMULIA Apps also provides tools that help you manage your simulations and data.

A minimal, physical on-premise deployment would require deploying each service on one or more physical machines, depending on the service. It would also require to deploy 3DSpace (including 6WTags and 3DCompass) on the same machine.

## Best Practices

The following diagram illustrates 3DEXPERIENCE platform on-premises deployment, which also includes load balancers, failover clusters, and a reverse proxy:



For deployments from development to high availability servers, refer to the following path from DS Documentation related to 3DEXPERIENCE R2019X:

### DS Documentation Reference

### **Installation and Setup | Install | 3DEXPERIENCE Platform | 3DEXPERIENCE Platform Installation Roadmap.**

#### 1.1. Prerequisites

Use the following prerequisites to certify the 3DEXPERIENCE Services:

PLATFORM COMPONENT		OPERATING SYSTEM (HARDWARE)		
Vendor	Product	Windows Server 2012 R2 (1)	Red Hat Enterprise Linux 7 64-bit	SUSE Linux Enterprise Server 12 64-bit
		x86-64 Intel or AMD	x86-64 Intel or AMD	x86-64 Intel or AMD
<b>APPLICATION SERVERS</b>				
Open Source	TomEE+	✓ with 64-bit ORACLE Server JRE 8.	✓ with 64-bit ORACLE Server JRE 8.	✓ with 64-bit ORACLE Server JRE 8.
<b>VIRTUALIZATION</b>				
VMware	VMware ESXi	✓ DS License server is not supported	✓ DS License server is not supported	✓ DS License server is not supported
Microsoft	Hyper-V	✓ DS License server in failover mode is supported on Windows Server 2016 virtualized in Hyper-V 2016 running on physical Windows Server 2016 - see note (3) below	✓ DS License server is not supported	✓ DS License server is not supported
SUSE	XEN and KVM from SUSE Linux Enterprise Server	✗	✗	✓ DS License server is not supported
<b>DATABASES</b>				
Oracle	Oracle Database	✓	✓	✓
Microsoft	SQL Server (2)	✓	✓	✓

Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

## Best Practices

You require the following prerequisites to certify the 3DORCHESTRATE service.

PLATFORM COMPONENT		OPERATING SYSTEM (HARDWARE)		
Vendor	Product	Windows 10 Professional and Enterprise Windows Server 2012 R2 Update Windows Server 2016	Red Hat Enterprise Linux Server 7 64-bit	SuSE Linux Enterprise Server 12 64-bit
APPLICATION SERVERS				
Open Source	Apache TomEE+	✓	✓	✓
DATA BASE				
Oracle	Oracle Database	✓	✓	✓
Open Source	Apache Derby	✓	✓	✓
Microsoft	SQL Server	✓	✗	✗
VIRTUALIZATION				
VMware	ESXi	✓	✓	✓
Microsoft	Hyper-V	✓	✓	✓
SUSE	XEN and KVM from SUSE Linux Enterprise Server	✗	✗	✓

For details about the supported native clients, browser, and exceptional components, refer to the DS program directory: [Program Directories](#).

## 2. 3DEXPERIENCE Services Covered in this Installation

This document covers installation steps for the following services. Install the services in the following order:

- ▶ 3DPassport
- ▶ 3DDashboard
- ▶ 3DSearch
- ▶ 3DSpace
- ▶ 3DSpaceIndex
- ▶ 3DSwym
- ▶ 3DComment
- ▶ 3DNotification
- ▶ 3DOrchestrator (Simulation)

For better performance, install the following service:

- ▶ File Collaboration server

The following service is optional:

- ▶ 3D Indexing server

This document also covers installation of Simulation Apps:

- ▶ All Simulation Apps and Services: You require the following media for installing simulation apps and services to full capacity.

Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

- ▷ X3D\_Web\_Simulation
- ▷ SIMULIA\_3DOrchestration
- ▷ SIMULIA\_EEP
- ▷ NativeApps\_3DEXP
- ▷ SIMULIA\_ComputeServices
- ▷ SIMULIA\_PhysicsResults

For more information on the media required for installing simulation apps and services, see the following Dassault Systèmes Documentation:

*Installation and Setup > Install > Simulation > 3DOrchestrator - Installation and Administration > [Installation Media for all Simulation Apps and Services](#)*

After installing the Dassault Systèmes License server, you must install 3DPassport before installing other services as it must be up and running before installing some of the other services. For more information, see [Dassault Systèmes Documentation](#).

### 3. Preparation

The following sections will help you to prepare for installation.

#### 3.1. Deployment of Services

A minimal physical on-premise deployment would require you to deploy each service on one or more physical machines, depending on the service. It would also require to deploy 3DSpace (including 6WTags and 3DCompass) on the same machine.

#### 3.2. H/W and S/W (Machine) Configuration

If you want to capture the procedure, install 3DEXPERIENCE R2019X Platform with Windows O.S., Oracle Database server, and Apache as Reverse proxy.

For more information/details about certified hardware and software configuration, refer to the [Program Directories](#). It contains details pertaining to prerequisites for hardware and s/w requirements for servers, clients, native clients, and browsers.

For testing purpose, use the following machine configuration.

Architecture	Item	Value
	RAM	32GB
	Disk Space	80G

### 3.3. Planning the Installation

Perform the following checks before starting the installation:

- ▶ Plan the number of servers you need for different services.
- ▶ Ensure that you install all services, for example, 3DPassport, 3DDashboard, 3DSpace, and so on, on different servers for a “High Availability Production” environment.
- ▶ The Database server, File Collaboration server, Search server are on unique physical servers.
- ▶ Note, 3DSwym holds three different services: 3DSwym Foundation, 3DSwym Video Convertor, and 3DSwym Index. Deploy them on different machines.
- ▶ 3DSpace Index and 3DSwym Index cannot work on the same server, as both use EXALEAD as base technology. You cannot have two EXALEAD servers on the same machine.
- ▶ Even if it is a monolithic setup for test or development purpose, the two index servers need to be on different machines.
- ▶ Service URLs defined at the time of installation use the above important considerations.
- ▶ Keep all certificates on a shared location, that you can access during installation and also by various services deployed thereafter.
- ▶ Predefine the ports that Apache and TomEE will need to install the services. Ensure that ports do not supersede each other and also to those already used by any non-DS application.
- ▶ Set the time zone to UTC (Coordinated Universal Time) for all the servers where DST (Daylight Saving Time) does not apply.

Dassault Systèmes Documentation reference - [Before Starting the Installation](#)

On Windows, configure the system date and time to use UTC (Coordinated Universal Time) as the time zone.

### 3.4. Service Endpoints

Each service must have previously configured and dedicated URL endpoints before starting the installation.

To do so, set the host files to map the URL to IP address:

Location of hosts file on Windows machine is: C:\Windows\System32\drivers\etc\hosts

### Example:

```
10.89.XX.XX Server_hostname 3dpassport.mydomain.com  
3ddashboard.mydomain.com untrusted.3ddashboard.mydomain.com  
3dsearch.mydomain.com 3dspace.mydomain.com fcs.mydomain.com  
10.89.XX.3dswym.mydomain.com 3dcomment.mydomain.com  
3dnotification.mydomain.com 3dswym.fulltext.server_hostname.com  
10.89.XX.3dorchestrate.mydomain.com
```

### Note:

- In windows host file, you can declare only nine services/endpoints against a single IP address. For more services/endpoints, use next new line by declaring the IP address again and declare the remaining new service end points.
- Mono-FQDN can cause difficulties in the load balancing configuration. Hence, work in the multi-FQDN environment.

## 3.5. Database and Database User Creation

On Oracle, database names must not begin with a number and must not exceed eight characters (as specified in the Oracle documentation).

3DEXPERIENCE platform can work with legacy Oracle database instance as well as with newer 'pluggable' database instance (that is, Multitenant Architecture.)

This guide does not describe how to initialize the Oracle database instance. However, the recommendation is that, on creation; you must configure the database instance for full UNICODE support ('CHARACTER SET' = 'AL32UTF8' and 'NATIONAL CHARACTER SET' = 'AL16UTF16') to properly and efficiently support any non-latin alphabet character.

### 3.5.1. 3DPassport

To create a database user for 3DPassport, use the following script:

```
##### CREATE DB passdb  
  
create user x3dpassadmin identified by x3dpassadmin;  
  
grant CREATE PUBLIC SYNONYM to x3dpassadmin;  
  
grant CREATE SEQUENCE to x3dpassadmin;  
  
grant CREATE SESSION to x3dpassadmin;  
  
grant CREATE SYNONYM to x3dpassadmin;
```

Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

## Best Practices

```
grant CREATE TABLE to x3dpassadmin;

grant DROP PUBLIC SYNONYM to x3dpassadmin;

CREATE SMALLFILE TABLESPACE "x3dpassadmin" LOGGING DATAFILE
'D:\OracleDB\R2019X\passdb.dbf' SIZE 10M AUTOEXTEND

ON NEXT 10M MAXSIZE UNLIMITED EXTENT MANAGEMENT LOCAL SEGMENT SPACE
MANAGEMENT AUTO;

ALTER USER x3dpassadmin default tablespace "x3dpassadmin";

ALTER USER x3dpassadmin QUOTA UNLIMITED ON "x3dpassadmin";

GRANT UNLIMITED TABLESPACE TO x3dpassadmin;

##### CREATE DB passtkdb

create user x3dpasstokens identified by x3dpasstokens;

grant CREATE PUBLIC SYNONYM to x3dpasstokens;

grant CREATE SEQUENCE to x3dpasstokens;

grant CREATE SESSION to x3dpasstokens;

grant CREATE SYNONYM to x3dpasstokens;

grant CREATE TABLE to x3dpasstokens;

grant DROP PUBLIC SYNONYM to x3dpasstokens;

CREATE SMALLFILE TABLESPACE "x3dpasstokens" LOGGING DATAFILE
'D:\OracleDB\R2019X\passtkdb.dbf' SIZE 10M AUTOEXTEND

ON NEXT 10M MAXSIZE UNLIMITED EXTENT MANAGEMENT LOCAL SEGMENT SPACE
MANAGEMENT AUTO;

ALTER USER x3dpasstokens default tablespace "x3dpasstokens";

ALTER USER x3dpasstokens QUOTA UNLIMITED ON "x3dpasstokens";

GRANT UNLIMITED TABLESPACE TO x3dpasstokens;
```

### 3.5.2. 3DDashboard

To create a database user for 3DDashboard, use the following script:

Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

```
CREATE USER x3ddashadmin IDENTIFIED BY x3ddashadmin;  
  
GRANT CREATE SESSION TO x3ddashadmin;  
  
GRANT RESOURCE TO x3ddashadmin;  
  
CREATE SMALLFILE TABLESPACE x3ddashadmin LOGGING DATAFILE  
'D:\OracleDB\R2019X\x3ddashadmin.dbf' SIZE 10M AUTOEXTEND ON NEXT 10M  
MAXSIZE UNLIMITED EXTENT MANAGEMENT LOCAL SEGMENT SPACE MANAGEMENT  
AUTO;  
  
ALTER USER x3ddashadmin default tablespace x3ddashadmin;  
  
ALTER USER x3ddashadmin QUOTA UNLIMITED ON x3ddashadmin;  
  
GRANT UNLIMITED TABLESPACE TO x3ddashadmin;
```

### 3.5.3. 3DSpace

**Create a directory for data files, customize the database and user names as required, and then execute the following script:**

```
create user M1 identified by M1;  
  
grant connect, resource, create view to M1;  
  
CREATE SMALLFILE TABLESPACE "M1" LOGGING DATAFILE  
'D:\OracleDB\R2019X\M1.dbf' SIZE 10M AUTOEXTEND ON NEXT 10M MAXSIZE  
UNLIMITED EXTENT MANAGEMENT LOCAL SEGMENT SPACE MANAGEMENT AUTO;  
  
ALTER USER M1 default tablespace M1;  
  
GRANT UNLIMITED TABLESPACE TO M1;  
  
CREATE SMALLFILE TABLESPACE "I1_DATA" LOGGING DATAFILE  
'D:\OracleDB\R2019X\I1_DATA.dbf' SIZE 10M AUTOEXTEND ON NEXT 10M MAXSIZE  
UNLIMITED EXTENT MANAGEMENT LOCAL SEGMENT SPACE MANAGEMENT AUTO;  
  
CREATE SMALLFILE TABLESPACE "I1_INDEX" LOGGING DATAFILE  
'D:\OracleDB\R2019X\I1_INDEX.dbf' SIZE 10M AUTOEXTEND ON NEXT 10M MAXSIZE  
UNLIMITED EXTENT MANAGEMENT LOCAL SEGMENT SPACE MANAGEMENT AUTO;  
  
CREATE SMALLFILE TABLESPACE "M1_DATA" LOGGING DATAFILE  
'D:\OracleDB\R2019X\M1_DATA.dbf' SIZE 10M AUTOEXTEND ON NEXT 10M MAXSIZE  
UNLIMITED EXTENT MANAGEMENT LOCAL SEGMENT SPACE MANAGEMENT AUTO;
```

Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

```
CREATE SMALLFILE TABLESPACE "M1_INDEX" LOGGING DATAFILE  
'D:\OracleDB\R2019X\M1_INDEX.dbf' SIZE 10M AUTOEXTEND ON NEXT 10M MAXSIZE  
UNLIMITED EXTENT MANAGEMENT LOCAL SEGMENT SPACE MANAGEMENT AUTO;
```

```
CREATE SMALLFILE TABLESPACE "V1_DATA" LOGGING DATAFILE  
'D:\OracleDB\R2019X\V1_DATA.dbf' SIZE 10M AUTOEXTEND ON NEXT 10M MAXSIZE  
UNLIMITED EXTENT MANAGEMENT LOCAL SEGMENT SPACE MANAGEMENT AUTO;
```

```
CREATE SMALLFILE TABLESPACE "V1_INDEX" LOGGING DATAFILE  
'D:\OracleDB\R2019X\V1_INDEX.dbf' SIZE 10M AUTOEXTEND ON NEXT 10M MAXSIZE  
UNLIMITED EXTENT MANAGEMENT LOCAL SEGMENT SPACE MANAGEMENT AUTO;
```

### 3.5.4. 3DSwym

To create a database user for 3DSwym, use the following script:

```
##### CREATE DB DBSOCIAL
```

```
create user x3dszym identified by x3dszym;
```

```
grant CREATE SEQUENCE to x3dszym;
```

```
grant CREATE SESSION to x3dszym;
```

```
grant CREATE TABLE to x3dszym;
```

```
grant CREATE VIEW to x3dszym;
```

```
grant CREATE PROCEDURE to x3dszym;
```

```
grant CREATE TRIGGER to x3dszym;
```

```
CREATE SMALLFILE TABLESPACE "x3dszym" LOGGING DATAFILE
```

```
'D:\OracleDB\R2019X\DBSOCIAL.dbf' SIZE 10M AUTOEXTEND ON NEXT 10M MAXSIZE  
UNLIMITED EXTENT MANAGEMENT LOCAL SEGMENT SPACE MANAGEMENT AUTO;
```

```
ALTER USER x3dszym default tablespace "x3dszym";
```

```
ALTER USER x3dszym QUOTA UNLIMITED ON "x3dszym";
```

```
GRANT UNLIMITED TABLESPACE TO x3dszym;
```

```
##### CREATE DB DBMEDIA
```

```
create user x3dszym_media identified by x3dszym_media;
```

```
grant CREATE SEQUENCE to x3dszym_media;
```

Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

## Best Practices

```
grant CREATE SESSION to x3dswym_media;
grant CREATE TABLE to x3dswym_media;
grant CREATE VIEW to x3dswym_media;
grant CREATE PROCEDURE to x3dswym_media;
grant CREATE TRIGGER to x3dswym_media;

CREATE SMALLFILE TABLESPACE "x3dswym_media" LOGGING DATAFILE
'D:\OracleDB\R2019X\DBMEDIA.dbf'

SIZE 10M AUTOEXTEND ON NEXT 10M MAXSIZE UNLIMITED EXTENT MANAGEMENT
LOCAL SEGMENT SPACE MANAGEMENT AUTO;

ALTER USER x3dswym_media default tablespace "x3dswym_media";
ALTER USER x3dswym_media QUOTA UNLIMITED ON "x3dswym_media";
GRANT UNLIMITED TABLESPACE TO x3dswym_media;

##### CREATE DB DBWIDGET

create user x3dswym_widget identified by x3dswym_widget;
grant CREATE SEQUENCE to x3dswym_widget;
grant CREATE SESSION to x3dswym_widget;
grant CREATE TABLE to x3dswym_widget;
grant CREATE VIEW to x3dswym_widget;
grant CREATE PROCEDURE to x3dswym_widget;
grant CREATE TRIGGER to x3dswym_widget;

CREATE SMALLFILE TABLESPACE "x3dswym_widget" LOGGING DATAFILE
'D:\OracleDB\R2019X\DBWIDGET.dbf' SIZE 10M AUTOEXTEND ON NEXT 10M MAXSIZE
UNLIMITED EXTENT MANAGEMENT LOCAL SEGMENT SPACE MANAGEMENT AUTO;

ALTER USER x3dswym_widget default tablespace "x3dswym_widget";
ALTER USER x3dswym_widget QUOTA UNLIMITED ON "x3dswym_widget";
GRANT UNLIMITED TABLESPACE TO x3dswym_widget;
```

Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

### 3.5.5. 3DComment

To create a database user for 3DComment, use the following script:

```
create user x3dcomment identified by x3dcomment;  
grant CREATE SEQUENCE to x3dcomment;  
grant CREATE SESSION to x3dcomment;  
grant CREATE TABLE to x3dcomment;  
grant CREATE VIEW to x3dcomment;  
grant CREATE PROCEDURE to x3dcomment;  
grant CREATE TRIGGER to x3dcomment;  
  
CREATE SMALLFILE TABLESPACE "x3dcomment" LOGGING DATAFILE  
'D:\OracleDB\R2019X\dbname/x3dcomment.dbf' SIZE 10M AUTOEXTEND ON NEXT 10M  
MAXSIZE UNLIMITED EXTENT MANAGEMENT LOCAL SEGMENT SPACE MANAGEMENT  
AUTO;  
  
ALTER USER x3dcomment default tablespace "x3dcomment";  
  
ALTER USER x3dcomment QUOTA UNLIMITED ON "x3dcomment";  
  
GRANT UNLIMITED TABLESPACE TO x3dcomment;
```

### 3.5.6. 3DNotification

To create a database user for 3DNotification, use the following script:

```
create user x3dnotif identified by x3dnotif;  
grant CREATE SEQUENCE to x3dnotif;  
grant CREATE SESSION to x3dnotif;  
grant CREATE TABLE to x3dnotif;  
grant CREATE VIEW to x3dnotif;  
grant CREATE PROCEDURE to x3dnotif;  
grant CREATE TRIGGER to x3dnotif;  
  
CREATE SMALLFILE TABLESPACE "x3dnotif" LOGGING DATAFILE  
'D:\OracleDB\R2019X\x3dnotif\x3dnotification01.dbf' SIZE 50M AUTOEXTEND ON
```

Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

```
NEXT 50M MAXSIZE UNLIMITED EXTENT MANAGEMENT LOCAL SEGMENT SPACE  
MANAGEMENT AUTO;
```

```
ALTER USER x3dnotif default tablespace "x3dnotif";
```

```
ALTER USER x3dnotif QUOTA UNLIMITED ON "x3dnotif";
```

```
GRANT UNLIMITED TABLESPACE TO x3dnotif;
```

### 3.5.7. 3DOrchestrate

If you include 3DOrchestrate installation for deployment, then you must preconfigure the Oracle server manually.

Prepare the Oracle server database by running the following script:

► **Create Database and User**

```
CREATE SMALLFILE TABLESPACE "Orchestrate" LOGGING DATAFILE  
'D:\OracleDB\R2019X\Orchestrate.DBF' SIZE 10M AUTOEXTEND ON NEXT 100M  
MAXSIZE UNLIMITED EXTENT MANAGEMENT LOCAL SEGMENT SPACE  
MANAGEMENT AUTO;
```

```
CREATE USER x3dorches PROFILE "DEFAULT" IDENTIFIED BY "x3dorches"  
DEFAULT TABLESPACE "Orchestrate" TEMPORARY TABLESPACE "TEMP"  
ACCOUNT UNLOCK;
```

► **Minimizing deadlock potential**

```
ALTER SYSTEM SET PROCESSES=600 SCOPE=SPFILE;
```

```
ALTER SYSTEM SET OPEN_CURSORS=10000 SCOPE=BOTH;
```

```
ALTER PROFILE DEFAULT LIMIT FAILED_LOGIN_ATTEMPTS UNLIMITED;
```

```
ALTER PROFILE DEFAULT LIMIT PASSWORD_LIFE_TIME UNLIMITED;
```

► **Grant access**

```
GRANT CREATE TABLE TO x3dorches;
```

```
GRANT CREATE SESSION TO x3dorches;
```

```
GRANT UNLIMITED TABLESPACE TO x3dorches;
```

```
GRANT SELECT ON SYS.DBA_PENDING_TRANSACTIONS TO x3dorches;
```

```
GRANT SELECT ON SYS.DBA_2PC_PENDING TO x3dorches;
```

Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

```
GRANT SELECT ON SYS.PENDING_TRANS$ TO x3dorches;
```

```
GRANT EXECUTE ON SYS.DBMS_XA TO x3dorches;
```

### 3.6. HTTPS and Certificates

Per recommendation, install each service on a different machine. You must have HTTPS configuration on each machine (For example, 3DSpace, 3DPassport, and 3DDashboard, and so on).

Apache HTTP Web server 2.4.29 is a Validated Platform as a reverse proxy and load balancer.

Refer to the [PDIR](#) for more information on the Server-Hardware & Software Requirements.

#### 3.6.1. Install Apache Haus

Apache Haus is the Apache server for Windows. It includes the minimal components of OpenSSL required to support mod\_ssl.

You can download it from: <https://www.apachehaus.com/cgi-bin/download.plx#APACHE24VC11>

1. Extract the zip to C:\Apache24.

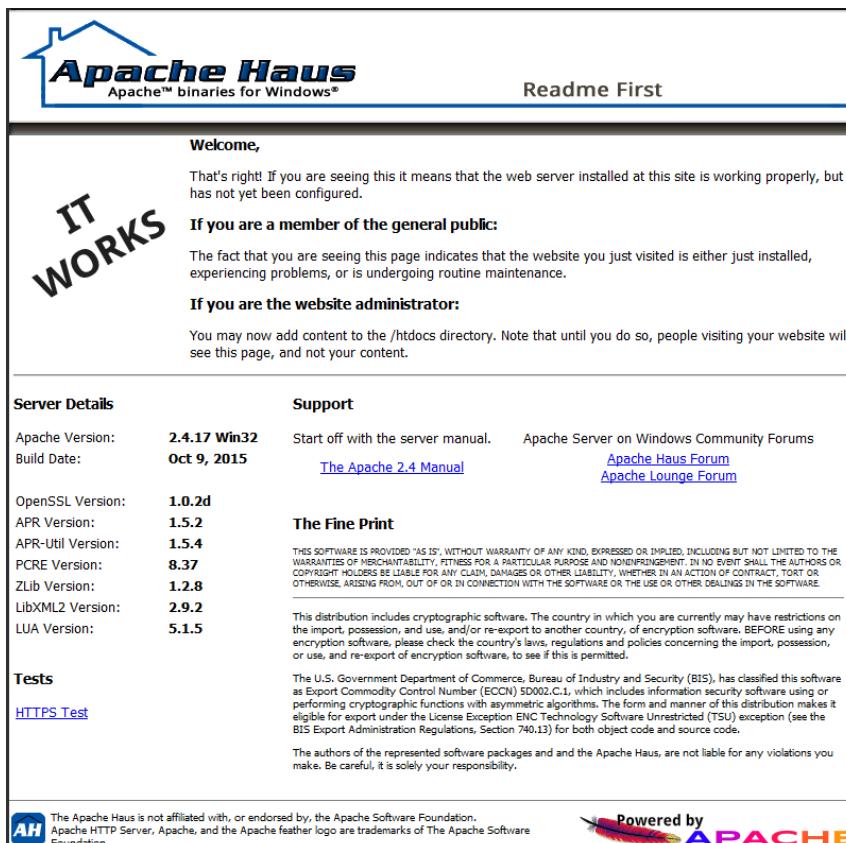
- ▶ Refer to the `readme_first.html` file, which explains about the Apache server installation, basic commands to be used, and so on.
- ▶ With Apache Haus server, the OpenSSL toolkit includes:
  - libssl.a: Implementation of SSLv2, SSLv3, TLSv1, and the required code to support both SSLv2, SSLv3, and TLSv1 on one server and client.

2. Run Apache as a service.

- ▶ C:\Apache24\bin> httpd.exe -k install

3. Start the service and test Apache.

### 4. Access the URL <http://localhost>.



The screenshot shows the Apache Haus web interface. At the top left is the Apache Haus logo with the tagline "Apache™ binaries for Windows®". To the right is a link to "Readme First". A large, bold, italicized "IT WORKS" text is displayed prominently. Below it, there's a "Welcome," message and a note stating that the server is working properly but not yet configured. There are two sections: "If you are a member of the general public:" and "If you are the website administrator:". The "Support" section contains links to the Apache Server on Windows Community Forums, The Apache 2.4 Manual, Apache Haus Forum, and Apache Lounge Forum. The "Server Details" section lists the following information:

Apache Version:	2.4.17 Win32
Build Date:	Oct 9, 2015
OpenSSL Version:	1.0.2d
APR Version:	1.5.2
APR-Util Version:	1.5.4
PCRE Version:	8.37
ZLib Version:	1.2.8
LibXML2 Version:	2.9.2
LUA Version:	5.1.5

The "The Fine Print" section contains legal disclaimers. The "Tests" section includes a "HTTPS Test" link. The bottom left features the Apache Haus logo with the text: "The Apache Haus is not affiliated with, or endorsed by, the Apache Software Foundation. Apache HTTP Server, Apache, and the Apache feather logo are trademarks of The Apache Software Foundation." The bottom right features the Apache logo with the text "Powered by APACHE".

#### 3.6.2. Configure Apache Haus

##### 1. Set the correct path of Apache in httpd.conf.

**For example:** Define SRVROOT "D:\R2019X\Apache24\ServerRoot "\${SRVROOT}"

##### 2. Define the port for Apache Service.

**For example:** Listen 81

##### 3. Set the server name.

Listen my19XServer:81

**The default port is 80. If you do not specify the server name, then the localhost name is the server name.**

##### 4. Add the following settings:

KeepAlive On

Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

```
KeepAliveTimeout 600
```

```
MaxKeepAliveRequests 400
```

5. Load modules:

**Uncomment the declaration for modules required for reverse proxy and load balancer (if you use Apache for Load balancing as well.)**

For example:

```
LoadModule headers_module modules/mod_headers.so
```

```
LoadModule proxy_module modules/mod_proxy.so
```

```
LoadModule proxy_http_module modules/mod_proxy_http.so
```

```
LoadModule ssl_module modules/mod_ssl.so
```

```
LoadModule rewrite_module modules/mod_rewrite.so
```

The list of modules required for the 3DEXPERIENCE platform is available on the servers [HW & S/W Requirements](#) page in the Program Directory.

6. Create a directory vhost under the conf folder.

7. Create configuration files for each service in the conf folder.

For example: 3dpassport.conf, federated.conf, 3dspace.conf, 3dswym.conf, and so on.

8. Include configuration file for each service in the "httpd.conf" as displayed in the following snapshot.

```
SSLRandomSeed startup builtin
SSLRandomSeed connect builtin
SSLCryptoDevice builtin

Listen 443
Include conf/vhost/3dpassport.conf
Include conf/vhost/3dspace.conf
Include conf/vhost/3ddashboard.conf
Include conf/vhost/federated.conf
Include conf/vhost/fcs.conf
Include conf/vhost/3DSwym.conf
Include conf/vhost/3DComment.conf
Include conf/vhost/3DNotification.conf
Include conf/vhost/3DOrchestrate.conf
```

### 9. ThreadsPerChild Directive

<u>Description:</u>	Number of threads created by each child process
<u>Syntax:</u>	<code>ThreadsPerChild number</code>
<u>Default:</u>	See usage for details
<u>Context:</u>	server config
<u>Status:</u>	MPM
<u>Module:</u>	<code>event, worker, mpm_winnt</code>

This directive sets the number of threads created by each child process. The child creates these threads at startup and never creates more. If using an MPM like mpm\_winnt, where there is only one child process, this number must be high enough to handle the entire load of the server. If you are using an MPM like worker, where there are multiple child processes, the total number of threads must be high enough to handle the common load on the server. The default value for ThreadsPerChild is 64 when used with mpm\_winnt and 25 when used with others.

The value of ThreadsPerChild cannot exceed the value of ThreadLimit. If you configure a higher value, it automatically reduces at start-up and logs a warning. For more information on the relationship between ThreadsPerChild and ThreadLimit directives, refer to ThreadLimit directive section on the Apache HTTP server website.

#### **NOTE:**

- ▶ Do not use the default value of ThreadsPerChild in the production environment as per the recommendation. This value depends on the 3DEXPERIENCE architecture deployed & its usage.
- ▶ Customer must monitor the Apache logs / Apache monitoring page to ensure that some threads are still available for the users.

### 10. HTTPS port used:

	3D Passport	3D Space	3D Dashboard	3D Search	3D Swym	3D Comment	3D Notification	FCS	3DOrchestrate
Port	443	443	443	443	443	443	443	443	443

#### 3.6.3. Configuring the Platform Services

Add configuration content for each service in the respective conf file.

For example: The content for 3DPassport.conf is displayed in the following snapshot:

Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

```
<VirtualHost *:443>

ServerName 3dpassport.mydomain.com
ServerAlias 3dpassport.mydomain.com

ErrorLog logs/3dpassport_error_log.txt
TransferLog logs/3dpassport_access_log.txt
LogLevel warn

SSLEngine on
SSLProxyEngine On

SSLCertificateFile "C:\SSL\3dpassport.crt"
SSLCertificateKeyFile "C:\SSL\3dserver.key"

Include D:\DassaultSystemes\R2019x\3DPassport\win_b64\templates\3DPassport_httpd_fragment.conf

</VirtualHost>
```

### 3.6.4. Generating SSL Certificates

All services – 3DPassport, 3DDashboard, 3DSpace, and 3DOrchestrator must be able to contact each other and from the client only through HTTPS.

- ▶ Subject Alternative Name Certificate signed(SAN) or Individual Domain by certificates authorities
  - ▷ SAN is a multi-domain SSL certificate that allows you to secure a primary domain and then secondary domains to the subject alternative name section of the certificate.
  - ▷ You can obtain the SAN or Individual Domain Certificate from any certificate creation public authority. If the organization has their own authority, generate the certificates and ensure that they are signed by the same authority.

Following are the steps for creating a CSR (Certificate Signing Request). Certificate authority will use a CSR to create your SSL certificate.

1. openssl is usually not available in the windows path variable so you need to set the environment variable OPENSSL\_CONF.

```
set OPENSSL_CONF=C:\Apache24\conf\openssl.cnf
```

Then, cd C:\Apache24\bin

2. At the command prompt, navigate to the folder where you need to create the certificates. For example: C:\SSL.
3. Generate a private key.

```
openssl genrsa 1024 > C:\SSL\3dserver.key
```

Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

4. Create certificate for individual services. Following is an example for 3DPassport service.

```
openssl req -config C:\Apache24\conf\openssl.cnf -passin pass:changeit -new -subj "/C=IN/ST=Maharastra/L=Pune/O=IT/CN=3dpassport.myDomain.com" -key C:\SSL\3dserver.key -out C:\SSL\3dpassport.csr
```

Similar to the above 3DPassport example, generate a .csr file for the following services.

- ▶ 3DDashboard
- ▶ untrusted.3DDashboard
- ▶ 3DSearch
- ▶ 3DSpace
- ▶ 3DSwym
- ▶ 3DComment
- ▶ 3DNotification
- ▶ FCS
- ▶ 3DOrchestrate

To be accepted by the 3DEXPERIENCE platform servers, the certificate CN must be equal to the full server URL (for example: 3dpassport.mydomain.com) or to a domain with a wildcard (for example: \*.mydomain.com). The certificate expiry date must always be greater than the system date.

- ▶ Only use .crt files when installing the different Platform services.
- ▶ However, on the reverse proxy, use the .cer (or .crt) and .key files.
- ▶ All services must be able to contact each other and from the client only through HTTPS.
- ▶ Ensure that the corresponding certificates, identifying the service endpoints, are available before starting the installation.

Each TomEE application server will contact other services and therefore must have recognized certificates.

### 3.7. Usage of Java and Tomcat

You can use both Embedded and External TomEE and JAVA during the installation of 3DEXPERIENCE platform services.

For details, refer to the [Program Directory](#).

The following TomEE ports are used for this installation:

Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

3DPassport	3DSpace	3DDashboard	3DSearch	FCS	3DSwym	3DComment	3DNotification	3DOrchestrate
8090	9010	9020	9030	9040	9050	9060	9070	9080

## 4. Installation of 3DEXPERIENCE Platform Services

Instructions in the following sections will help you to install 3DEXPERIENCE platform services one-by-one from the individual service media. It also describes the installation order.

### 4.1. 3DPassport

The 3DPassport service provides authentication and single sign-on (SSO) services for the whole 3DEXPERIENCE platform.

If the organization already has an SSO system, then you can configure 3DPassport as a slave to your enterprise solution. This will enable SSO between the enterprise solution and 3DEXPERIENCE platform.

There is no case in which an enterprise SSO solution can replace 3DPassport.

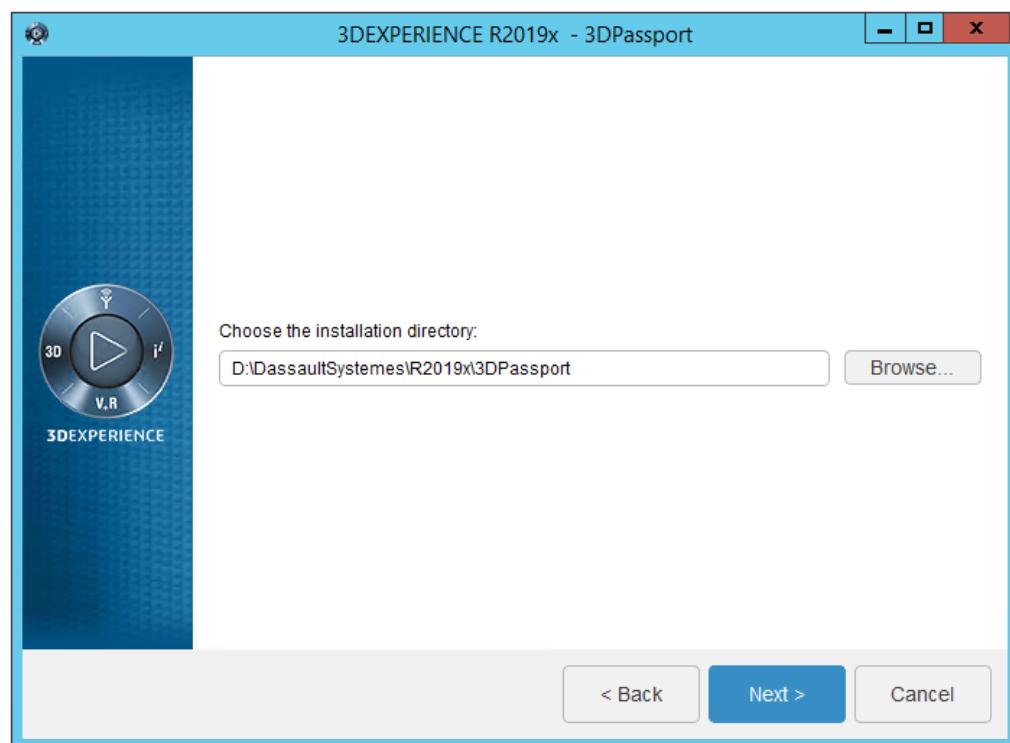
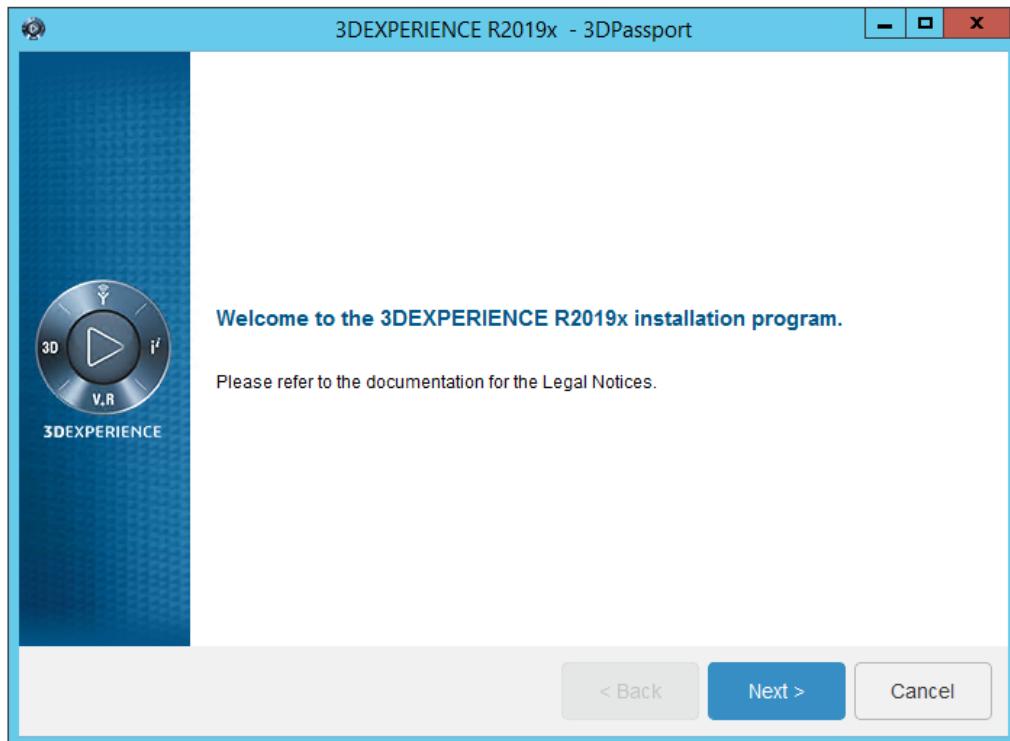
#### 4.1.1. Installing 3DPassport

The name of the installation media is: 3DPassport-V6R2019x.Windows64.zip on Windows.

1. Unzip the media to create the following directory:  
3DPassport.Windows64
2. Change to the distribution directory.  
3DPassport.Windows64/1
3. Double-click setup.exe on Windows to start the installation:

The 3DPassport installation procedure starts. Follow the below snapshots to complete the 3DPassport installation.

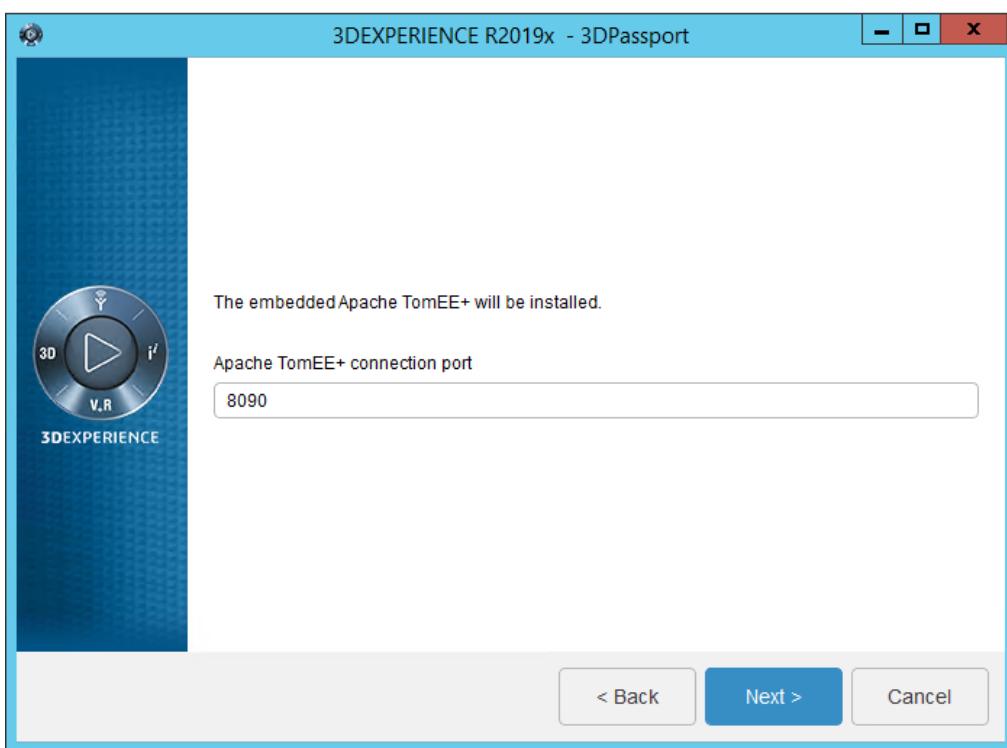
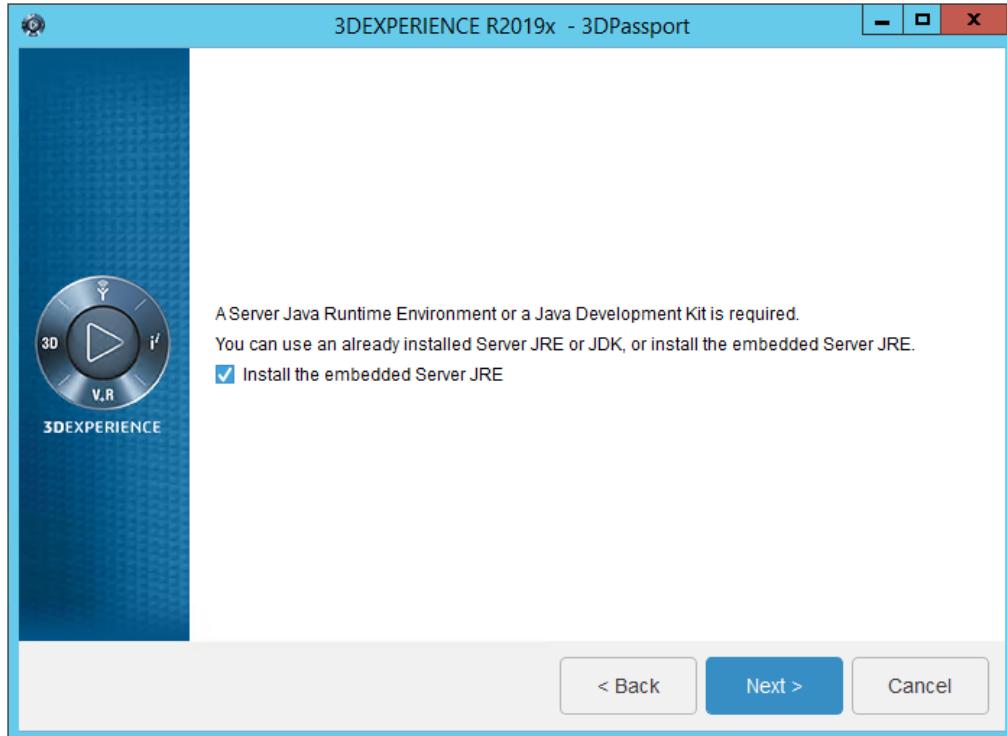
## Best Practices



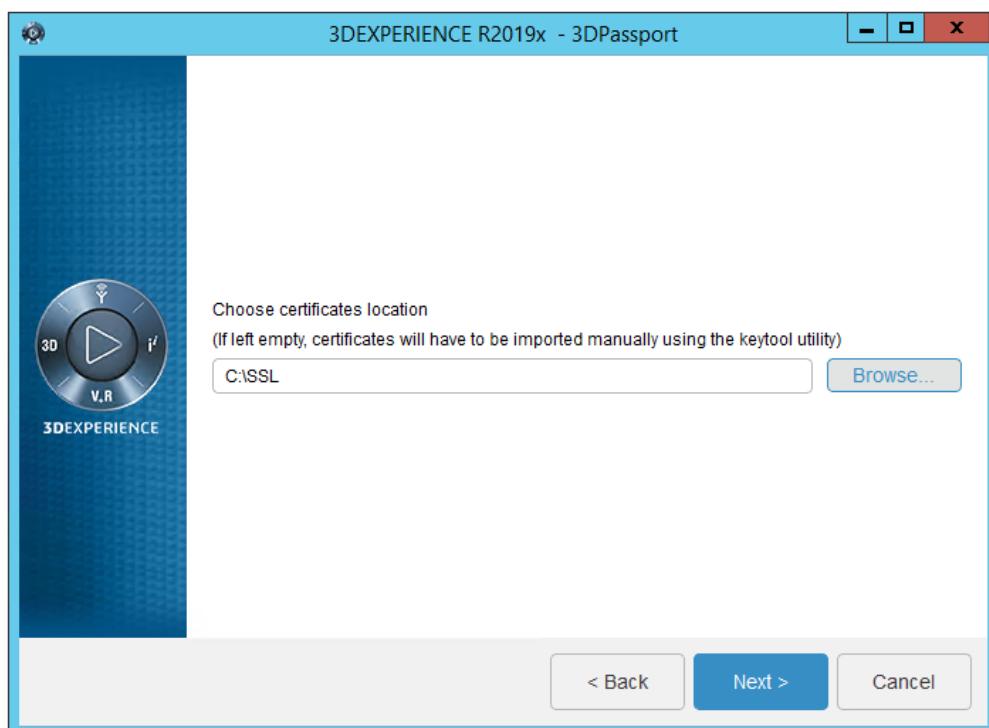
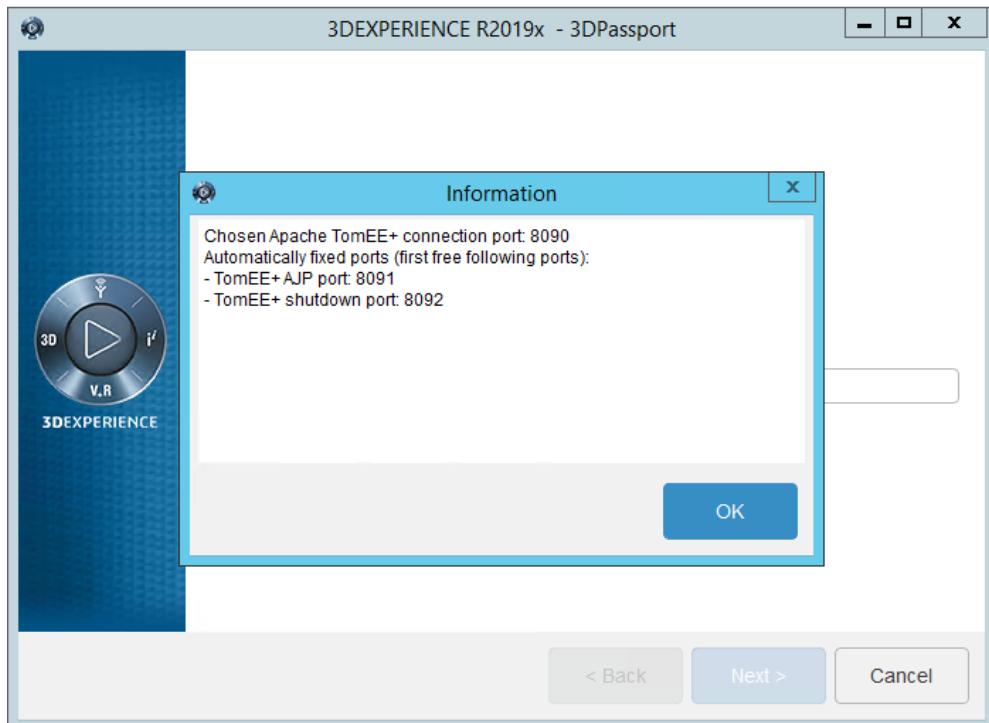
Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

## Best Practices



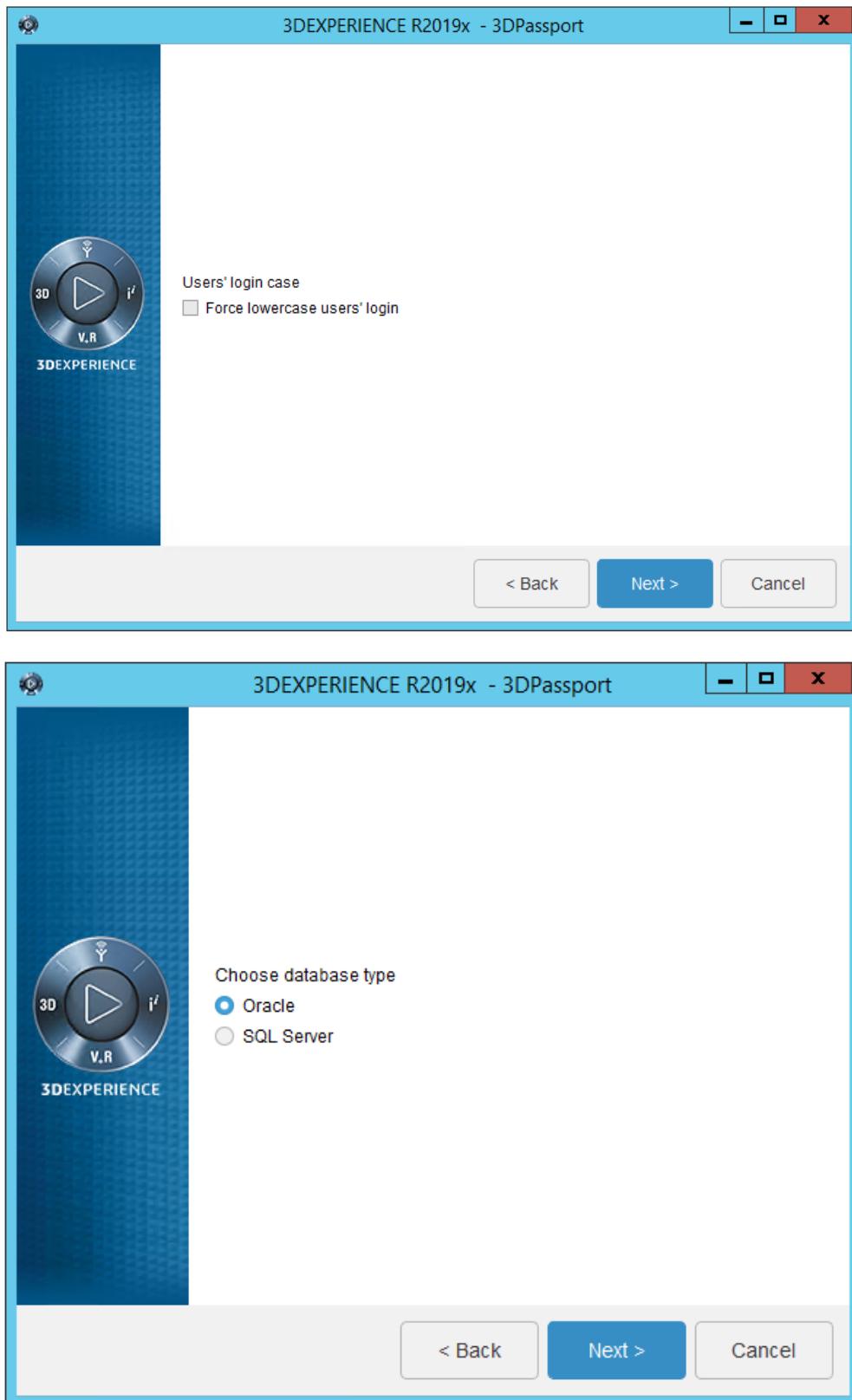
## Best Practices

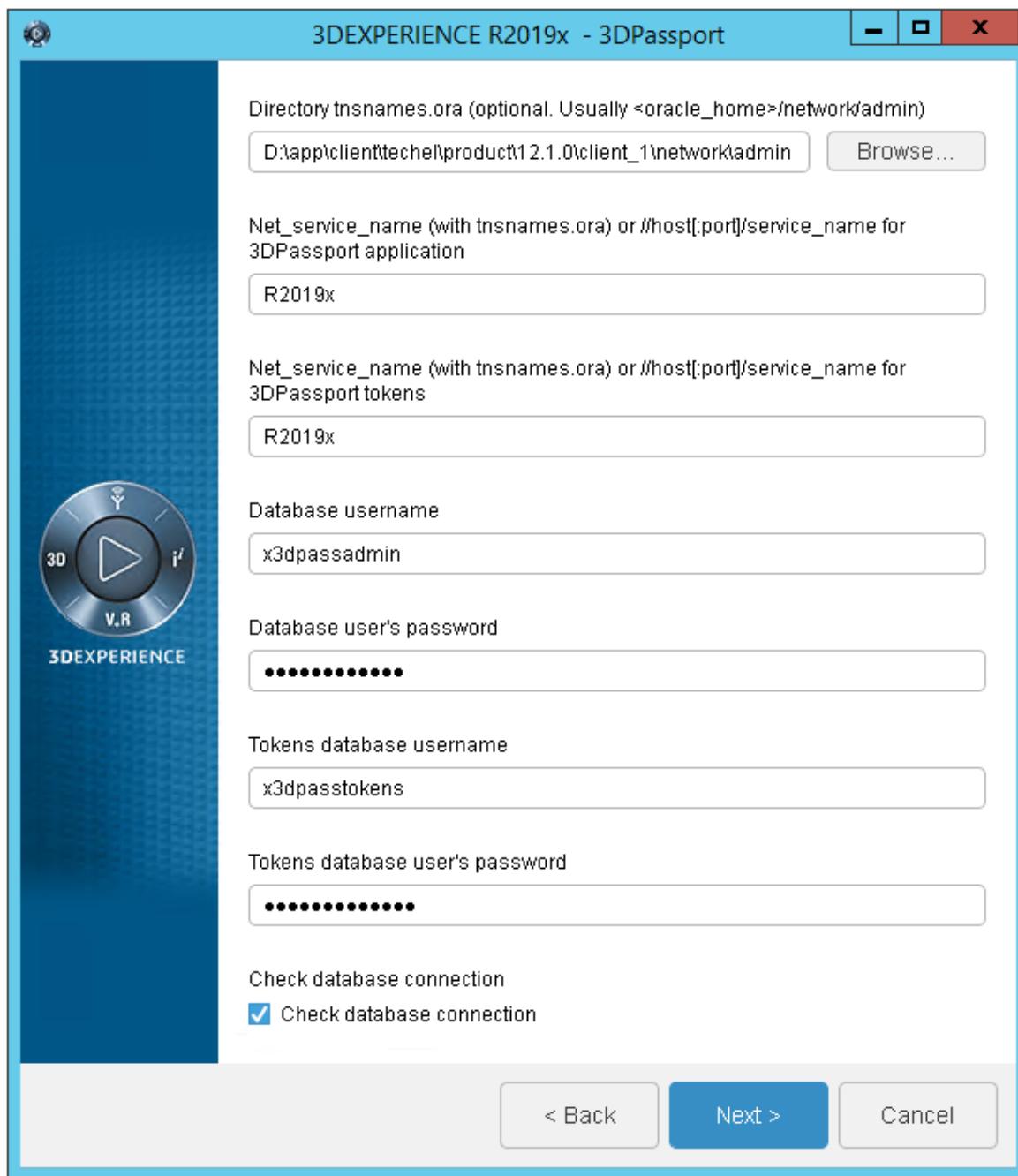


Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

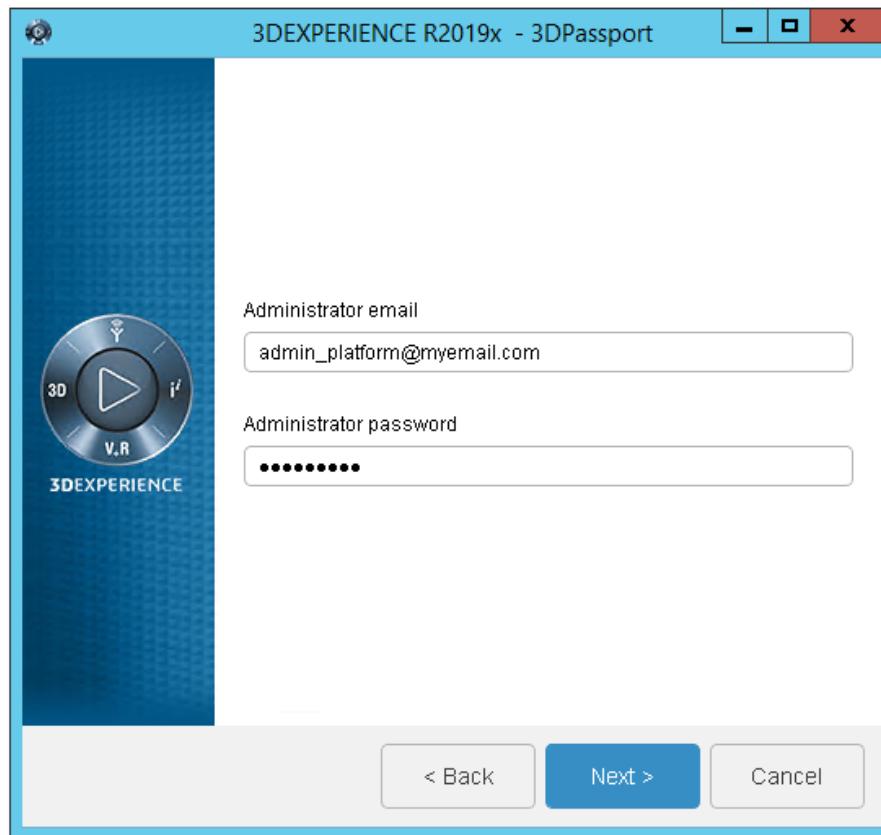
## Best Practices





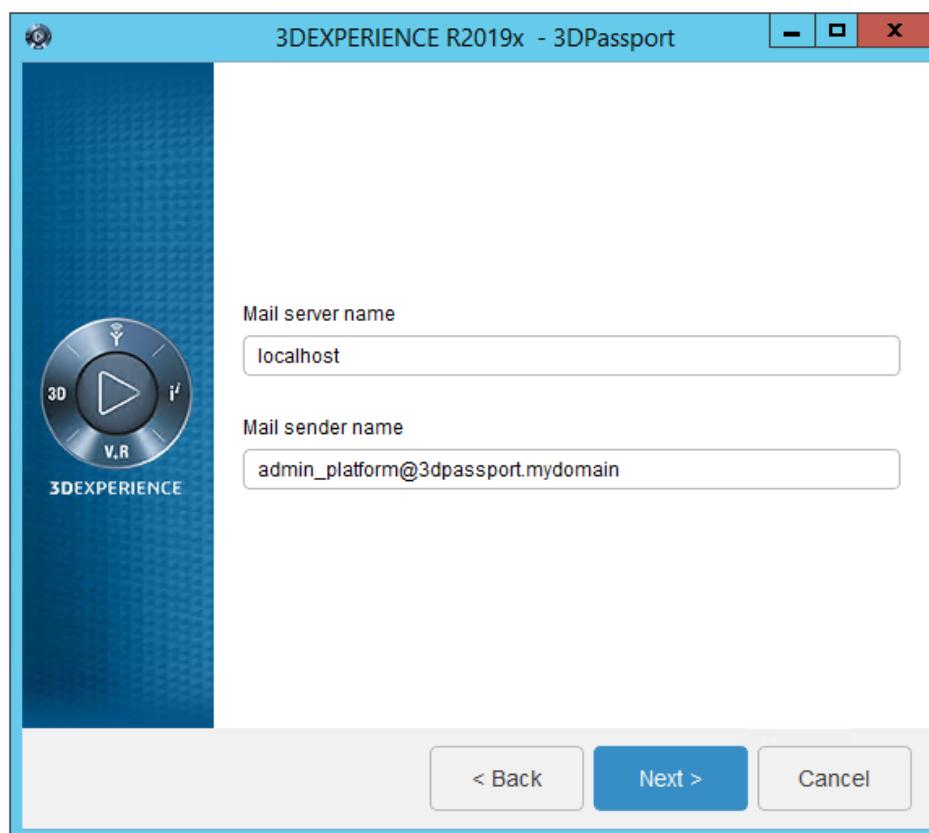
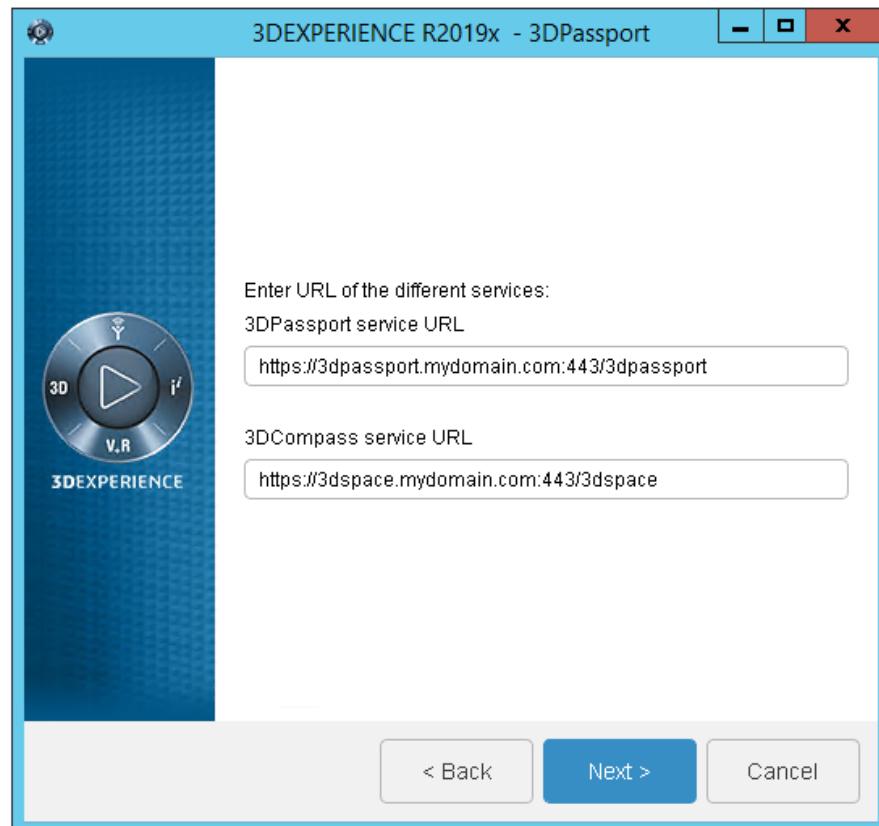
Declare the database name, usernames, and passwords as defined during the time of DB schema creation (section 3.5.1 of this document).

## Best Practices



Take into account the password policy for 3DPassport.

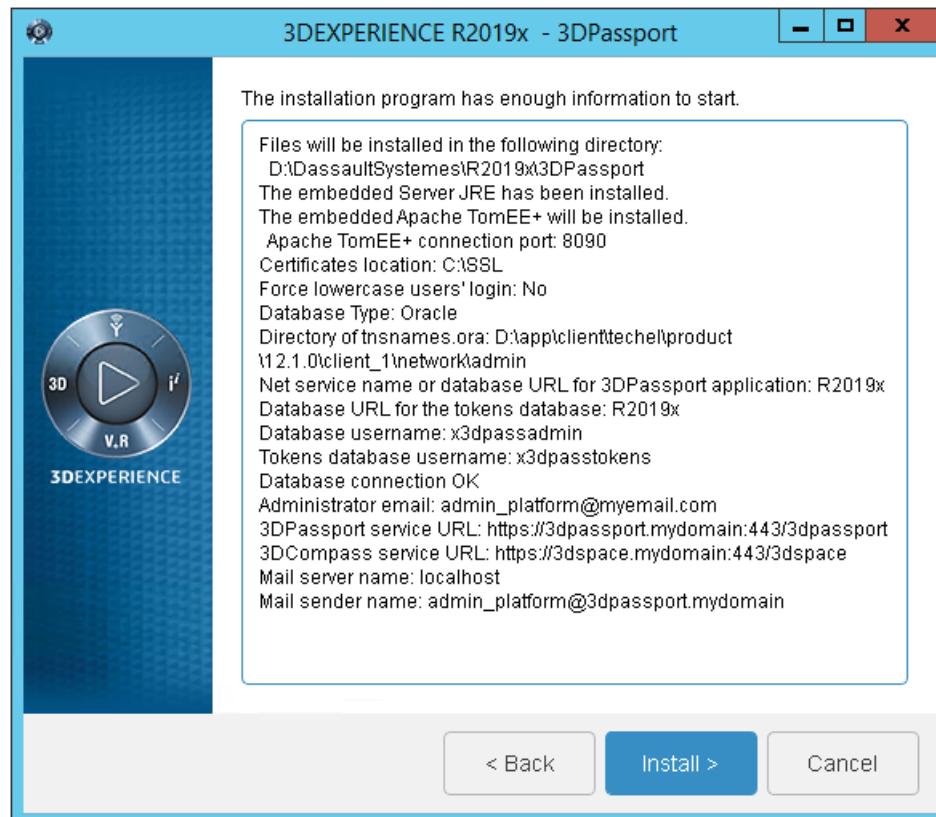
## Best Practices



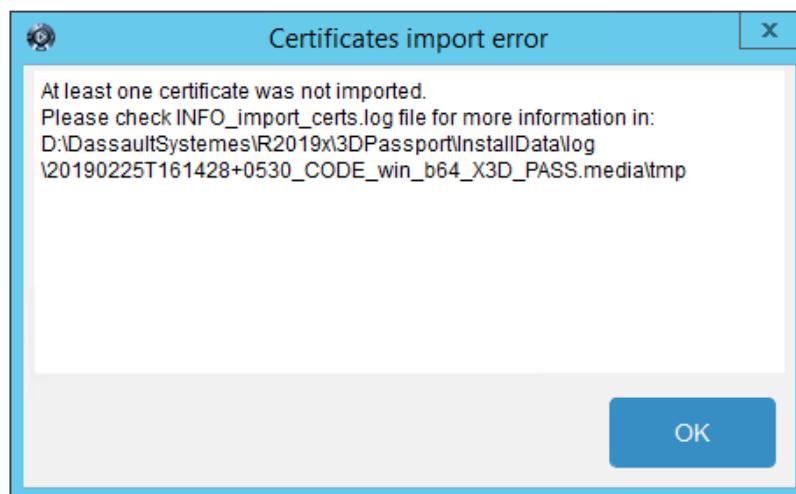
Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

## Best Practices



At the end of installation, you may encounter the following message:



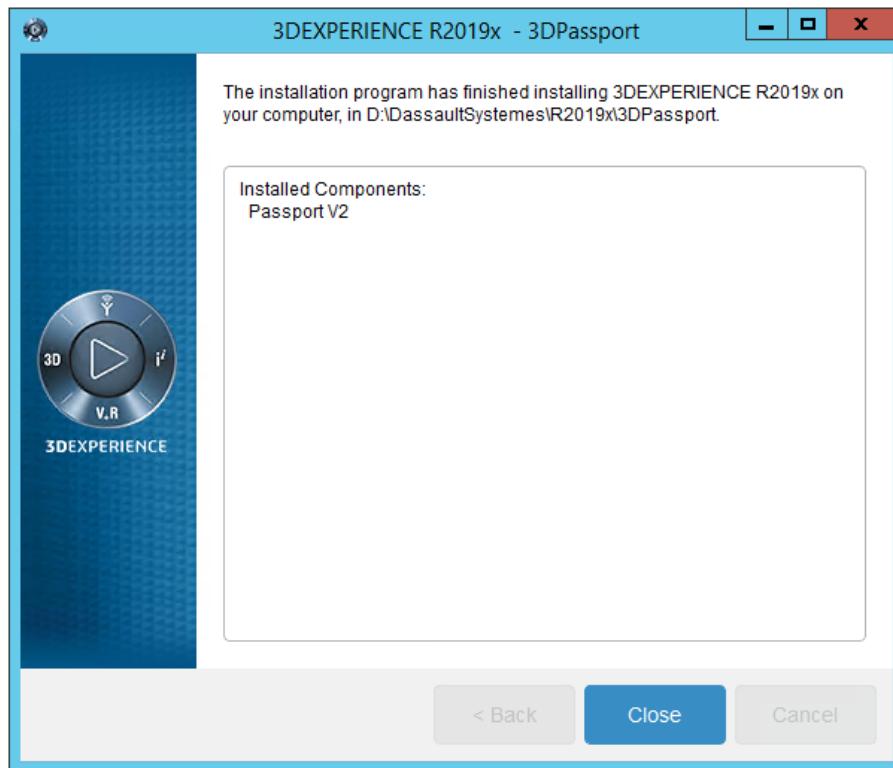
To resolve this error, re-import the certificates.

Execute `import_certificates.bat` using "Run as Administrator". The batch is located at -  
`<passport_install_location>\ 3DPassport\win_b64\code\command`.

Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

Using import\_certificates.bat, the certificates are imported with the default "changeit" password. You can set your own password by changing it in the .bat file.



### 4.1.2. Post Installation Task

Perform the following tasks after installation:

- ▶ Configure Apache httpd.conf and create 3DPassport.conf as exemplified in section 3.6.3 of this document.
- ▶ Test 3DPassport installation with the following URL:  
For example: <https://3dpassport.mydomain.com:443/3dpassport>
- ▶ Check login using admin\_platform for admin page access.

## 4.2. 3DDashboard

The 3DDashboard service brings information from diverse sources into one customizable web page. Here embedded JAVA and TomEE have been used.

It allows an end user to assemble information from Dassault Systèmes application and other data sources into a layout that best meets the user needs. A user can create as many dashboard tabs as required.

Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

### 4.2.1. Configure Hostnames

Configure two distinct hostnames for 3DDashboard.

3DDashboard requires the server to have two distinct hostnames. Each must have a valid SSL certificate. The first hostname will be the main 3DDashboard hostname while the second one will be used to isolate the untrusted widget instances, for example:

- ▶ 3ddashboard.mydomain.com
- ▶ untrusted.3ddashboard.mydomain.com

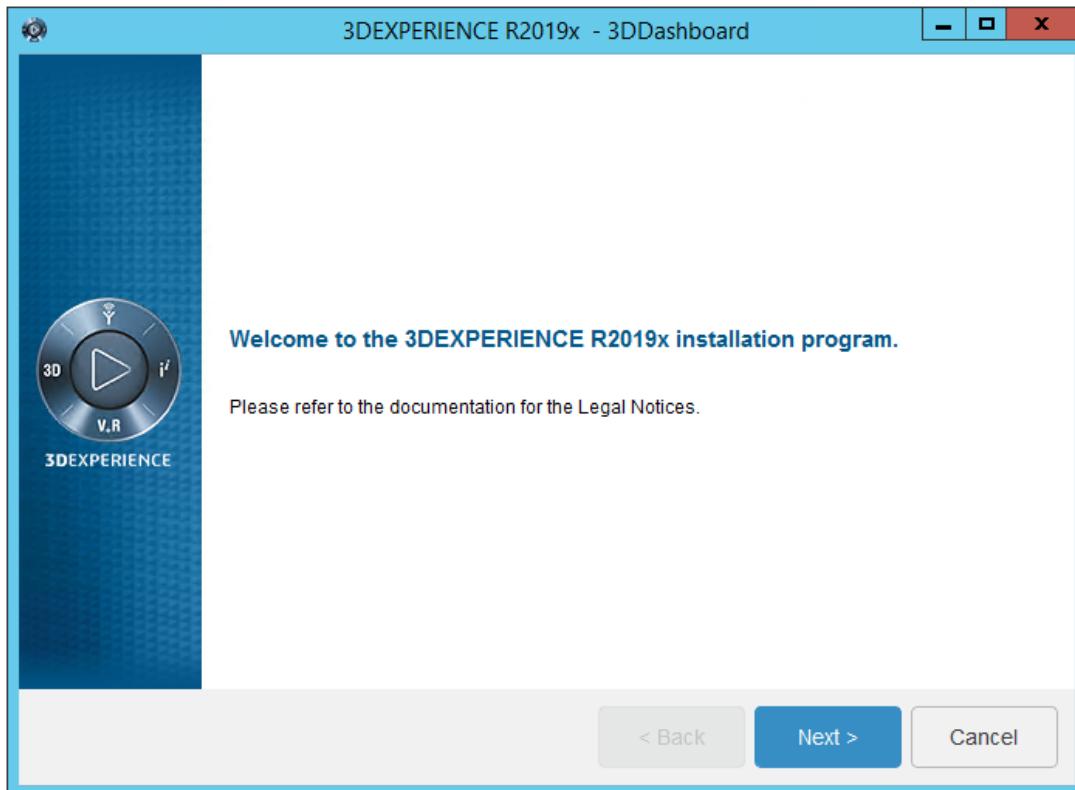
### 4.2.2. Installing 3DDashboard

The name of the installation media is, 3DDashboard-V6R2019x.Windows64.zip.

1. Unzip the media to create the directory, 3DDashboard.Windows64.
2. Change to the distribution directory.

3DDashboard.Windows64/1

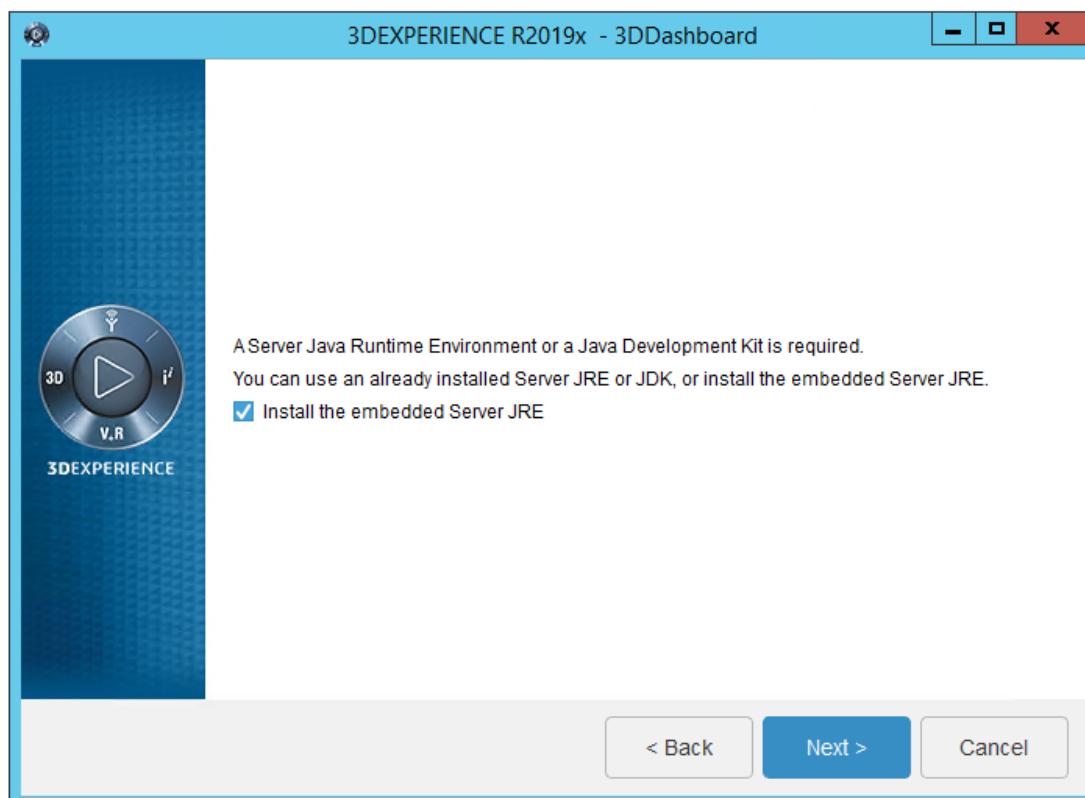
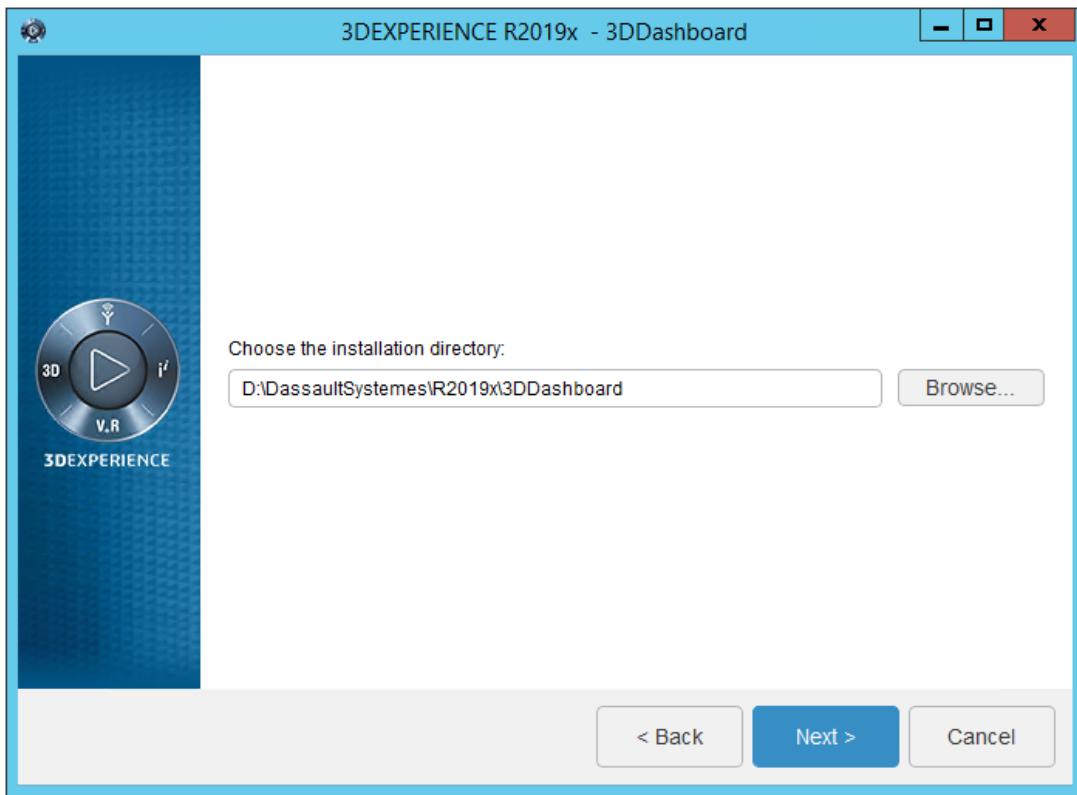
3. Double-click setup.exe on Windows and then start the installation procedure.
4. Follow the below snapshots to complete the 3DDashboard installation.



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

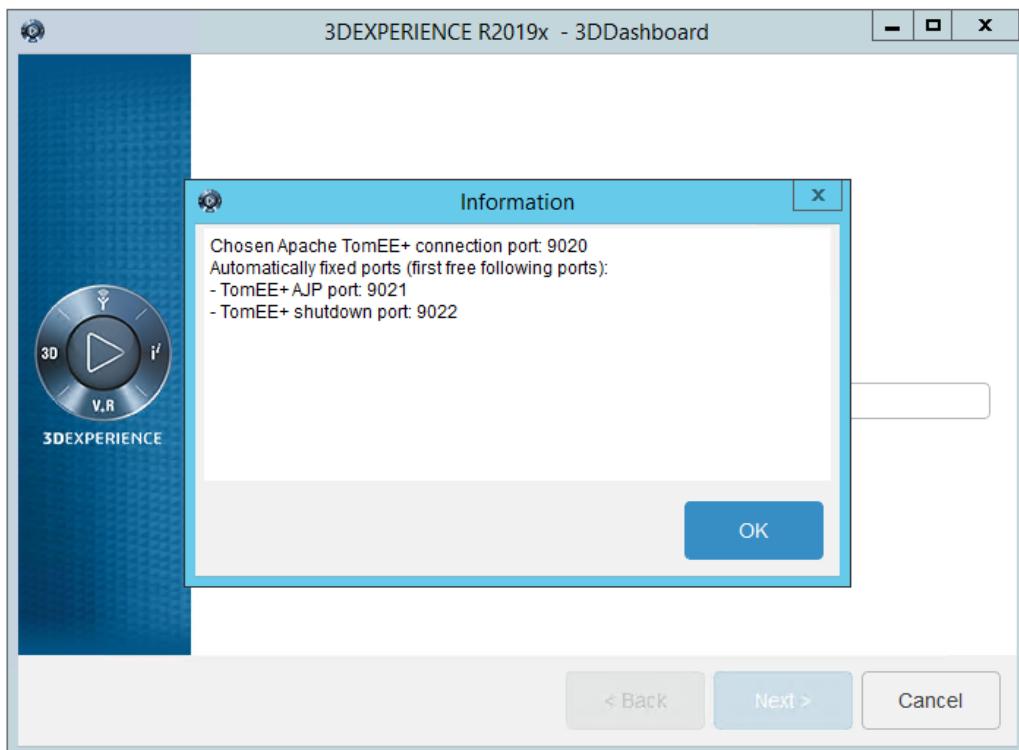
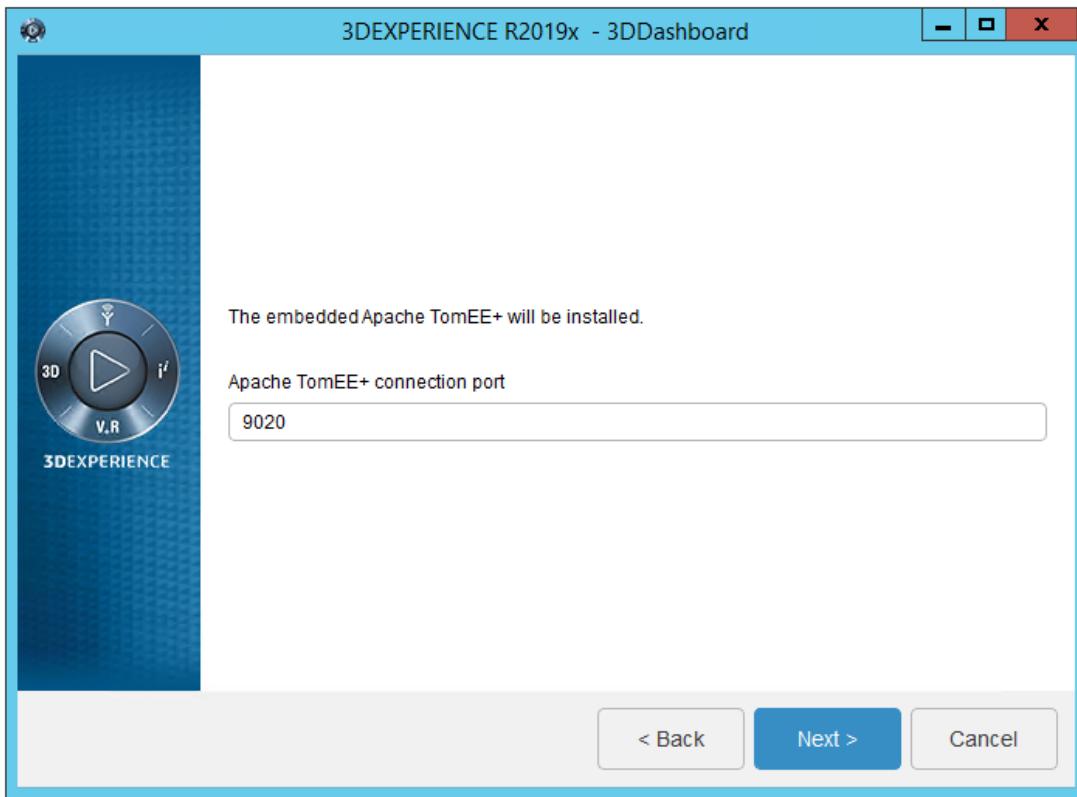
## Best Practices



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

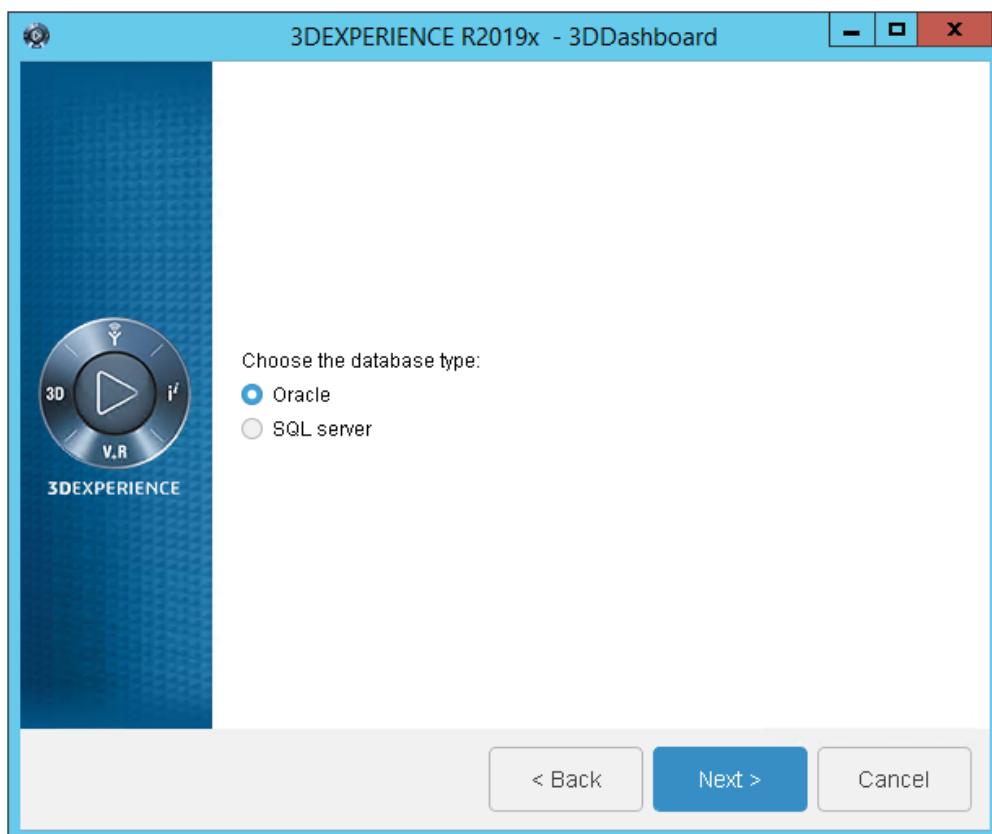
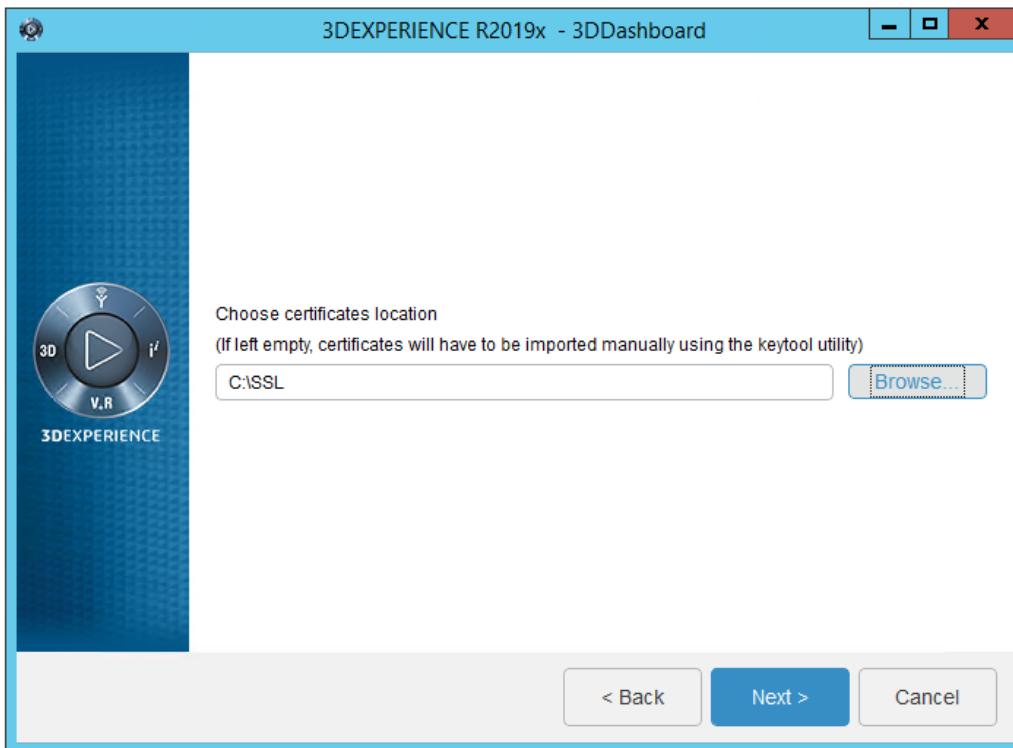
## Best Practices



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

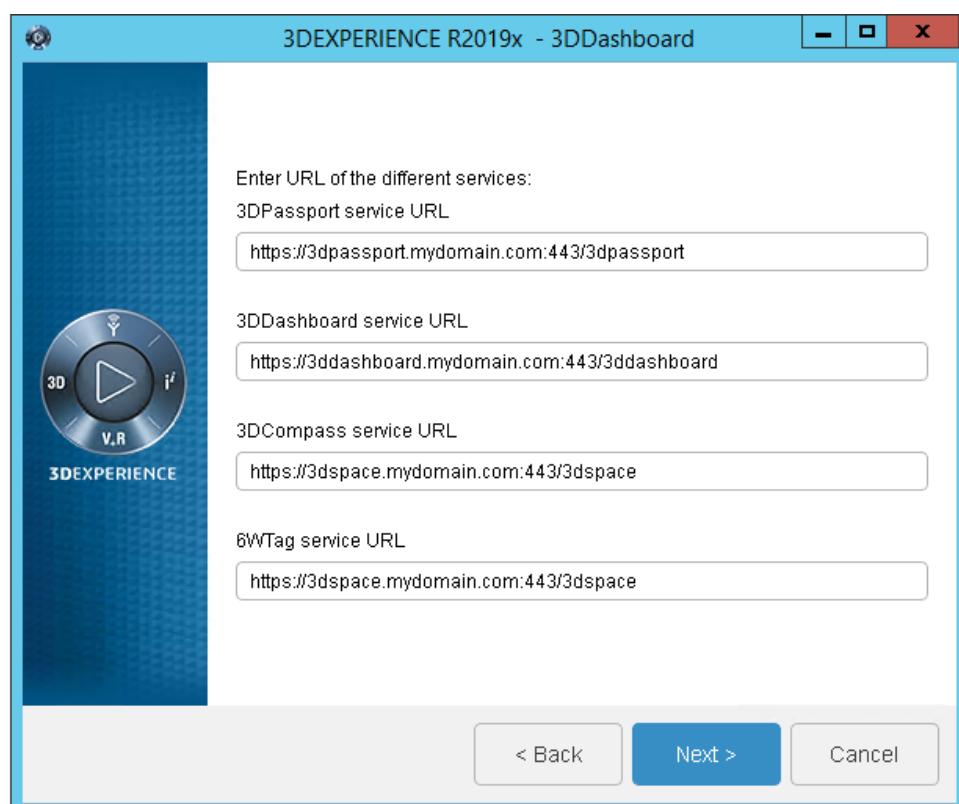
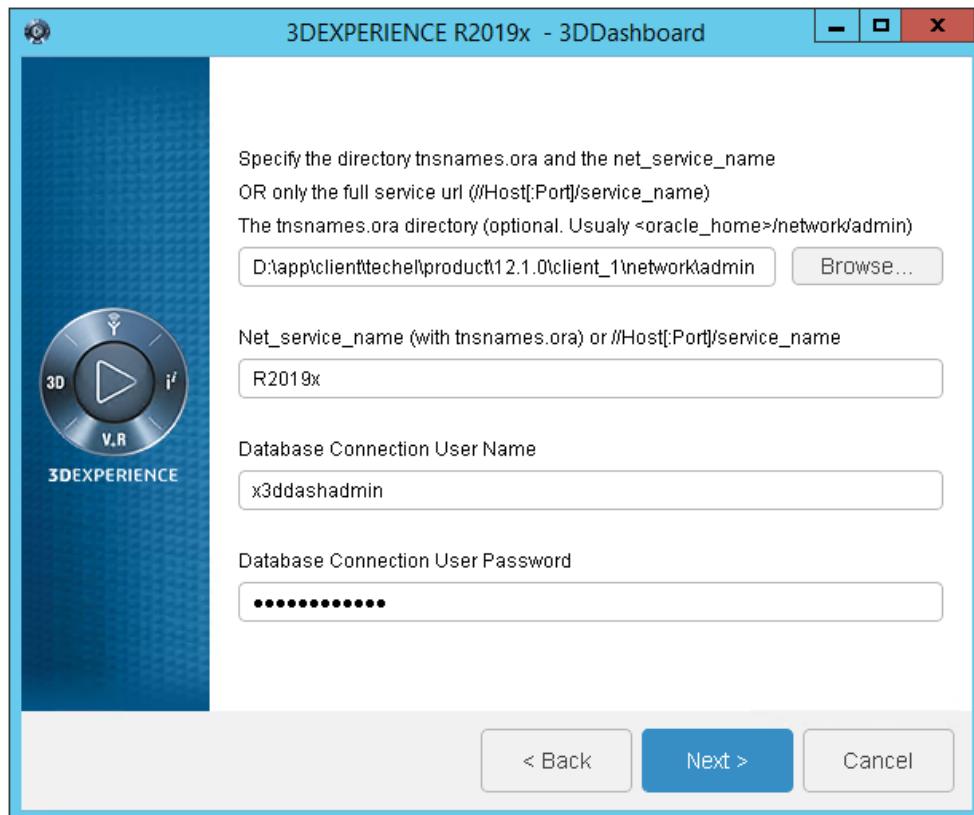
## Best Practices



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

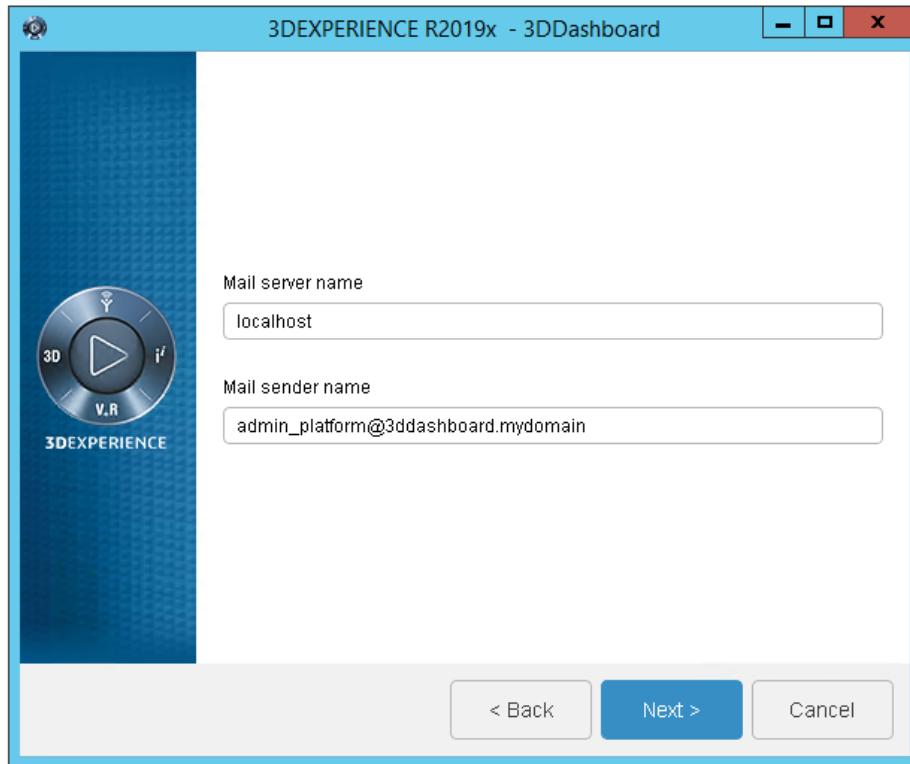
## Best Practices



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

## Best Practices

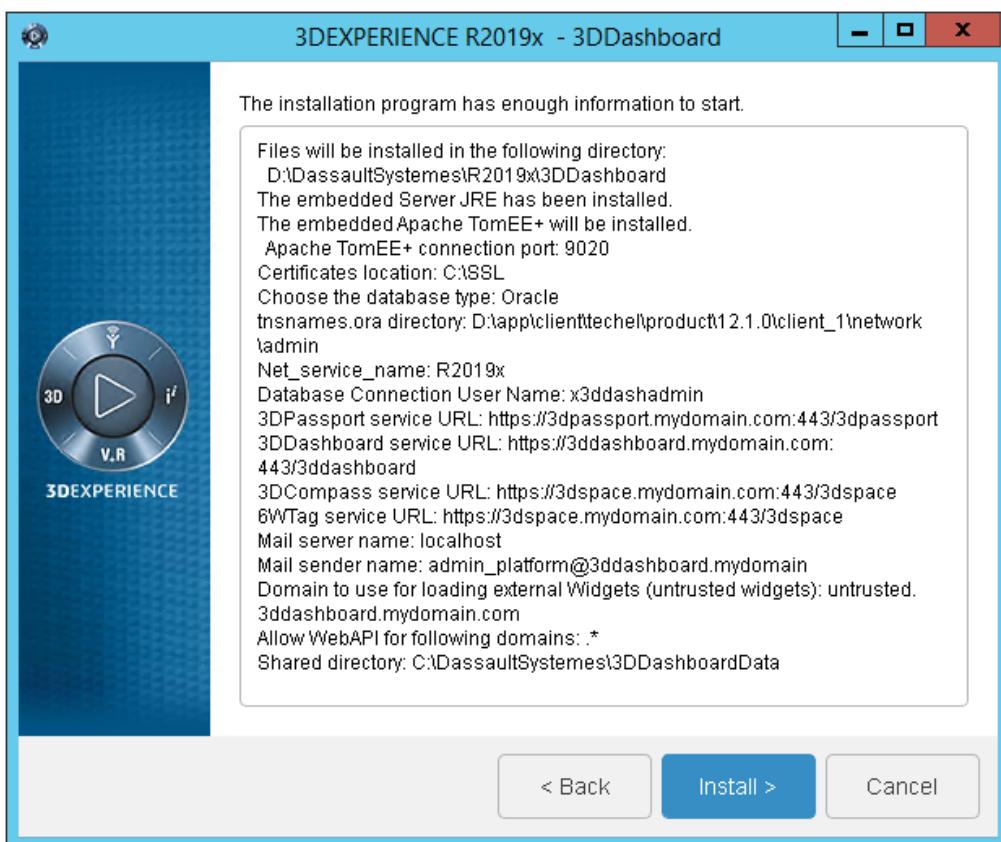
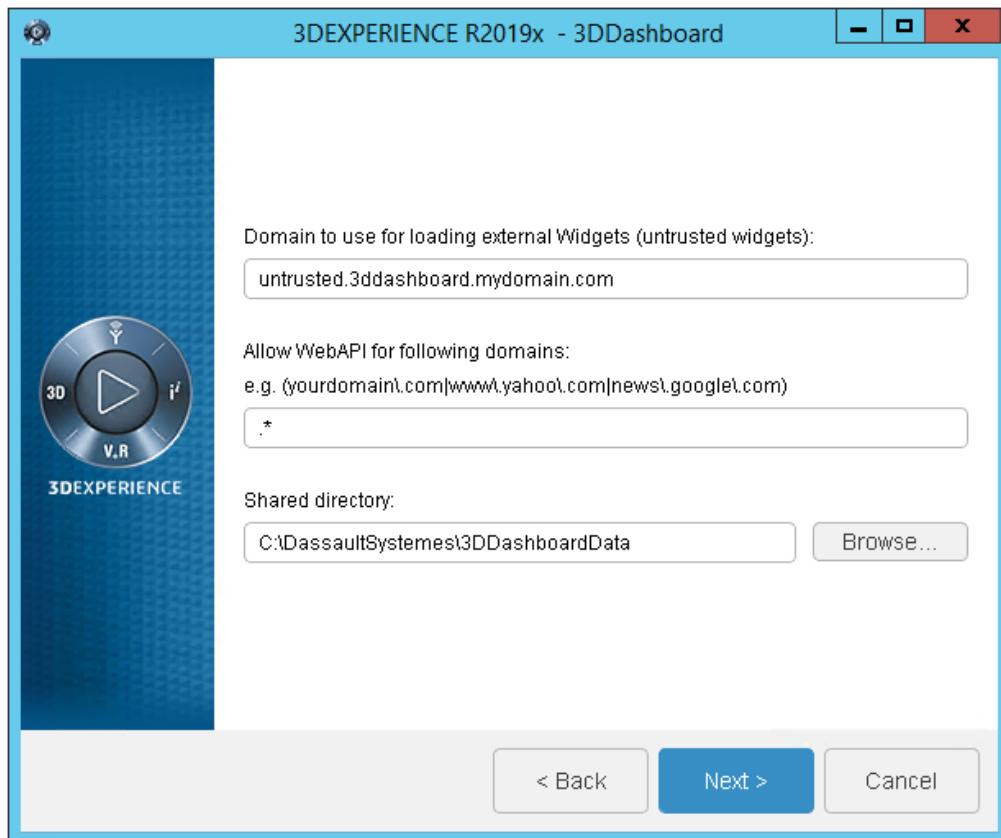


**Note:** Specify a real mail server and email address; else you will not be able to retrieve the password in case you lose it. So specify the mail server name according to your email server setup.

Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

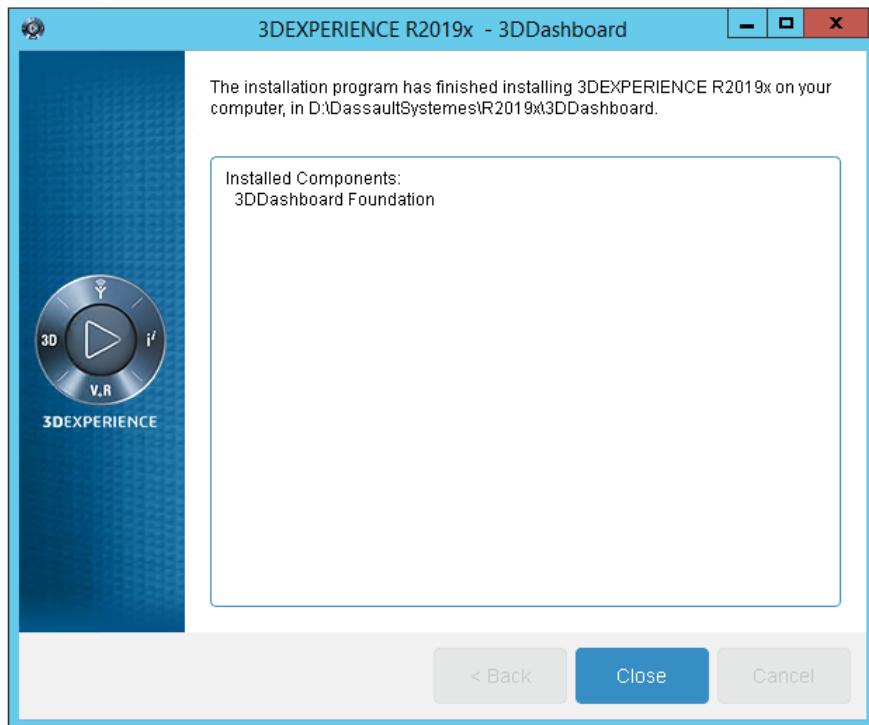
This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

## Best Practices



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.



### 4.2.3. Post Installation Task

Perform the following checks after installation:

- ▶ Configure Apache httpd.conf and create 3DDashboard.conf as exemplified in section 3.6.3 of this document.
- ▶ Test 3DDashboard installation with the following URL:  
For example: <https://3ddashboard.mydomain.com:443/3ddashboard>
- ▶ Check login using admin\_platform for admin page access.

## 4.3. 3DSearch

3DSearch is a search service used for the apps of the 3DEXPERIENCE platform to federate search results from 3DPassport, 3DSpace, and 3DSwym sources.

### 4.3.1. Installing 3DSearch

The name of the installation media is, FederatedSearchFoundation.Windows64.zip.

1. Unzip the media to create the following directory:

FederatedSearchFoundation.Windows64

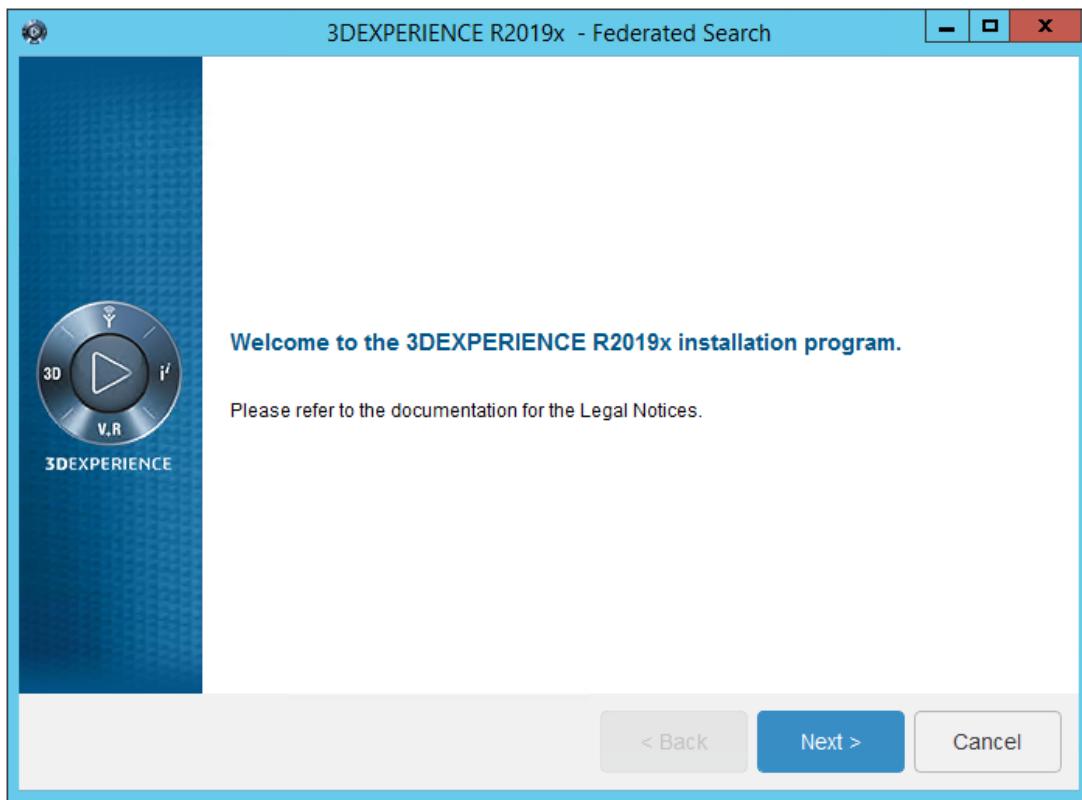
2. Change to the distribution directory.

FederatedSearchFoundation.Windows64/1

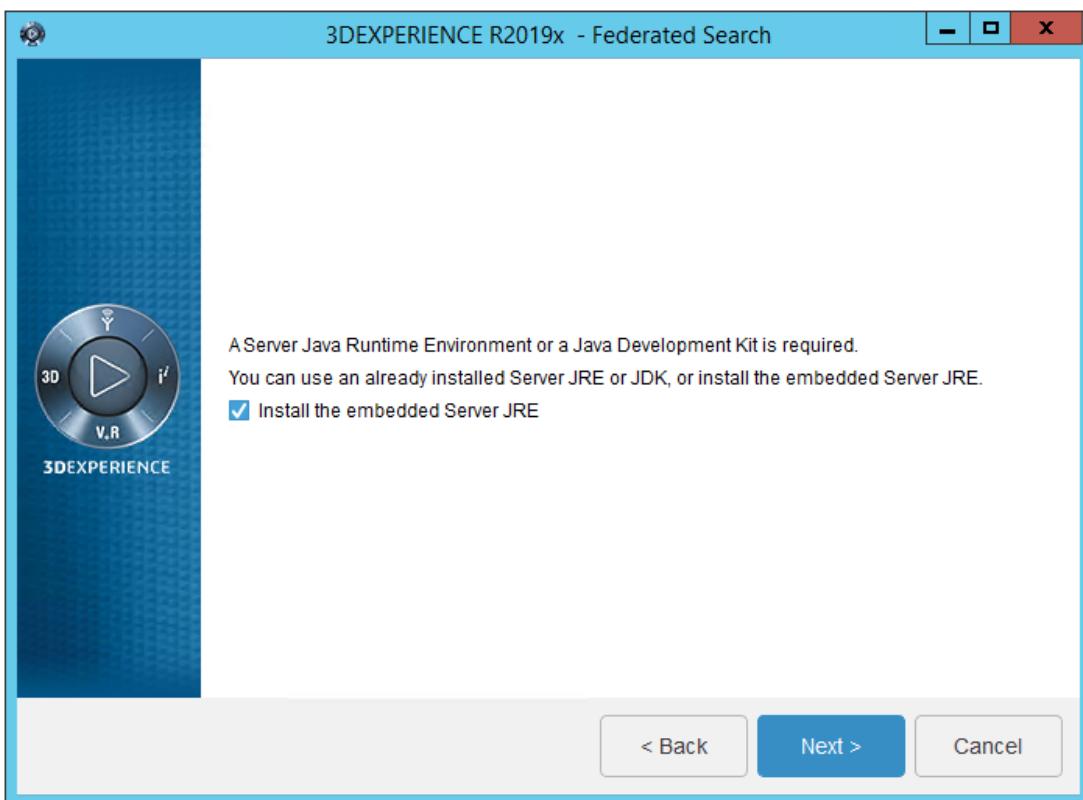
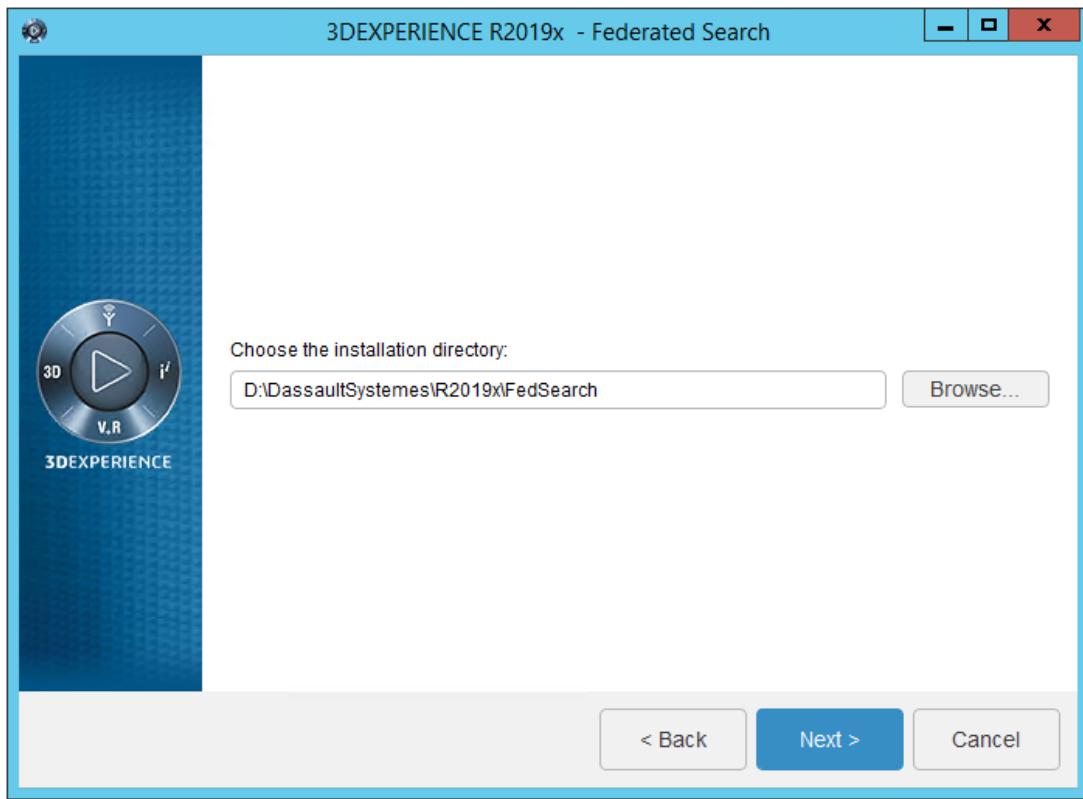
Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

3. Double-click setup.exe on Windows and then start the installation procedure. The Federated Search Foundation installation procedure starts. Follow the below snapshots to complete the Federated Search Foundation installation.



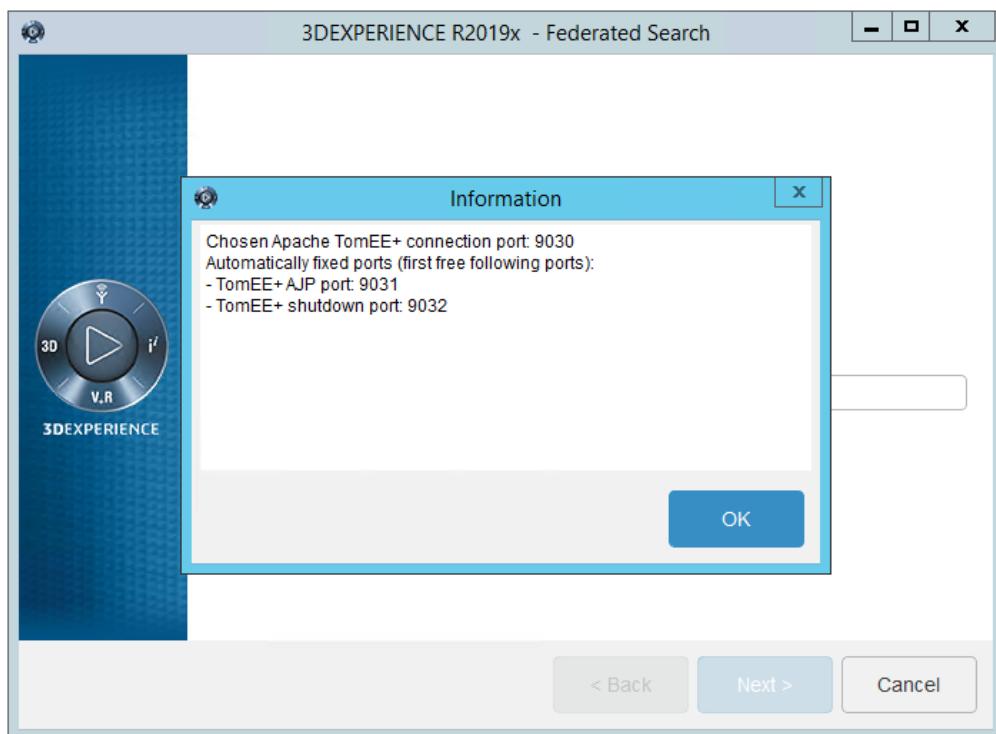
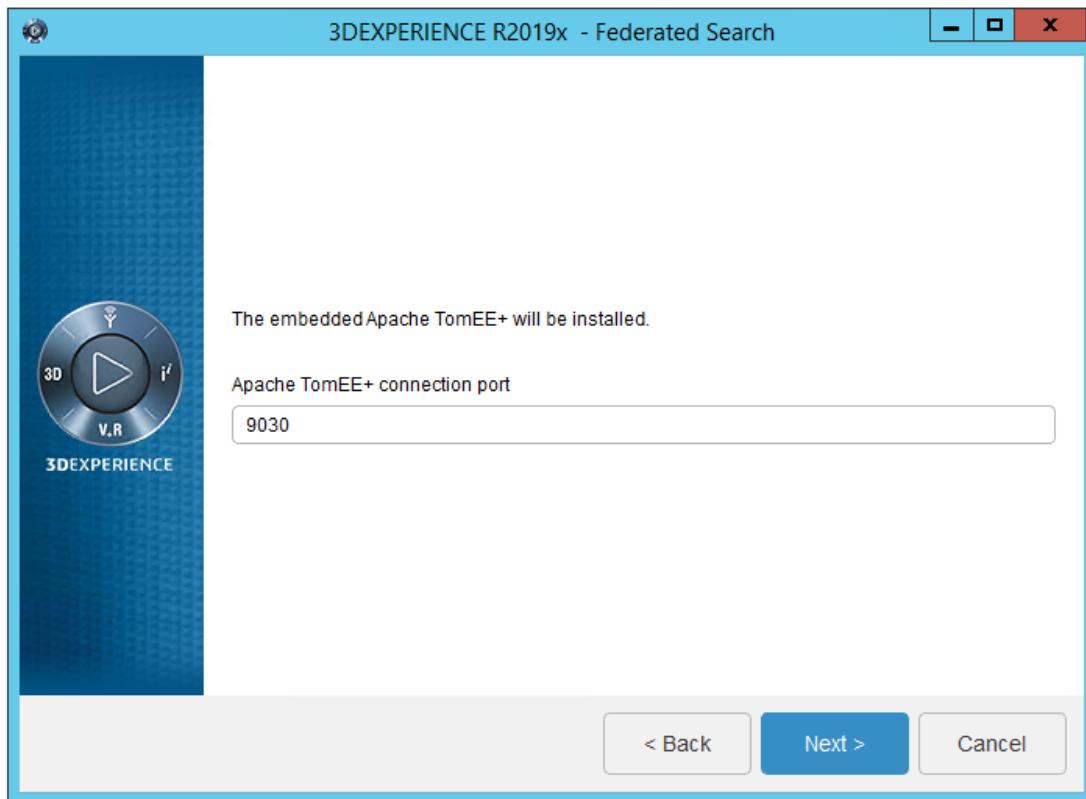
## Best Practices



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

## Best Practices



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

## Best Practices

3DEXPERIENCE R2019x - Federated Search



Enter URL of the different services:

3DPassport service URL

3DSearch service URL

3DSpace service URL

3DSwym service URL

< Back    Next >    Cancel

3DEXPERIENCE R2019x - Federated Search



Choose certificates location  
(If left empty, certificates will have to be imported manually using the keytool utility)

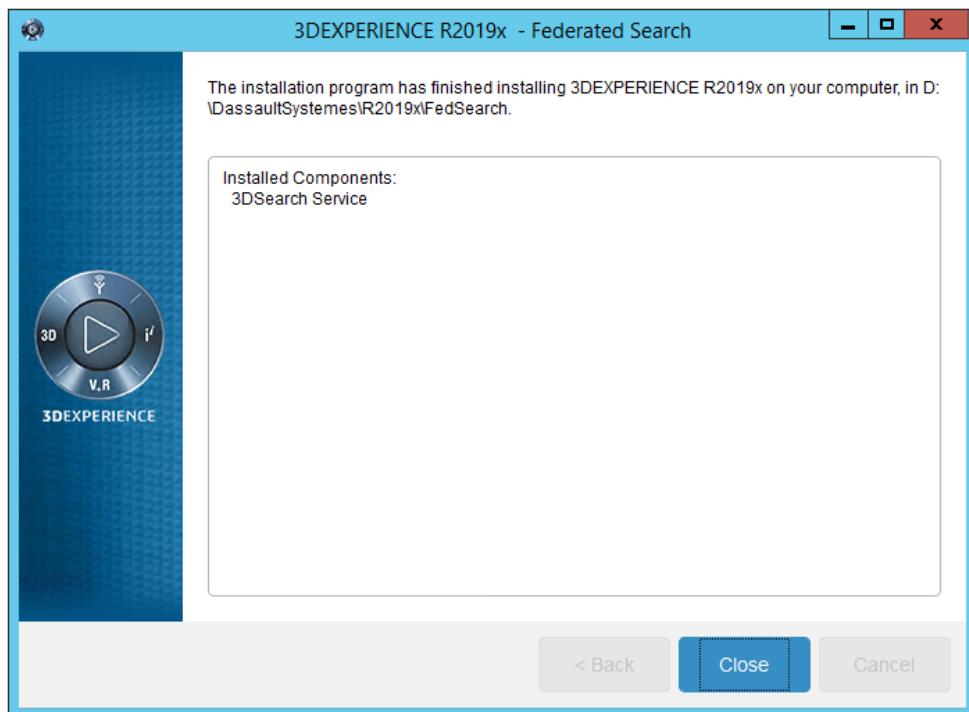
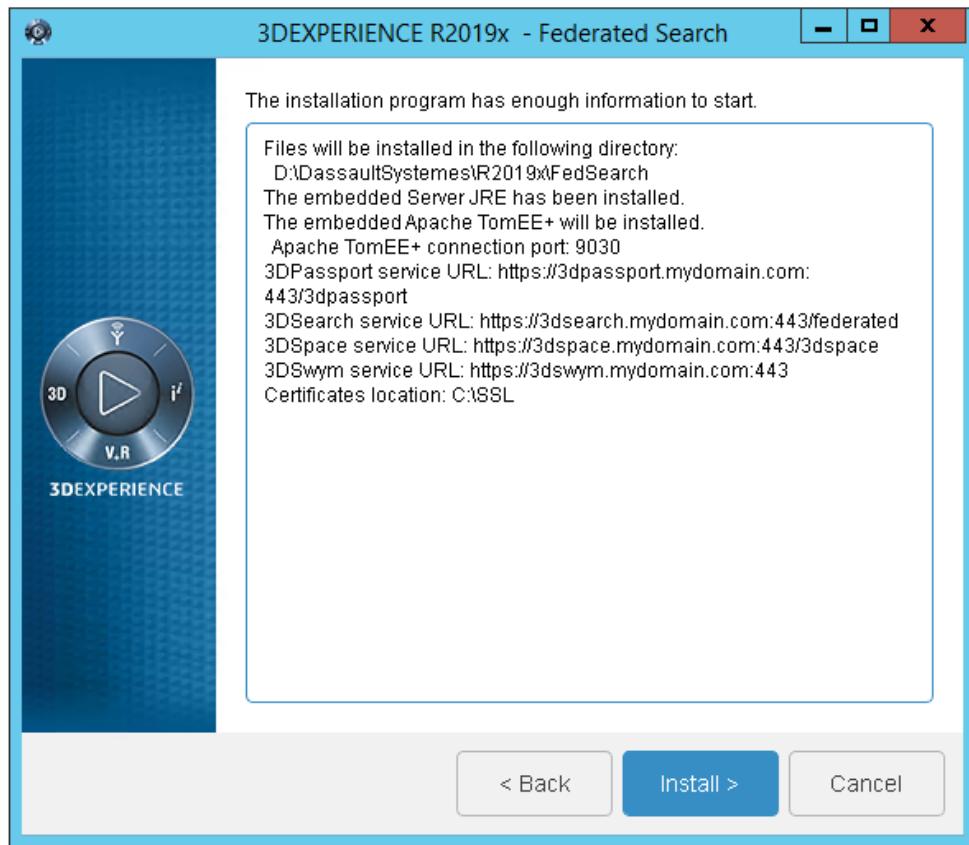
   Browse...

< Back    Next >    Cancel

Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

## Best Practices



### 4.3.2. Post Installation Task

Configure Apache httpd.conf and create the federated.conf as exemplified in section 3.6.3 of this document.

## 4.4. 3DSpace

The 3DSpace installer media allows installation of the principal (but not all) individual components and deploys the 3DSpace service:

- ▶ Live Collaboration Server (CSR)
- ▶ Business Process Services (BPS)
- ▶ Multi-Discipline Collaboration Platform (EVP)
- ▶ Collaborative Space Management Services (CSG)
- ▶ 3DEXPERIENCE Apps Management (MYA).

Here, embedded JAVA and TomEE have been used.

### 4.4.1. Installing 3DSpace

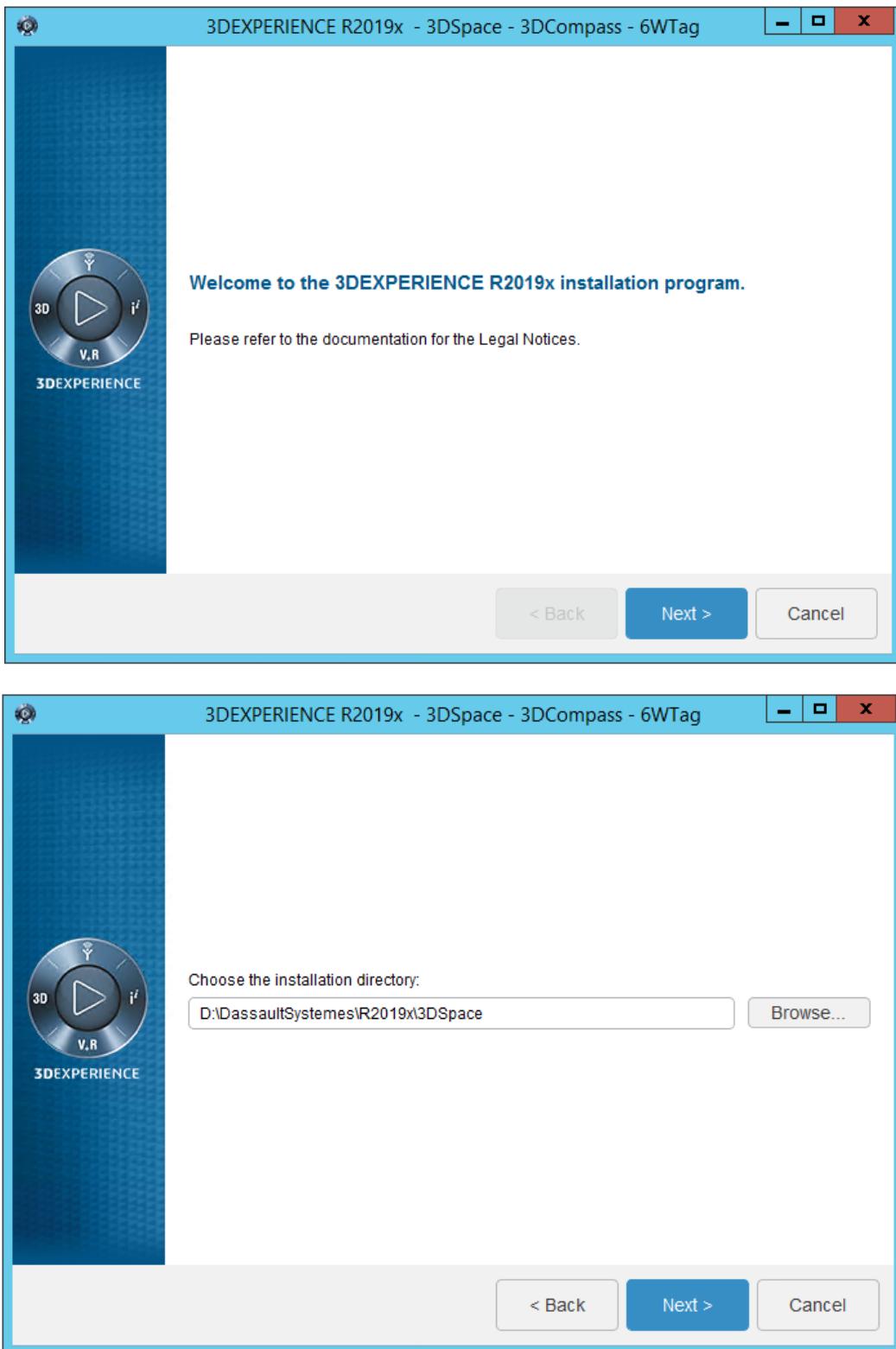
The name of the installation media is, 3DSpace-V6R2019x.Windows64.zip.

1. Unzip the media to create the following directory: 3DSpace.Windows64
2. Change to the distribution directory.

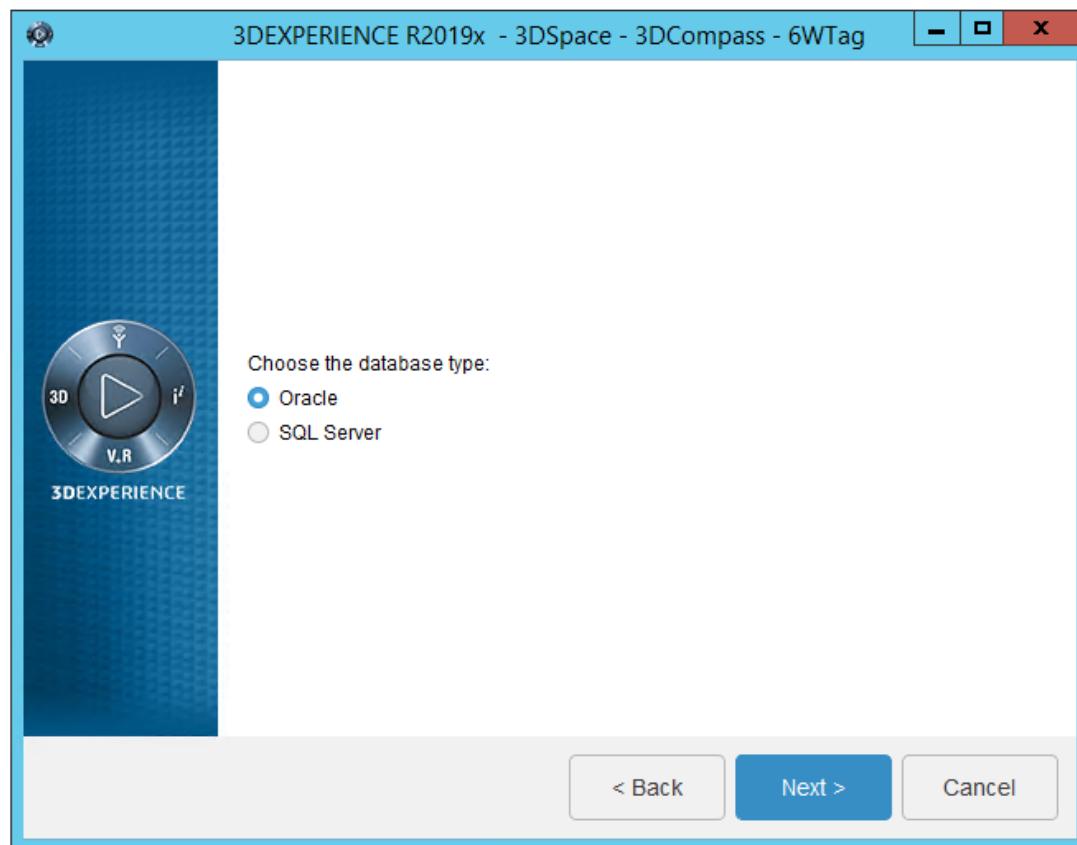
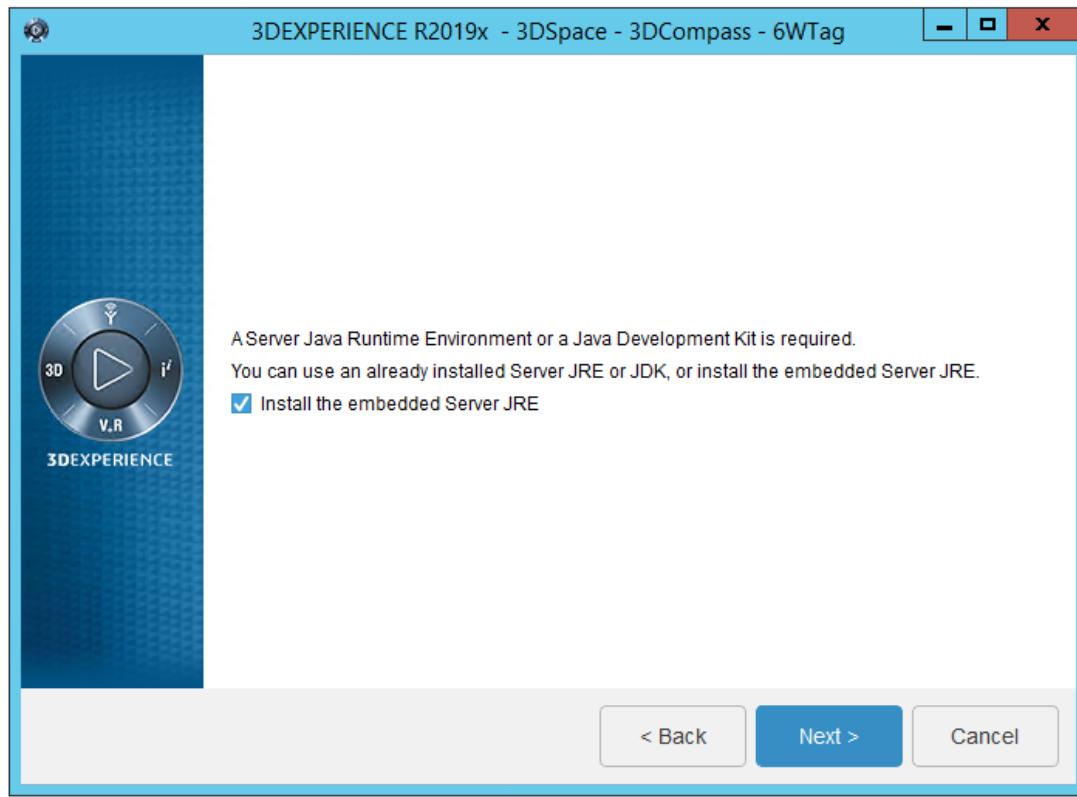
3DSpace.Windows64/1

3. Double-click setup.exe on Windows and then start the installation procedure. The 3DSpace installation procedure starts. Follow the below snapshots to complete the 3DSpace installation.

## Best Practices



## Best Practices



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

## Best Practices

**3DEXPERIENCE R2019x - 3DSpace - 3DCompass - 6WTag**

The directory of tnsnames.ora

Oracle Connection User Name

Oracle Connection User Password

net\_service\_name or //Host:Port/service\_name (without setting TNS\_ADMIN)

Default and Administration data tablespace (ignored if blank)

Default and Administration index tablespace (ignored if blank)

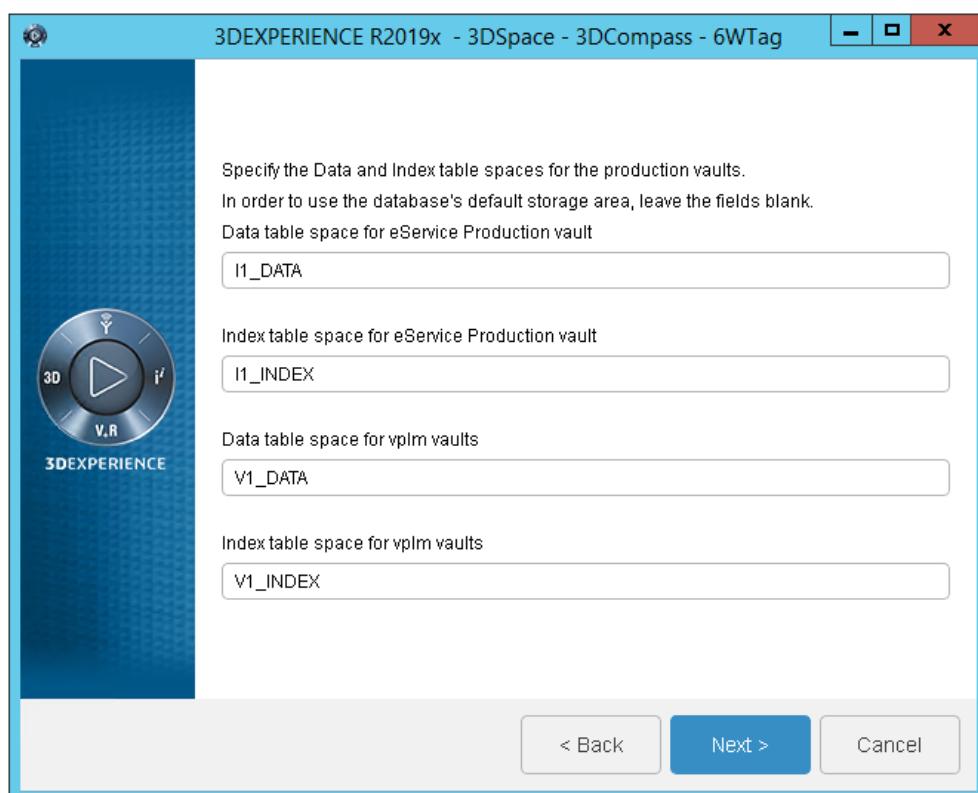
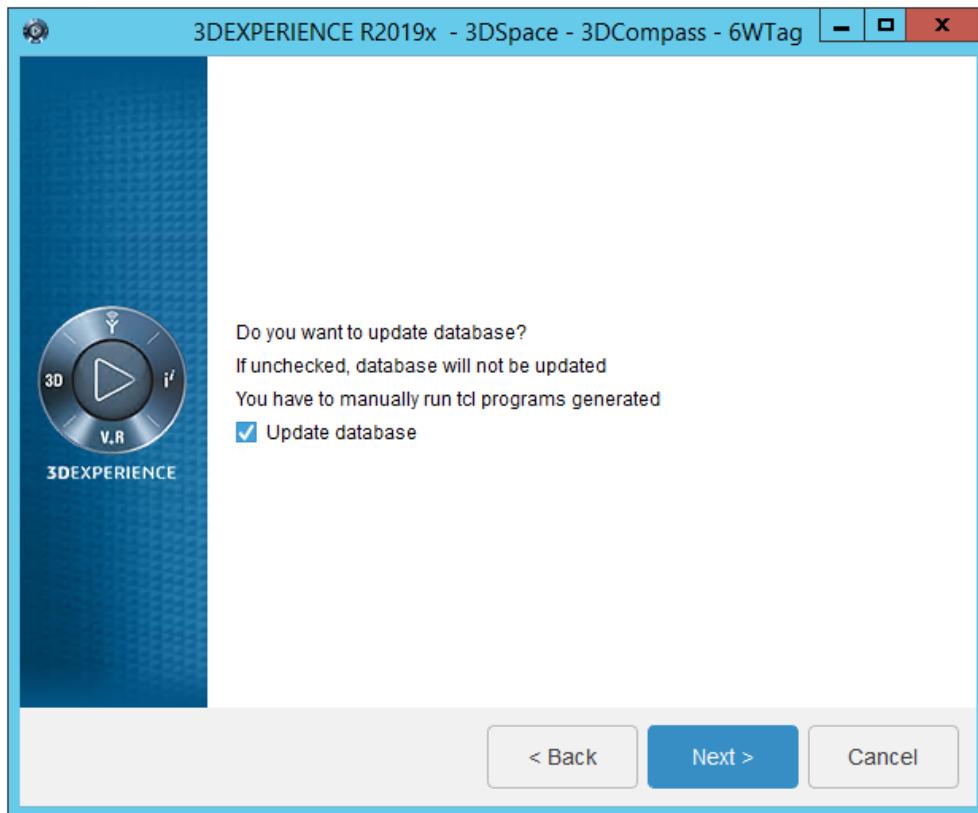
**3DEXPERIENCE R2019x - 3DSpace - 3DCompass - 6WTag**

Specify the password of the user having both Business and System Administration Privileges.

An administrator user will be created: admin\_platform  
Administrator password:

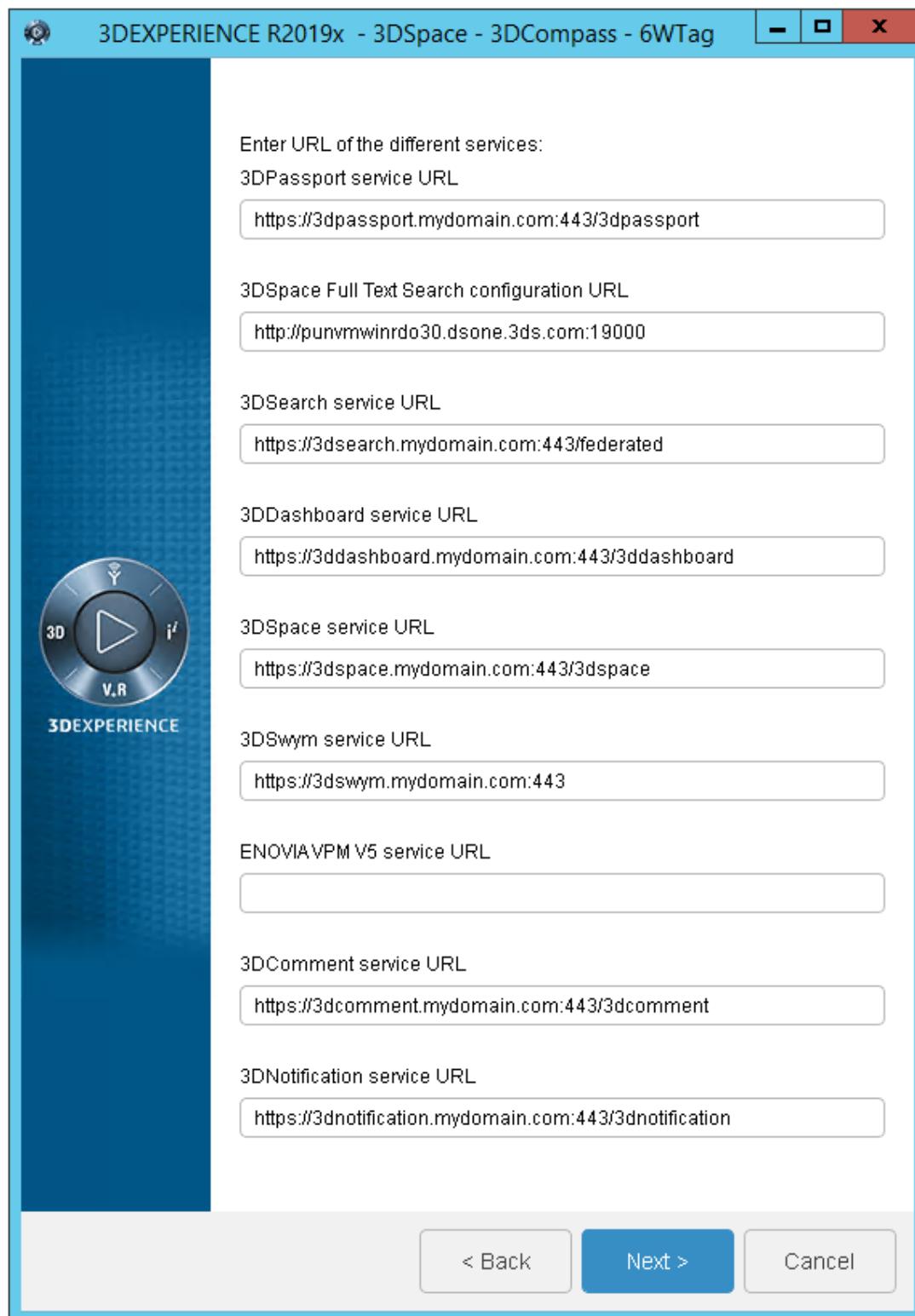
Choose directory for files storage:

## Best Practices

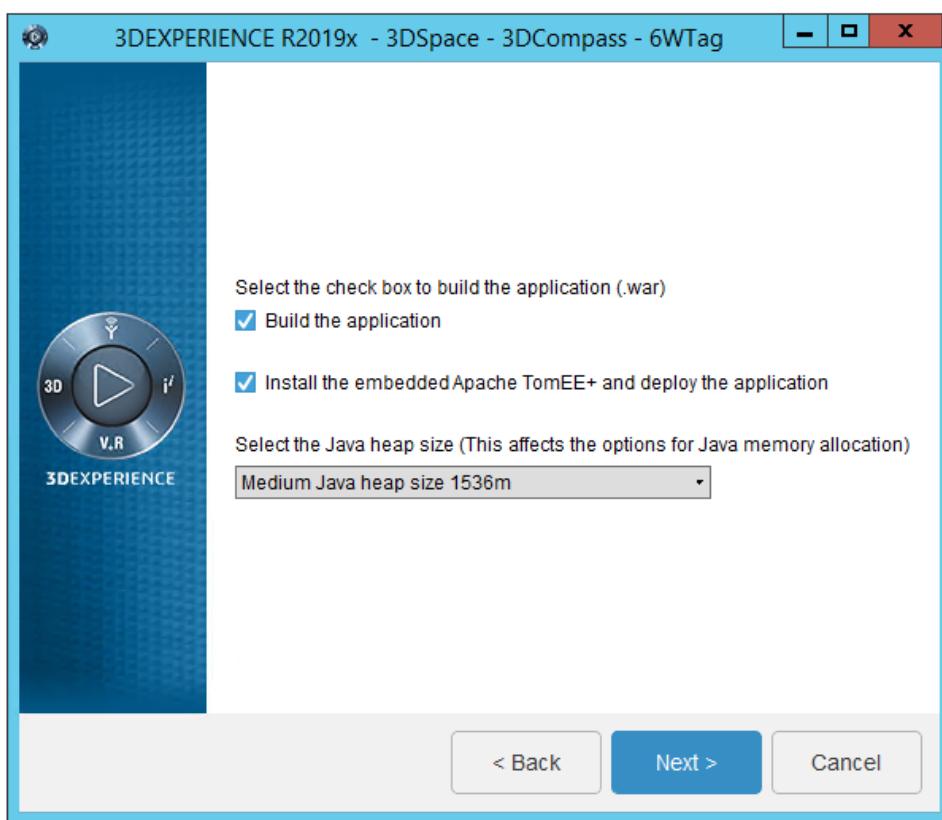
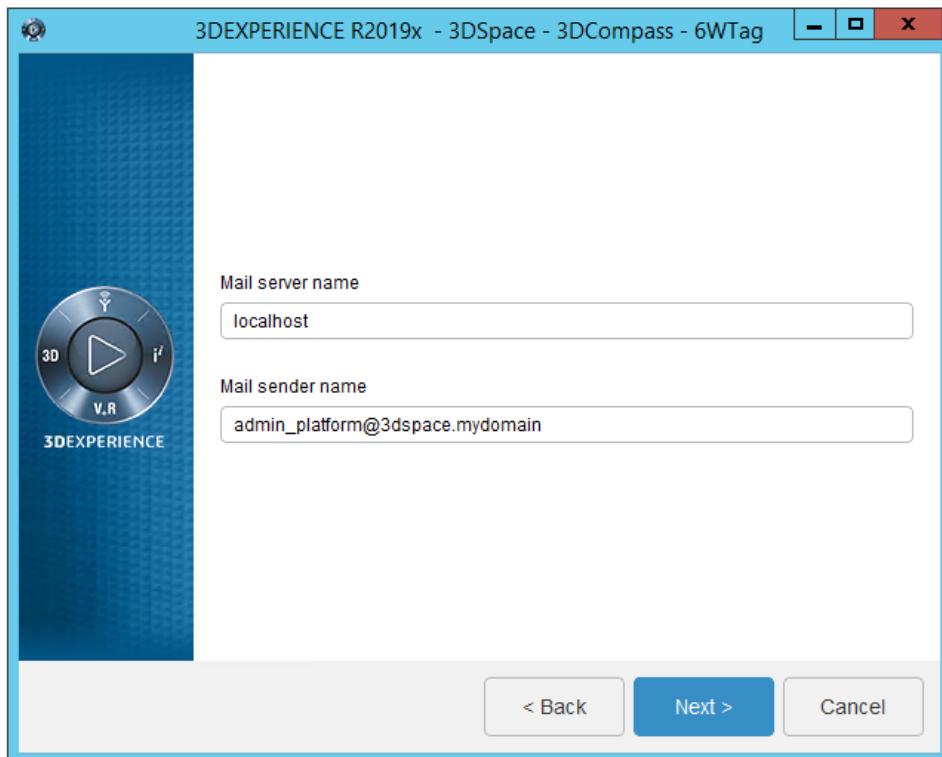


Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.



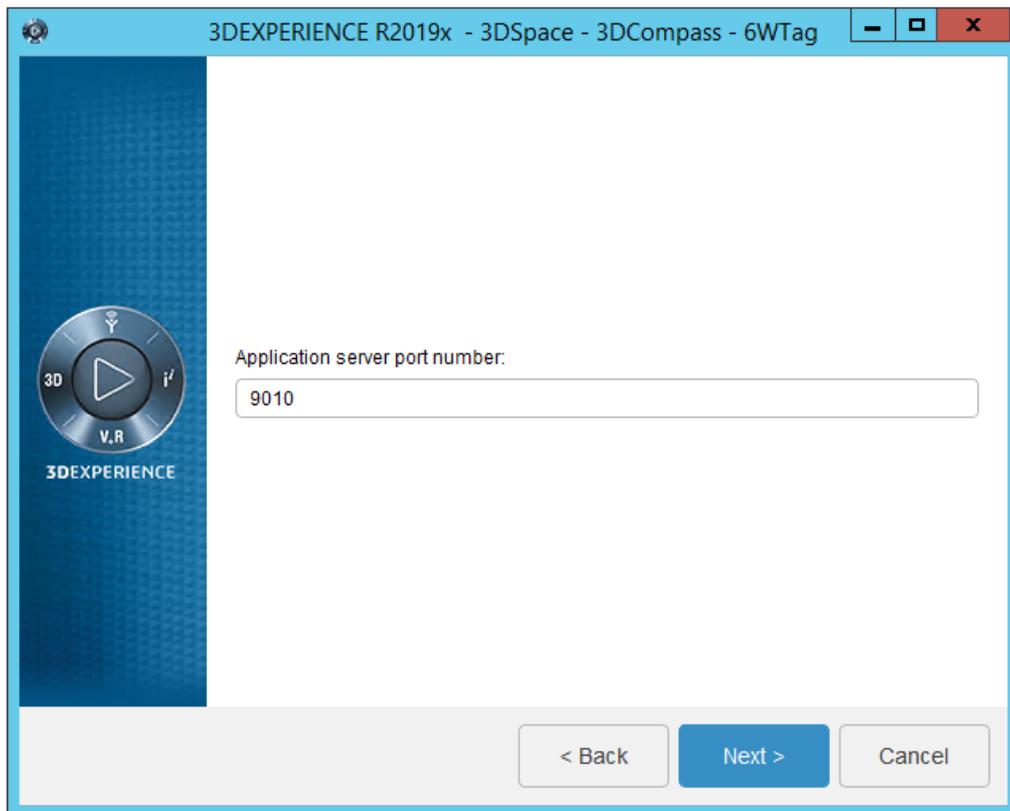
## Best Practices



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

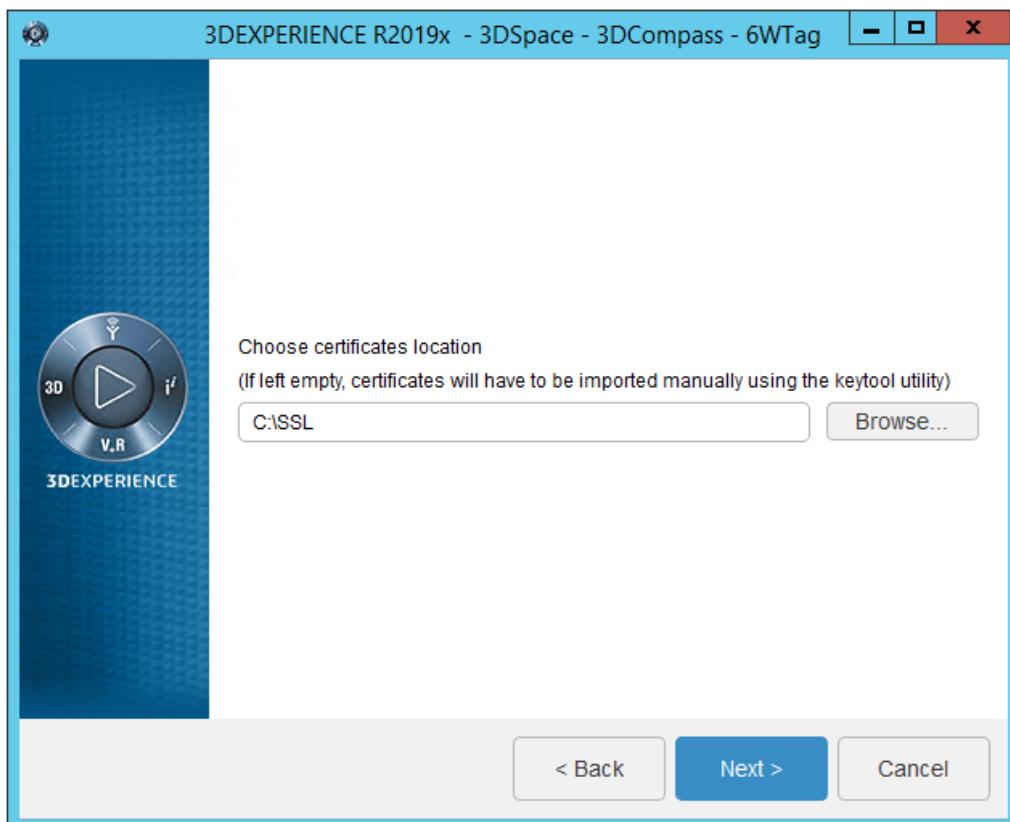
## Best Practices



3DEXPERIENCE R2019x - 3DSpace - 3DCompass - 6WTag

Application server port number:  
9010

< Back    Next >    Cancel



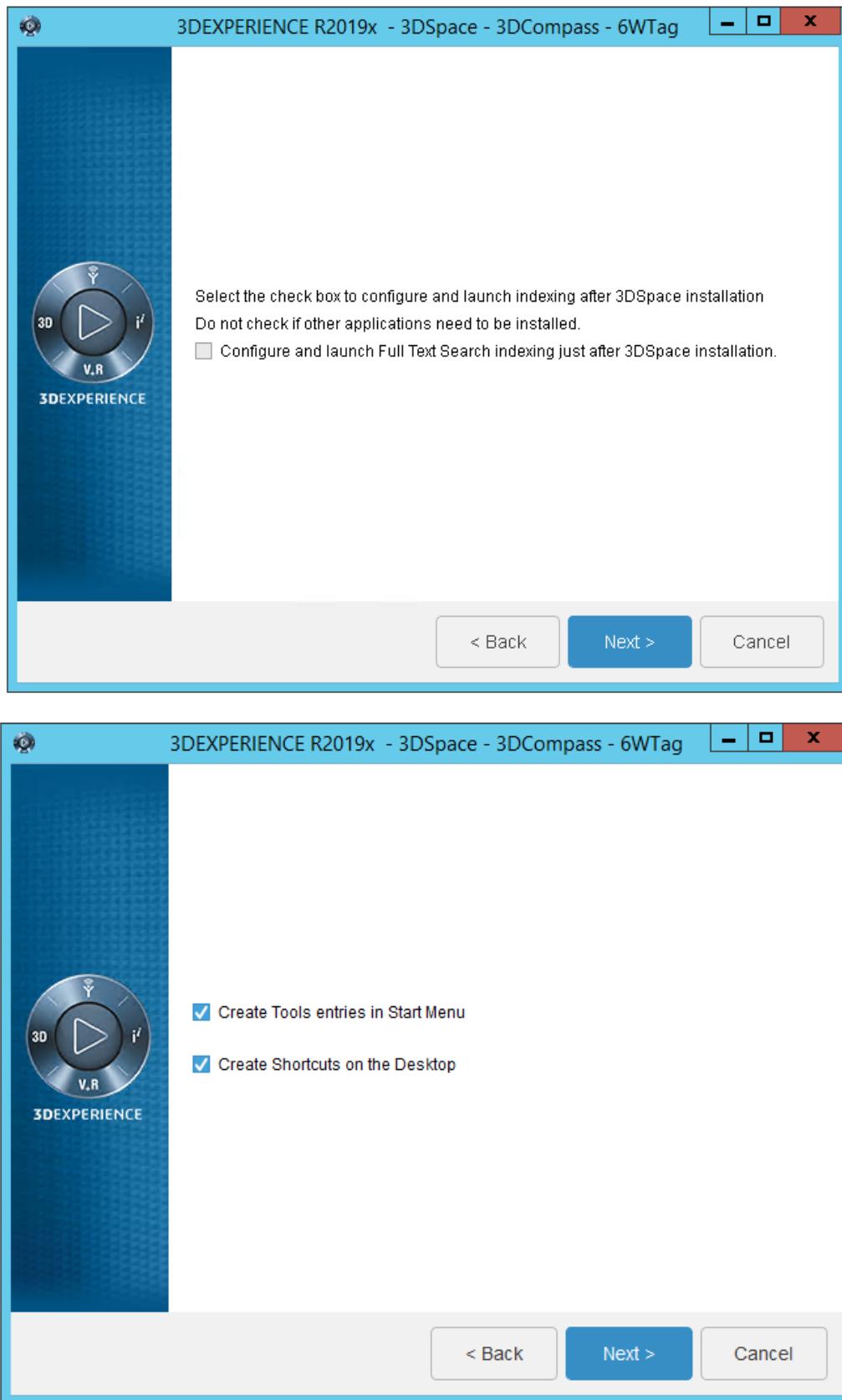
3DEXPERIENCE R2019x - 3DSpace - 3DCompass - 6WTag

Choose certificates location  
(If left empty, certificates will have to be imported manually using the keytool utility)

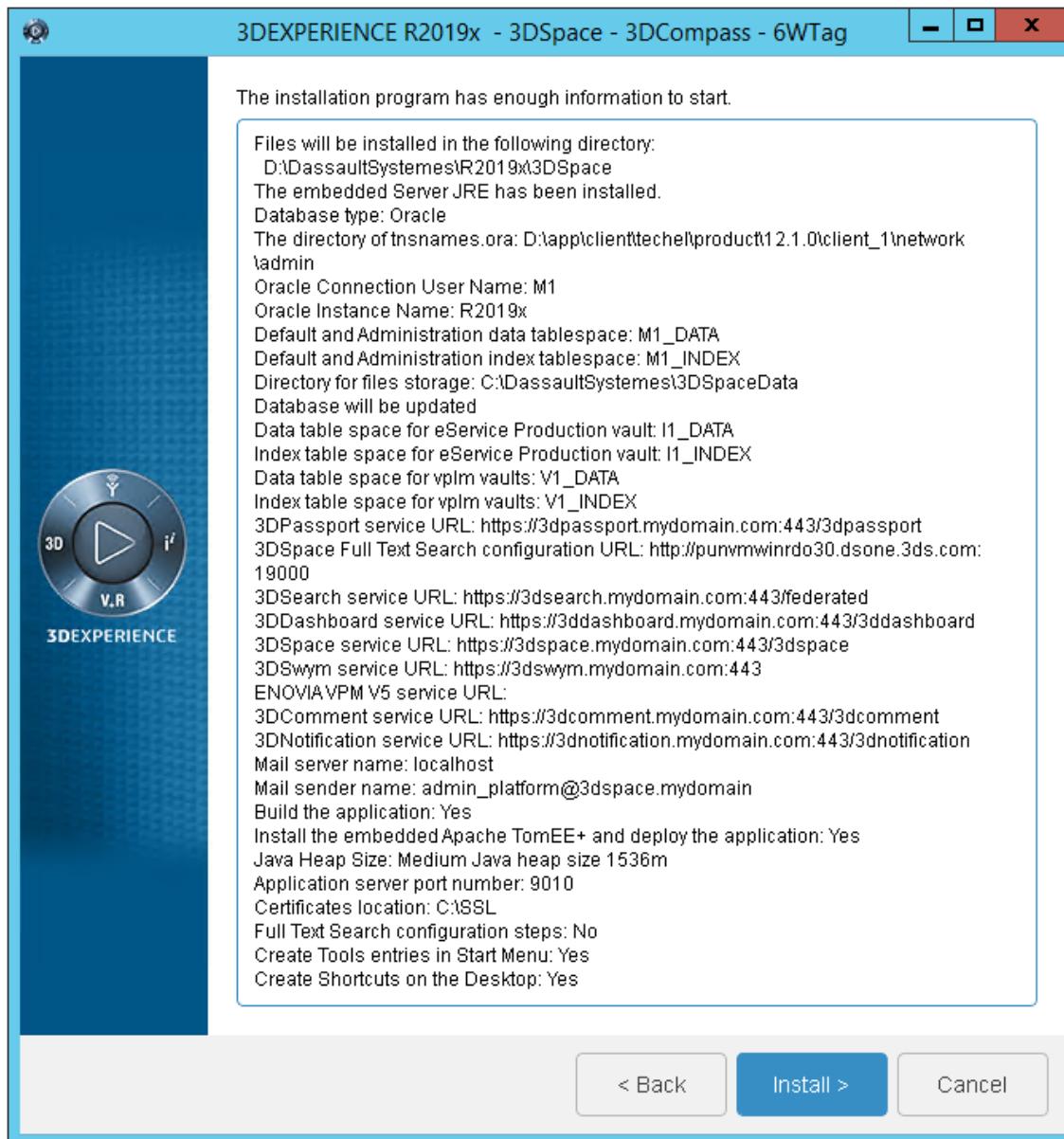
C:\SSL    Browse...

< Back    Next >    Cancel

## Best Practices

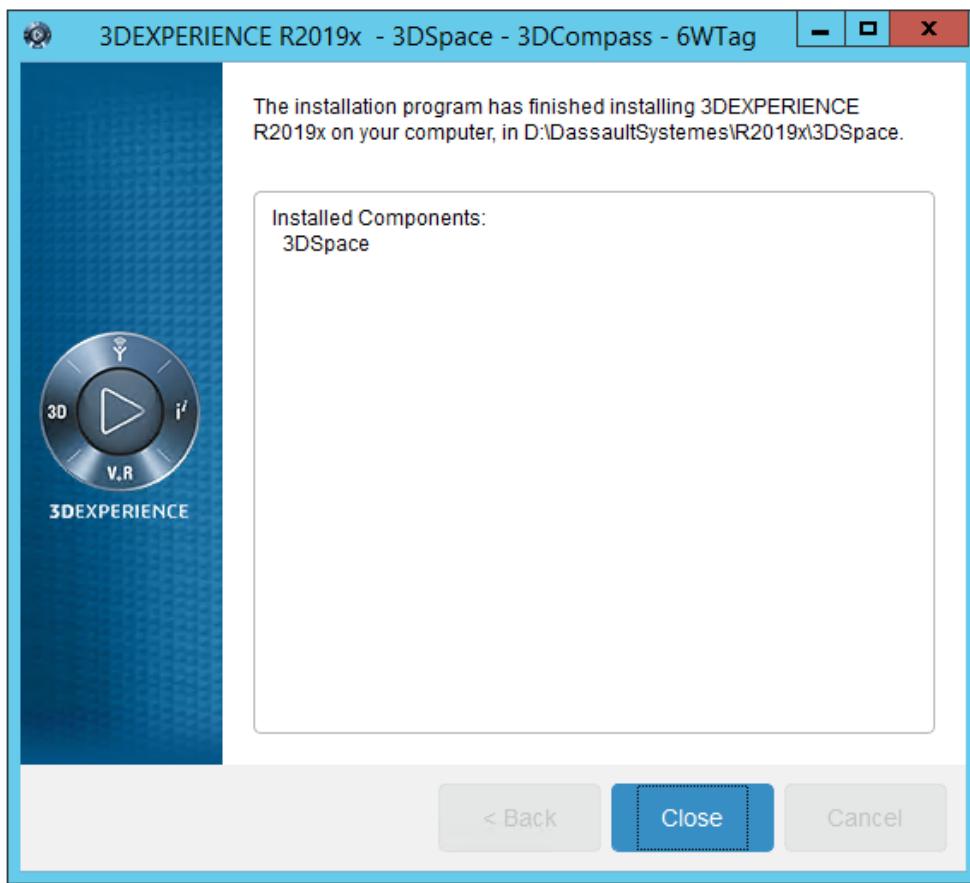


## Best Practices



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.



### 4.4.2. Post Installation Task

Perform the following checks after 3DSpace installation:

- ▶ Configure Apache httpd.conf and create 3DSPACE.conf as exemplified in section 3.6.3 of this document.
- ▶ Test 3DSPACE installation with the following URL:  
For example: <https://3dspace.mydomain.com:443/3DSpace>
- ▶ Check login using admin\_platform for admin page access.

## 4.5. File Collaboration Server

The File Collaboration Server (FCS) enables administrators to distribute file data across the enterprise for optimal upload and download performance. It provides location, checkout, and copy operations on the data managed by the 3DSpace Service. FCS is installed on installing the 3DSpace Service.

**NOTE:** File Collaboration Server is an optional functionality that is used as per the organization's requirement.

### 4.5.1. Installing the File Collaboration Server

Following are the steps to install FCS on a different machine or at a different location. The name of the installation media is, FileCollaborationServer-V6R2019x.Windows64.zip.

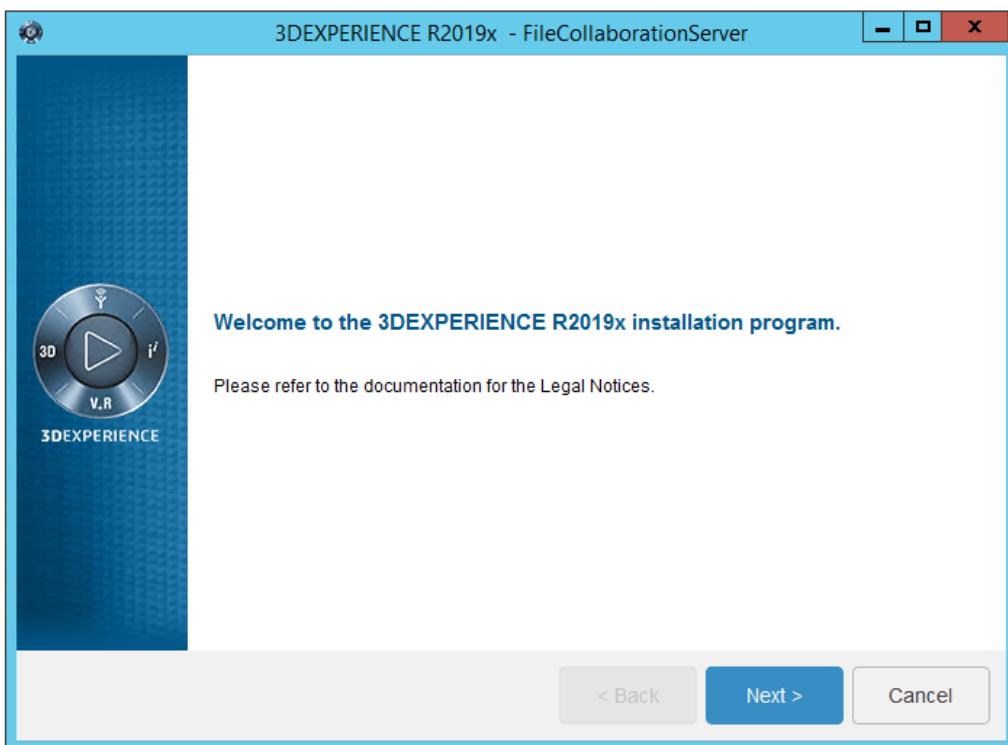
1. Unzip the media to create the following directory:

FileCollaborationServer.Windows64

2. Change to the distribution directory.

FileCollaborationServer.Windows64/1

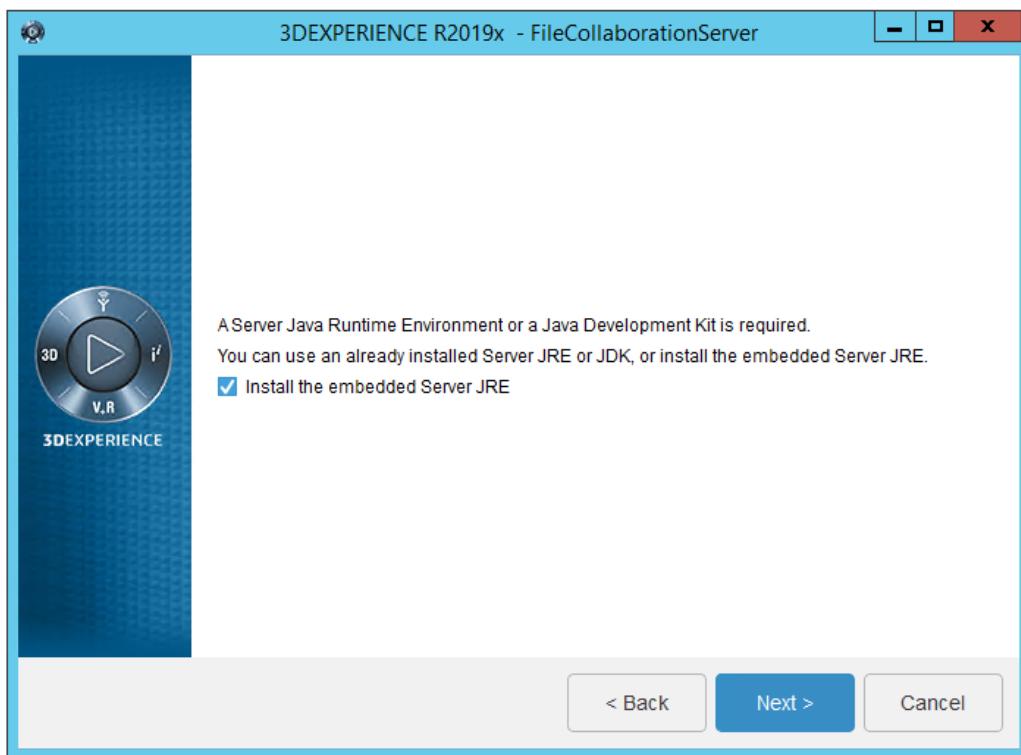
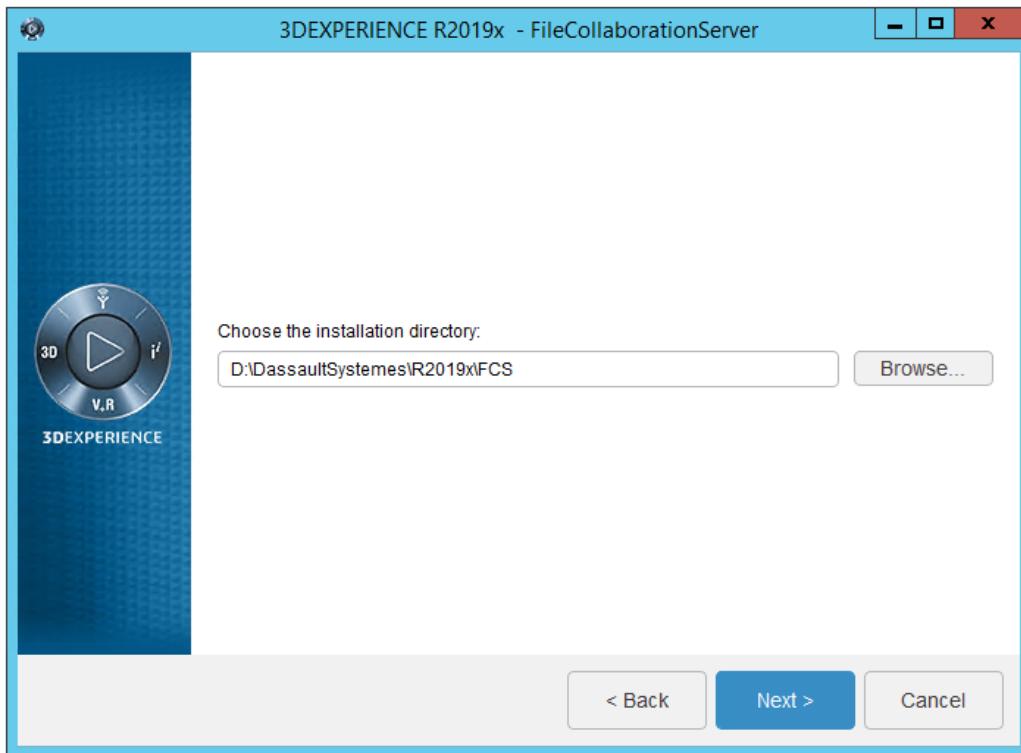
3. Double-click setup.exe on Windows and then start the installation procedure. The File Collaboration Server installation procedure starts. Follow the snapshots to complete the File Collaboration Server installation.



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

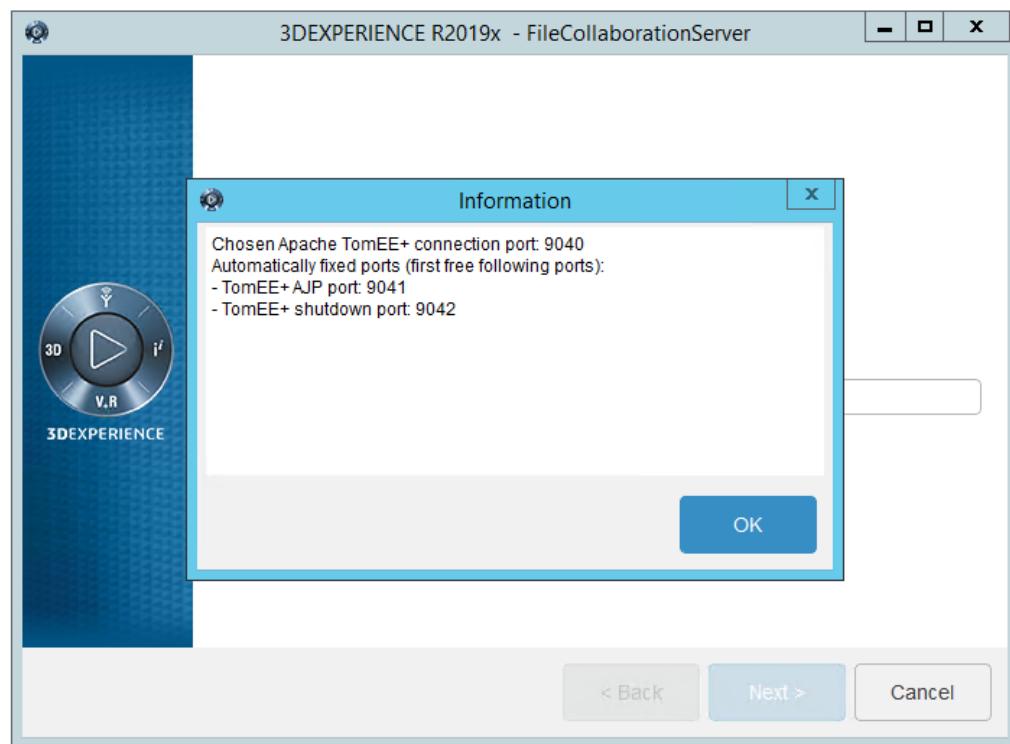
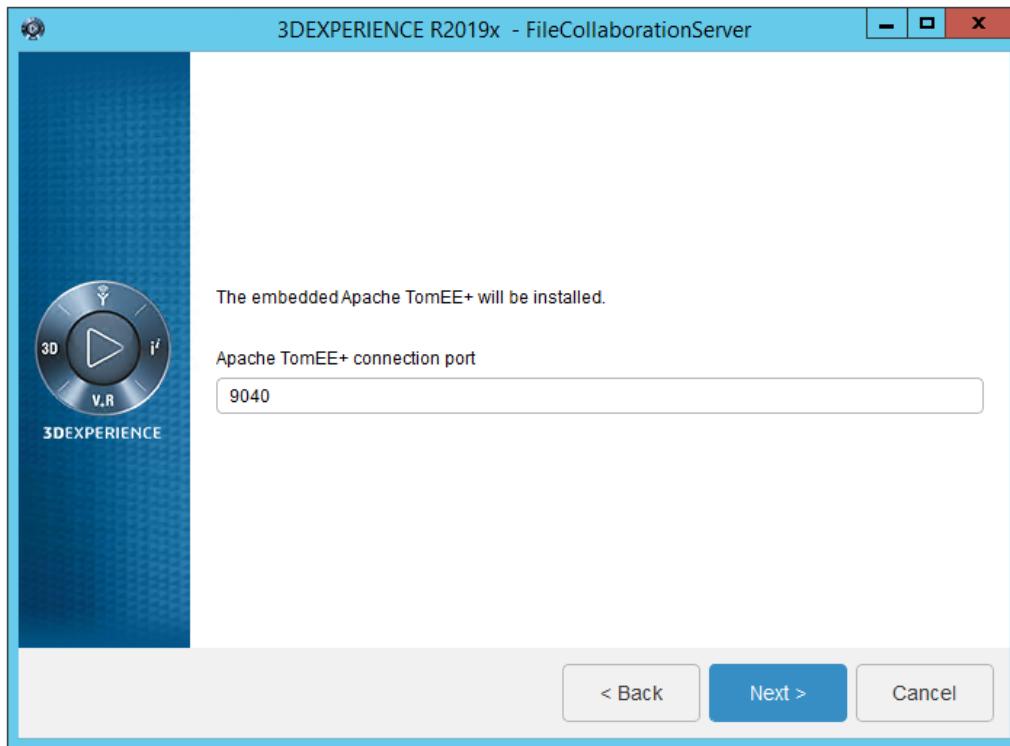
## Best Practices



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

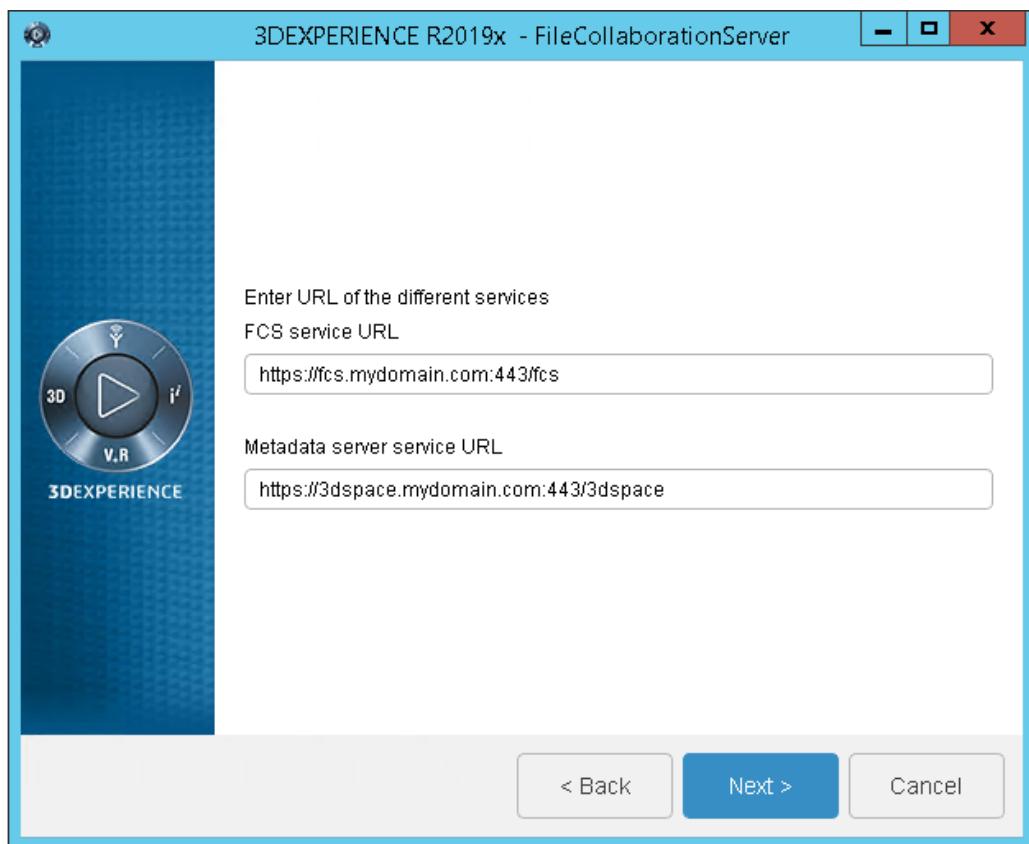
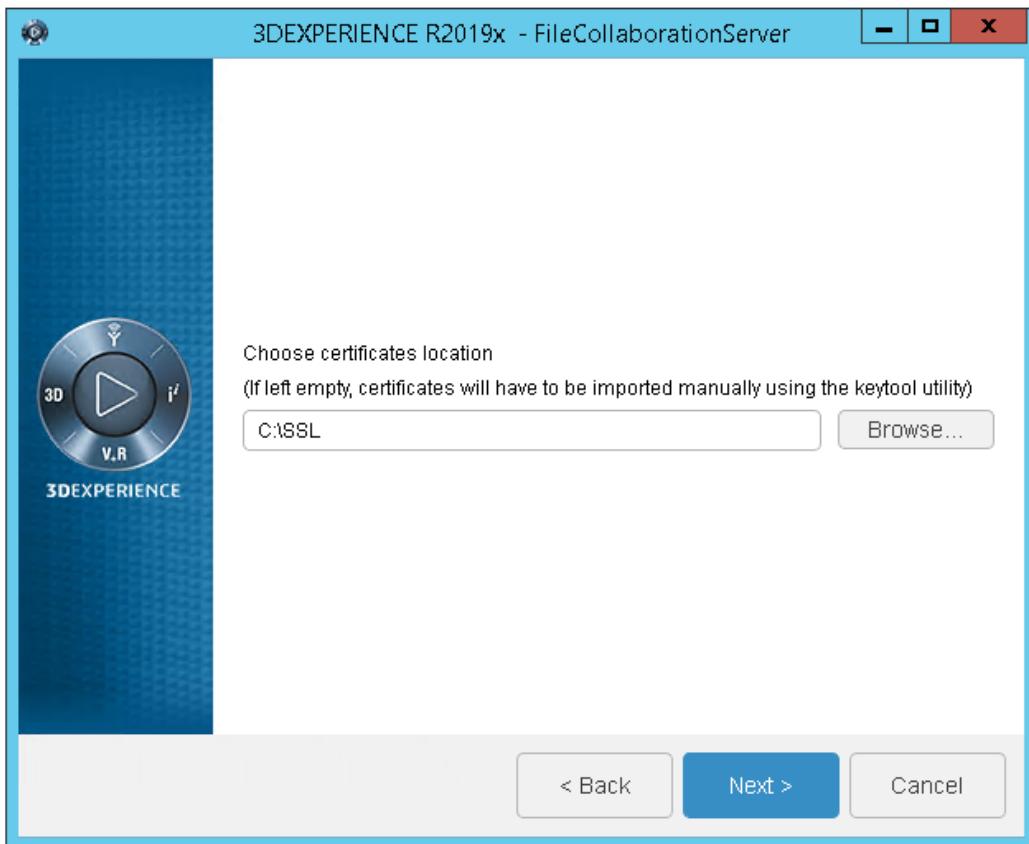
## Best Practices



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

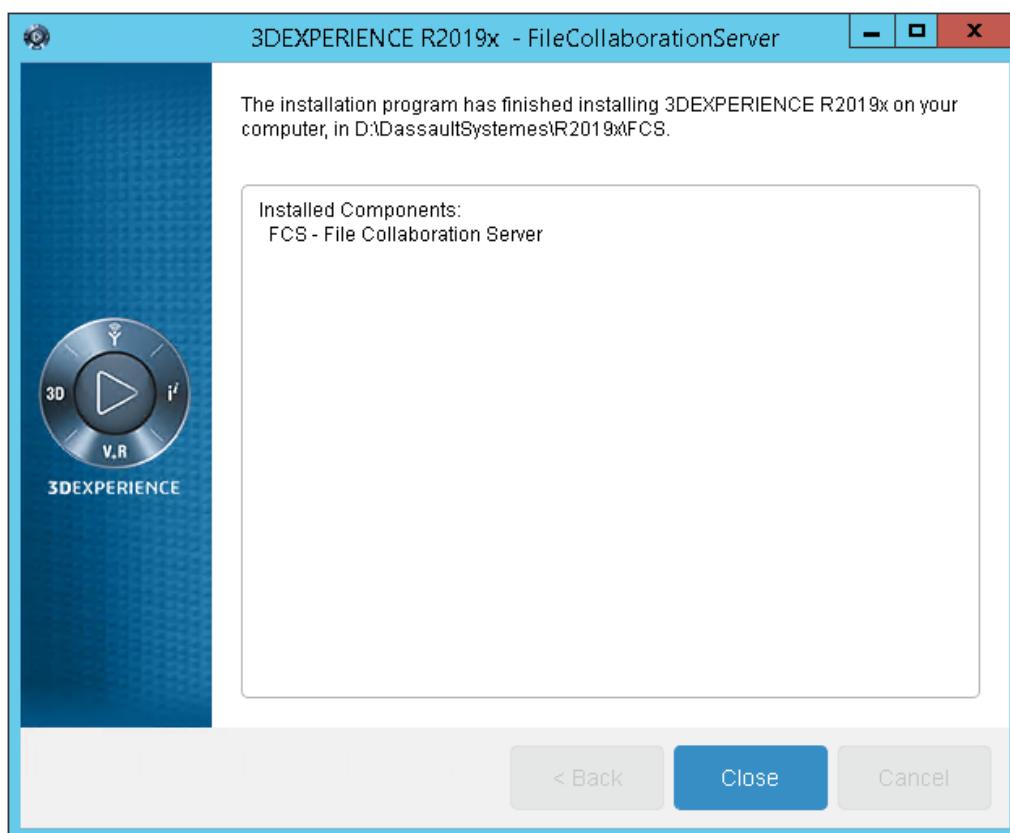
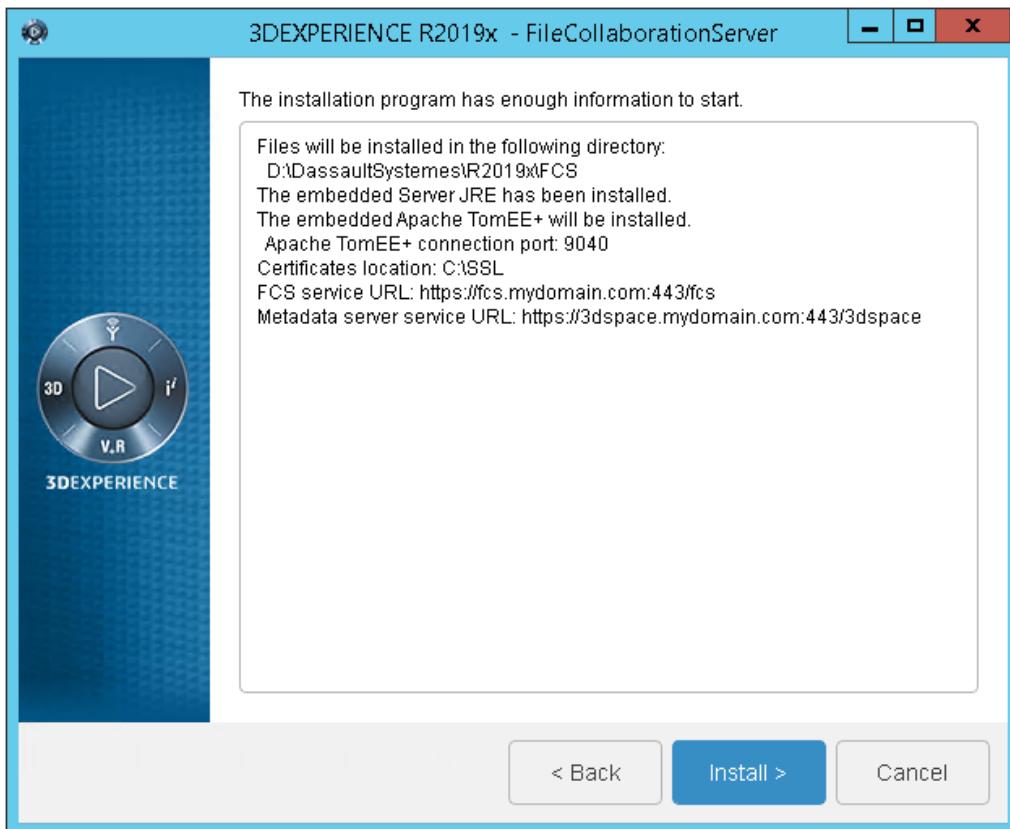
## Best Practices



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

## Best Practices



### 4.5.2. Post Installation Task

After installation, perform the following tasks:

- ▶ Configure Apache httpd.conf and create fcs.conf as exemplified in section 3.6.3 of this document.
- ▶ Activate CORS (Cross-Origin Resource Sharing) for the FCS. You can declare this in the fcs.conf file.

**Note:** The host parameter is not used when the file protocol is defined with the FCS URL in the store. Instead, the store is created on the system to which the FCS URL belongs. The inventory result may show that the host was defined in the store. You must ignore this as the store is actually created on the system on which the FCS URL is running.

**Installation and Setup | Administrate | 3DEXPERIENCE Platform | 3DSpace | File Collaboration Server | FCS Processing | Stores, Sites, and Locations**

## 4.6. 3DSpace Index

3DSpace Index (formerly called "Full-text Search Server") is a back-end component which indexes 3DSpace ENOVIA data. It does not have any front-end functional feature displayed on the 3DEXPERIENCE platform UI.

Create a user with install privileges and login as that user. On Windows, login as a user that belongs to the Administrators group or has the privileges assigned to the Administrators group.

There are two types of deployments:

- ▶ Simple
- ▶ Custom

Custom installation is further divided into:

- ▶ Single Search Server
- ▶ High Availability Master Server
- ▶ High Availability Slave Server
- ▶ File Convertor Only

For this exercise, "Simple" mode of installation is used.

For installing in the "Simple" mode, you require the following:

- ▶ The server hostname and base port
- ▶ The admin password to connect to CloudView Administration Console

Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

The installer will force the following parameters:

- ▶ Installation in non HA mode
- ▶ Default base port is 19000
- ▶ 1 slice
- ▶ 1 analyzer
- ▶ Embedded JDK

Use a “High Availability” server for large deployments that are for production purposes. Based on the size, you must wisely choose the slice(s) and analyzers during installation.

For details about sizing and applicability of different modes of “Custom” servers, refer to Dassault Systèmes documentation: [3DSpace Index Deployment and Installing 3DSpace Index](#).

### 4.6.1. Installing 3DSpace Index in Simple Mode

The name of the installation media is, 3DSpaceIndex-V6R2019x.Windows64.zip.

1. Unzip the media file to create the following directory:

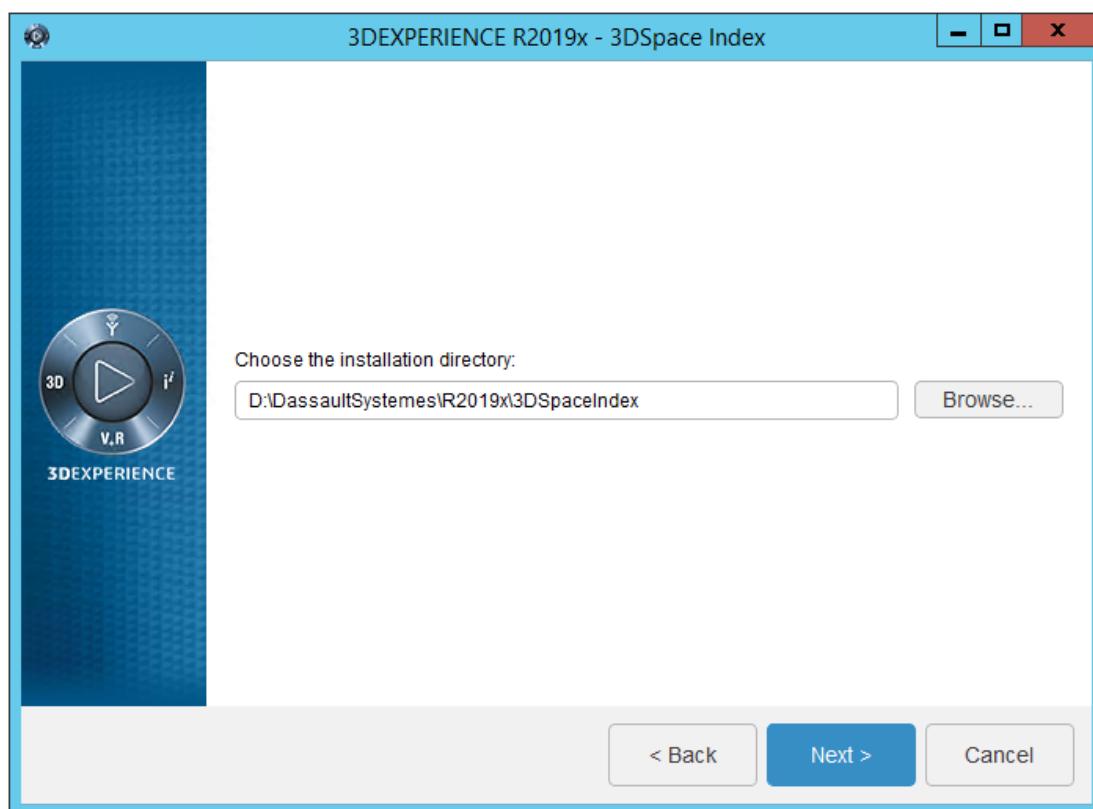
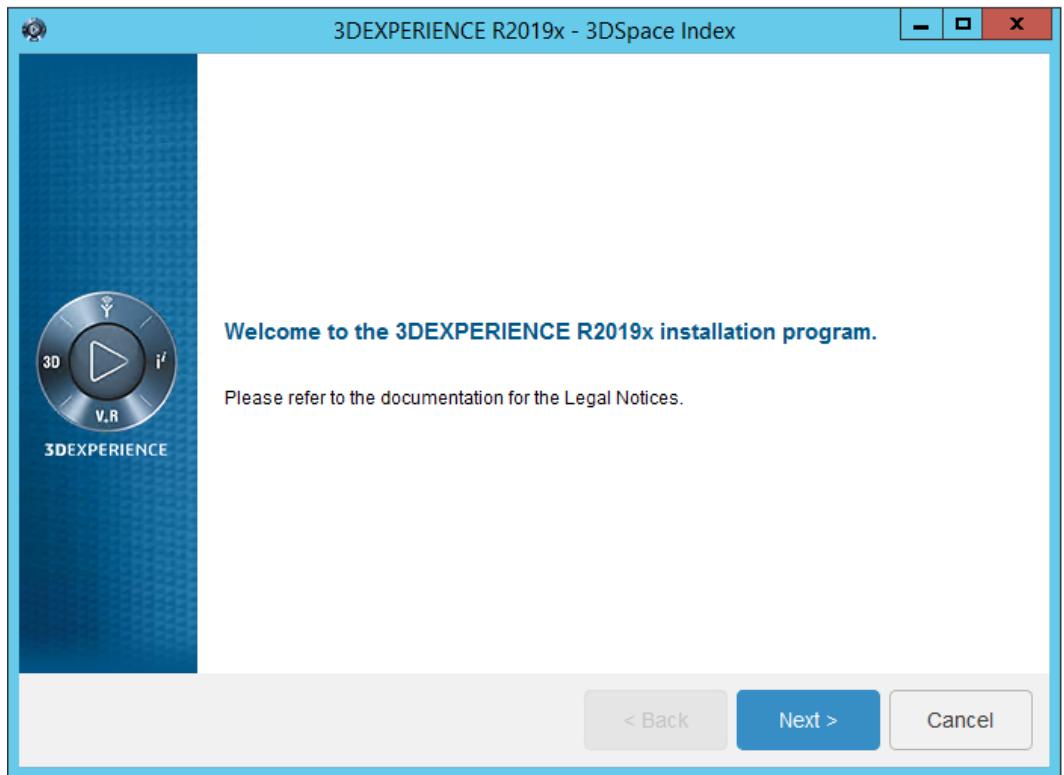
3DSpaceIndex.Windows64

2. Change to the distribution directory.

3DSpaceIndex.Windows64/1

3. Double-click setup.exe on Windows and then start the installation procedure. The 3DSpace Index installation procedure starts. Follow the snapshots to complete the 3DSpace Index installation.

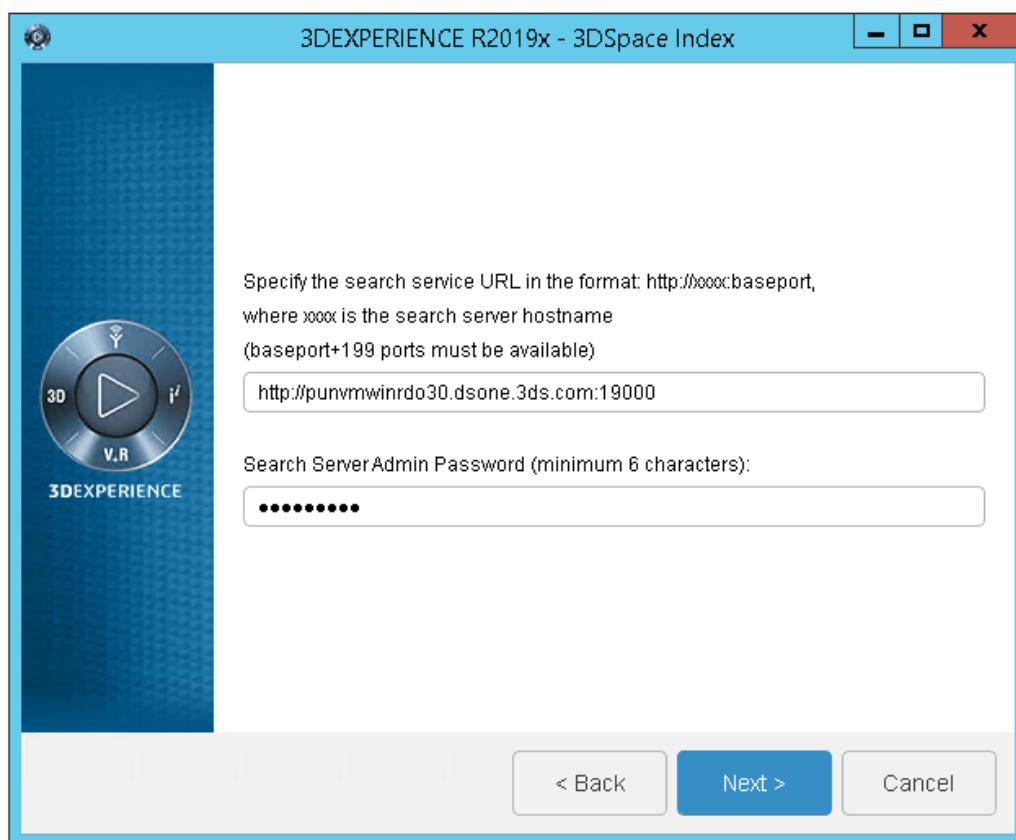
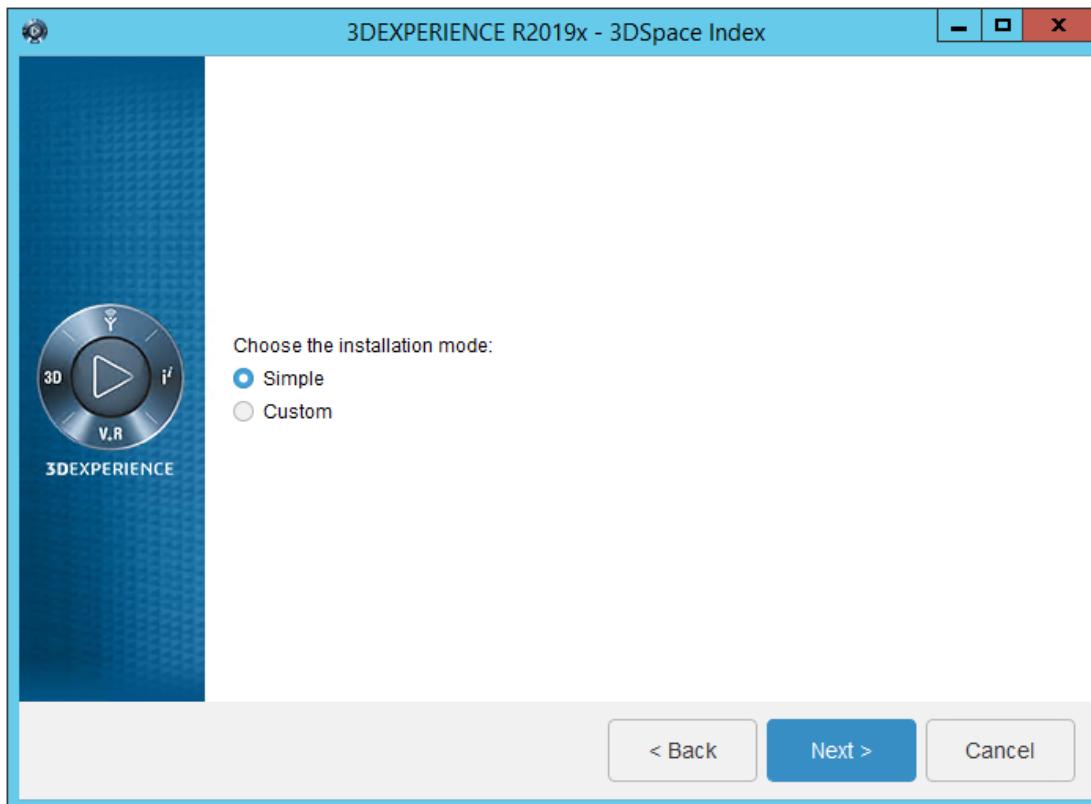
## Best Practices



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

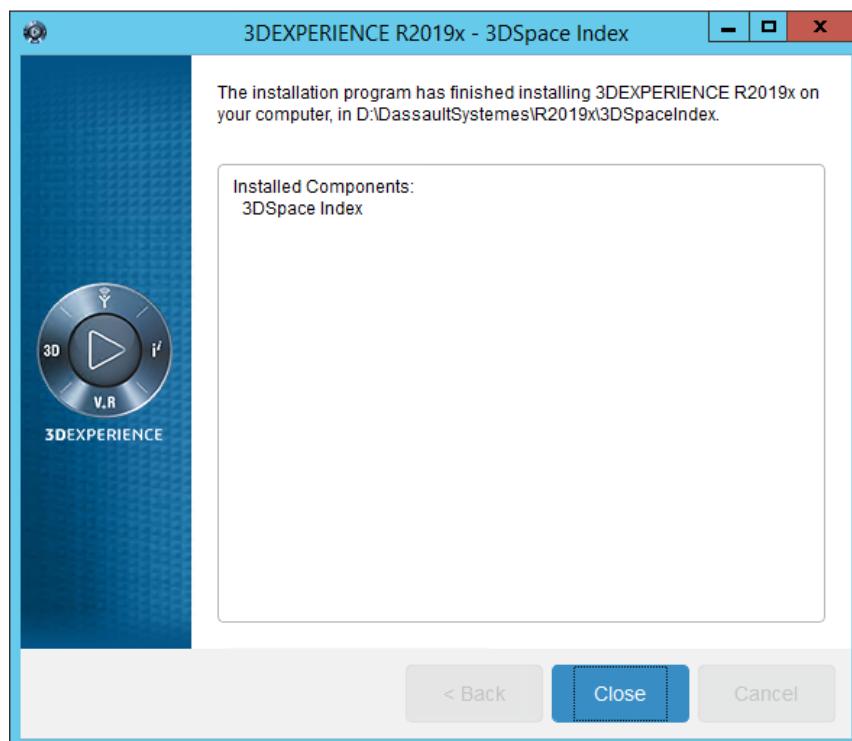
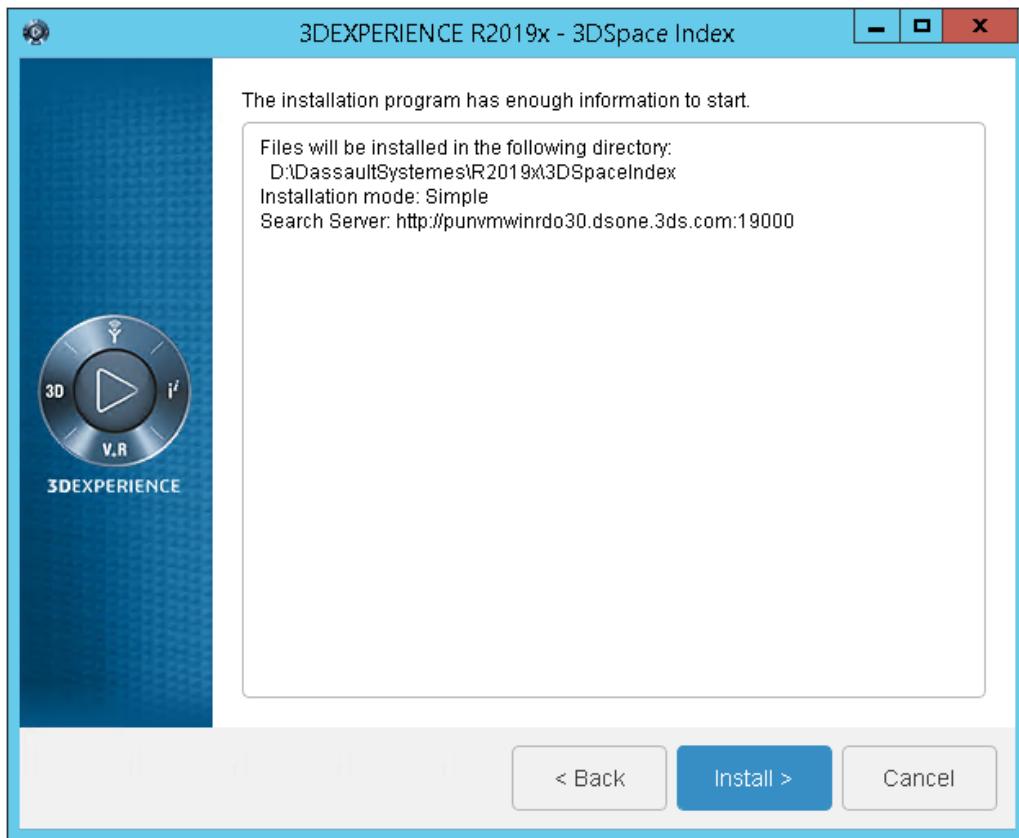
## Best Practices



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

## Best Practices



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

### 4.6.2. Post Installation Task

After installation, perform the following checks:

- ▶ Check 3DSpace Index URL: <http://punvmwinrdo30.dsone.3ds.com:19000>
- ▶ Check admin page using URL:  
<http://punvmwinrdo030.dsone.3ds.com:19001/admin>

In this case, punvmwinrdo30.dsone.3ds.com is the server name on which 3DSpace Index is installed.

## 4.7. 3DSwym

The 3DSwym service provides social networking and community facilities, enabling cross-discipline collaboration of users anywhere in the enterprise, and comprises of three components:

- ▶ 3DSwym Foundation
- ▶ 3DSwym Video Converter
- ▶ 3DSwym Index

**Recommendation:** Install each of the above components on a different machine.

For more details on installation prerequisites, refer to the following Dassault Systèmes documentation:

**Installation and Setup > Install > 3DEXPERIENCE Platform > Installing 3DEXPERIENCE Platform Services for the First Time > Installing Services One-by-One > 3DSwym > Prerequisites**

Install prerequisites on the machine hosting 3DSwym Index (Windows and Linux).

To prepare the machine to host the 3DSwym Index, follow the EXALEAD CloudView OS requirements and installation procedure described in Dassault Systèmes documentation.

**Installation and Setup > Install > 3DEXPERIENCE Platform > Installing 3DEXPERIENCE Platform Services for the First Time > Installing Services One-by-One > 3DSwym > Installing CloudView**

For more details on Installing 3DSwym Index, refer to the following Dassault Systèmes documentation:

**Installation and Setup > Install > 3DEXPERIENCE Platform > Installing 3DEXPERIENCE Platform Services for the First Time > Installing Services One-by-One > 3DSwym > Installing 3DSwym Index**

**Important:** Install EXALEAD CloudView before you install 3DSwym Index. Install 3DSwym Index and EXALEAD CloudView using the same user.

### 4.7.1. Installing 3DSwym Foundation and 3DSwym Video Convertor

The name of the installation media is, 3DSwym-V6R2019x.Windows64.zip.

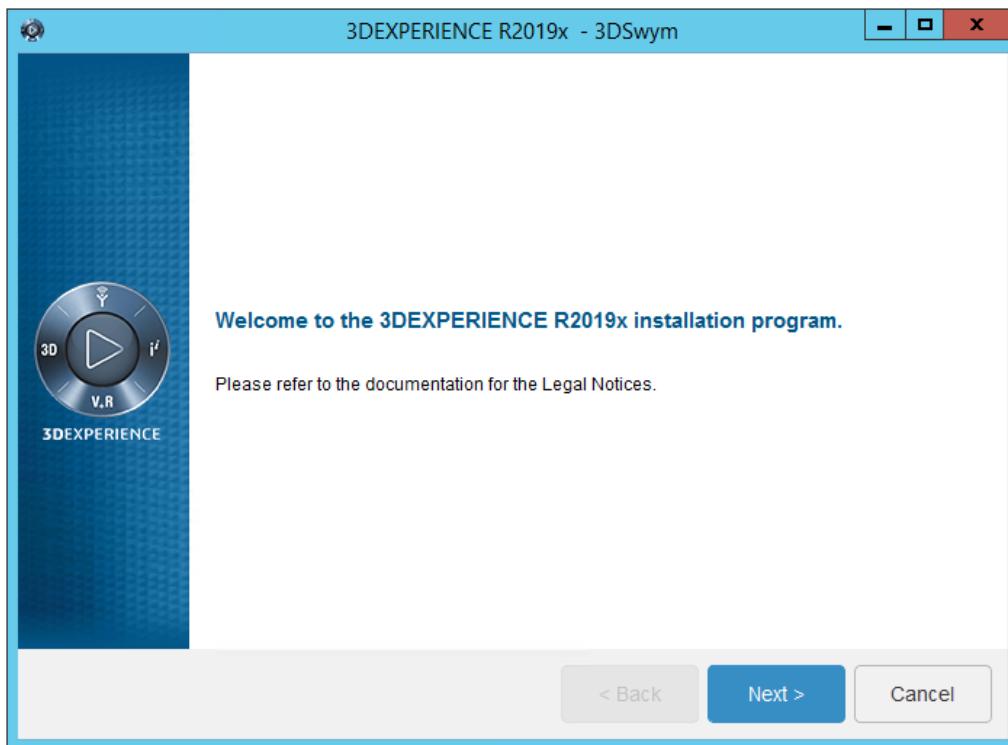
1. Unzip the media file to create the following directory:

3DSwym.Windows64

2. Change to the distribution directory.

3DSwym.Windows64/1

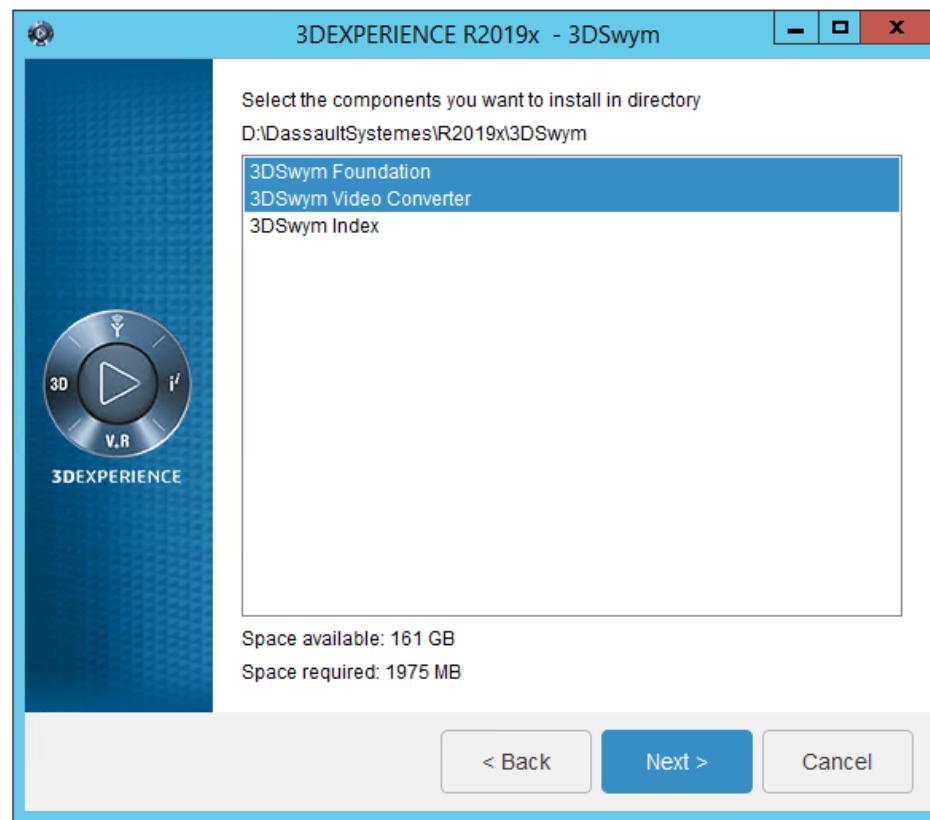
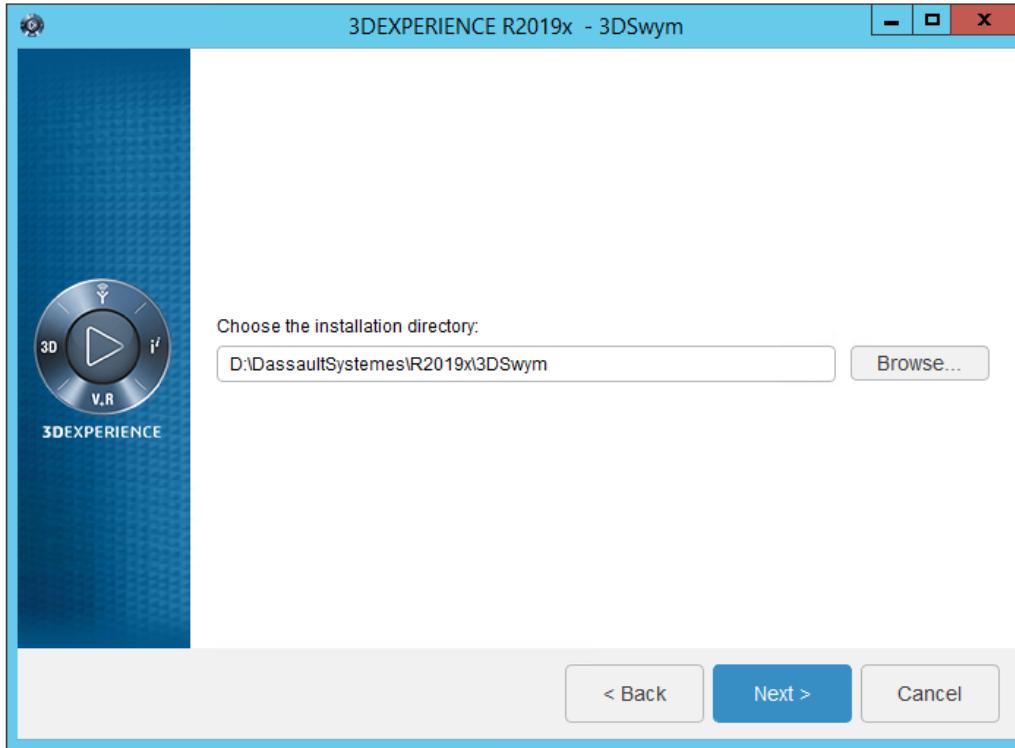
3. Double-click setup.exe on Windows and then start the installation procedure using the 3DSwym Foundation and 3DSwym Video Convertor components. Both, the 3DSwym Foundation and 3DSwym Video Convertor that hold the remaining component for monolithic installation are installed on the same machine. The 3DSwym installation procedure starts. Follow the snapshots to complete the 3DSwym installation.



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

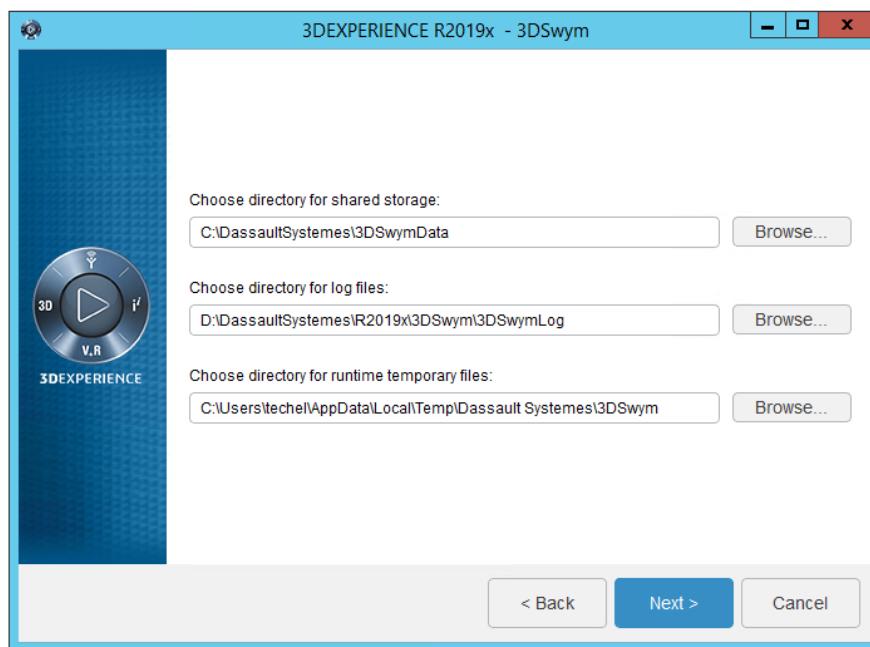
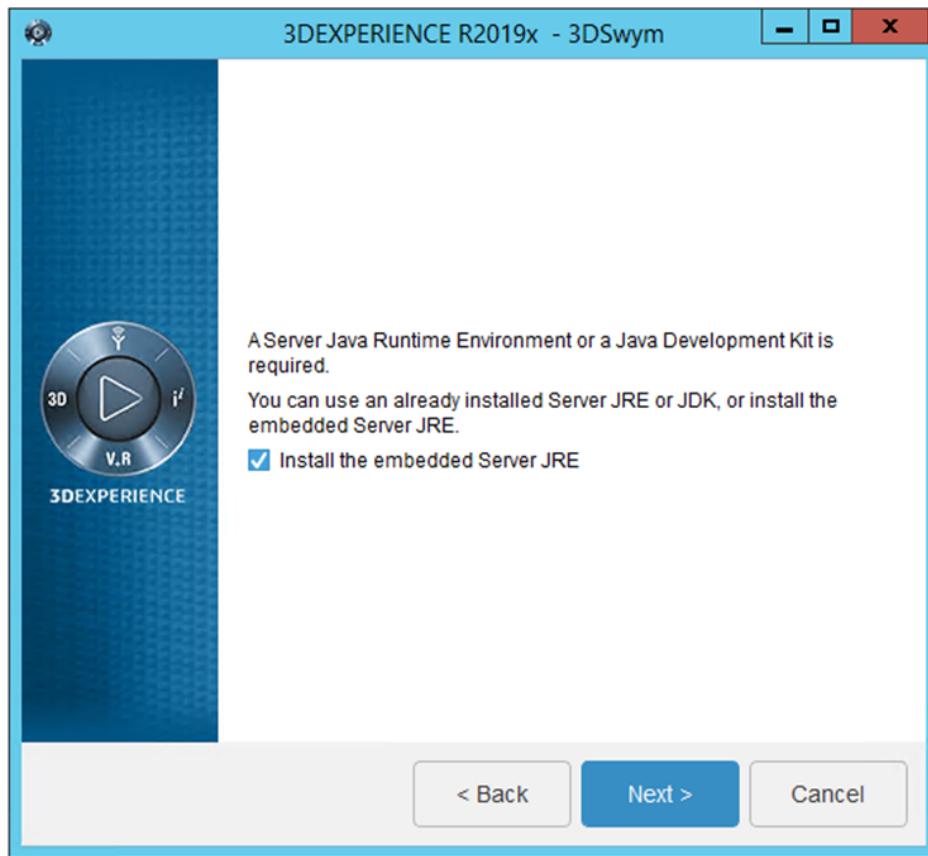
## Best Practices



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

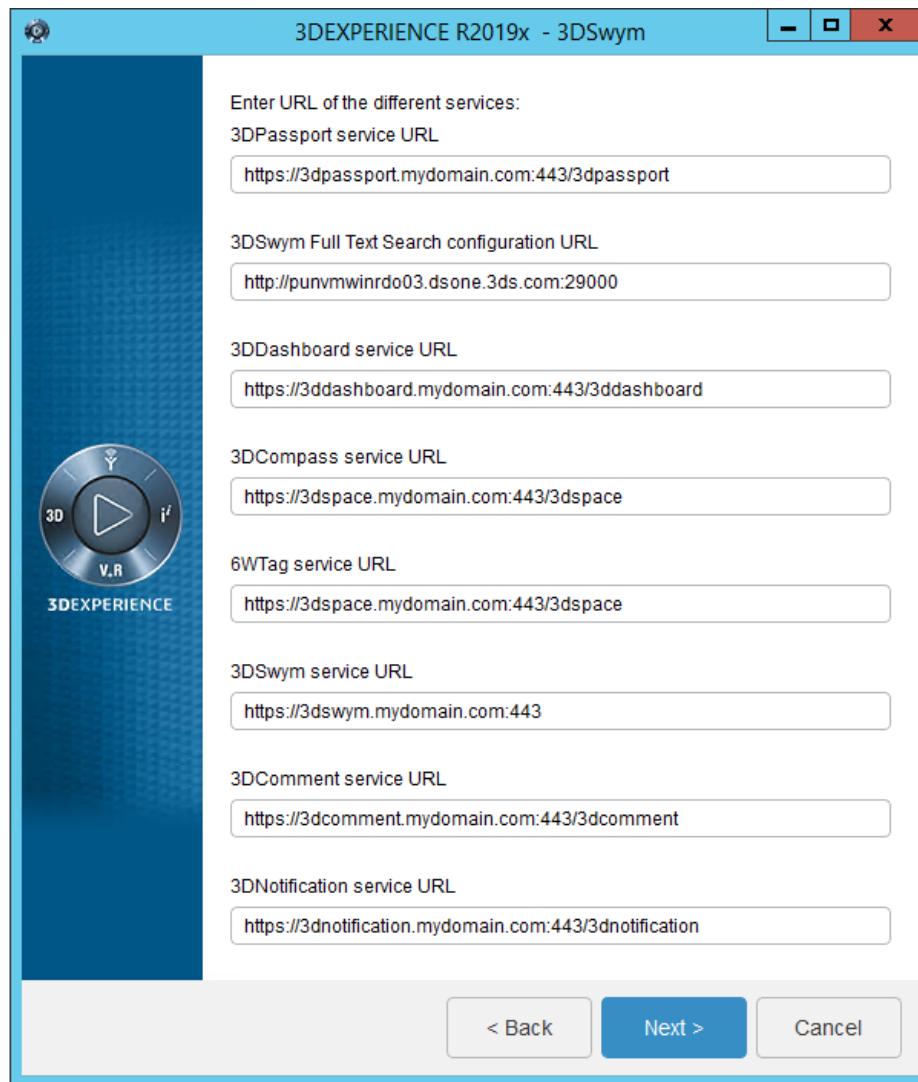
## Best Practices



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

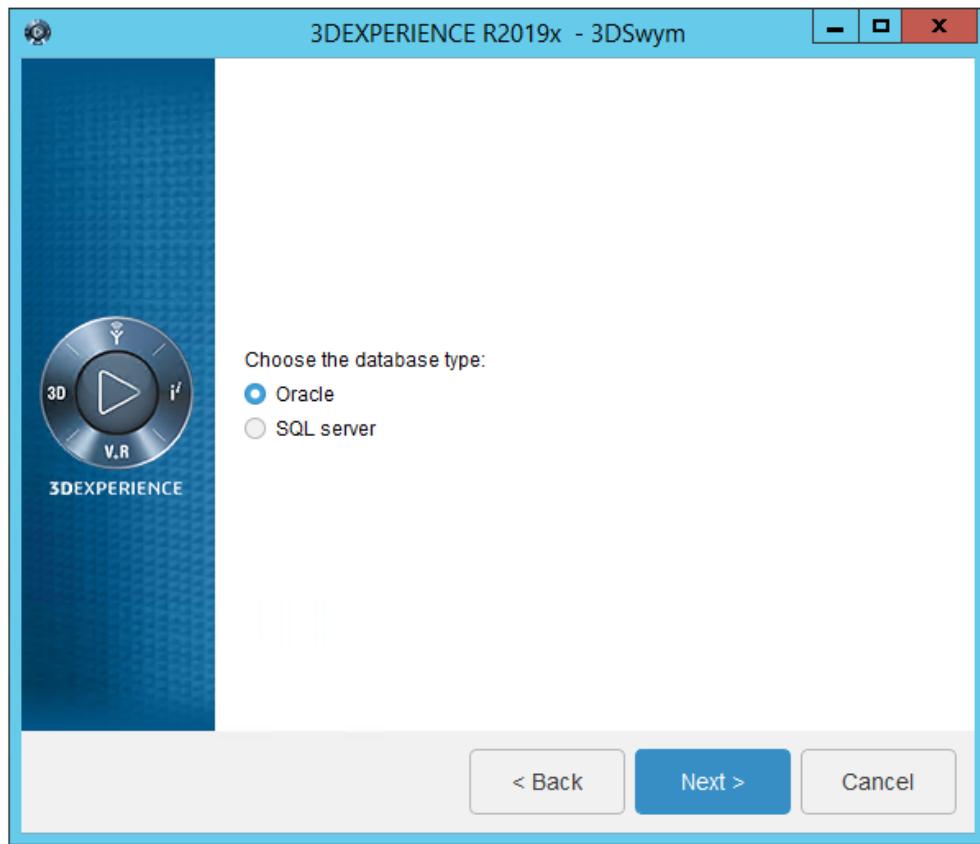
This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

## Best Practices



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.



**3DEXPERIENCE R2019x - 3DSwym**

Specify the directory containing tnsnames.ora and the Net Service Name OR only the full service URL (//Host[:Port]/service\_name).

The directory containing tnsnames.ora (optional. Usually <oracle\_home>/network/admin):

Net Service Name (with tnsnames.ora) or //Host[:Port]/service\_name for 3DSwym Content:

Net Service Name (with tnsnames.ora) or //Host[:Port]/service\_name for 3DSwym Rich Media:

Net Service Name (with tnsnames.ora) or //Host[:Port]/service\_name for 3DSwym Widgets:

Database user name for 3DSwym Content:

Database user password for 3DSwym Content:

Database user name for 3DSwym Rich Media:

Database user password for 3DSwym Rich Media:

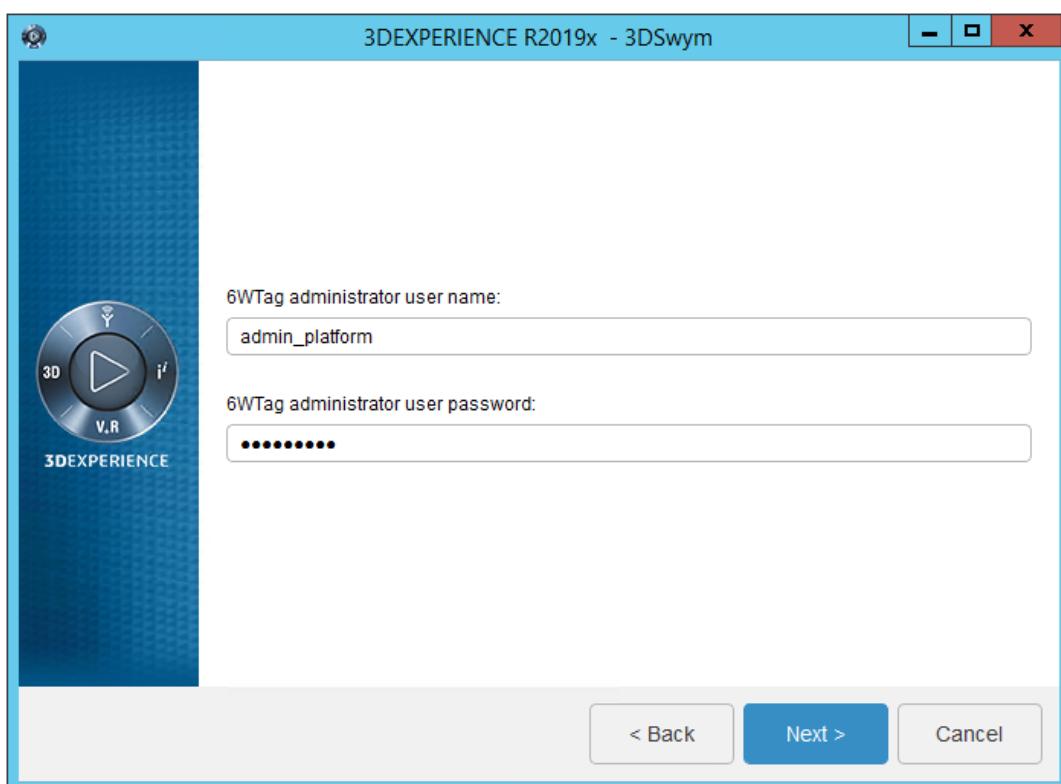
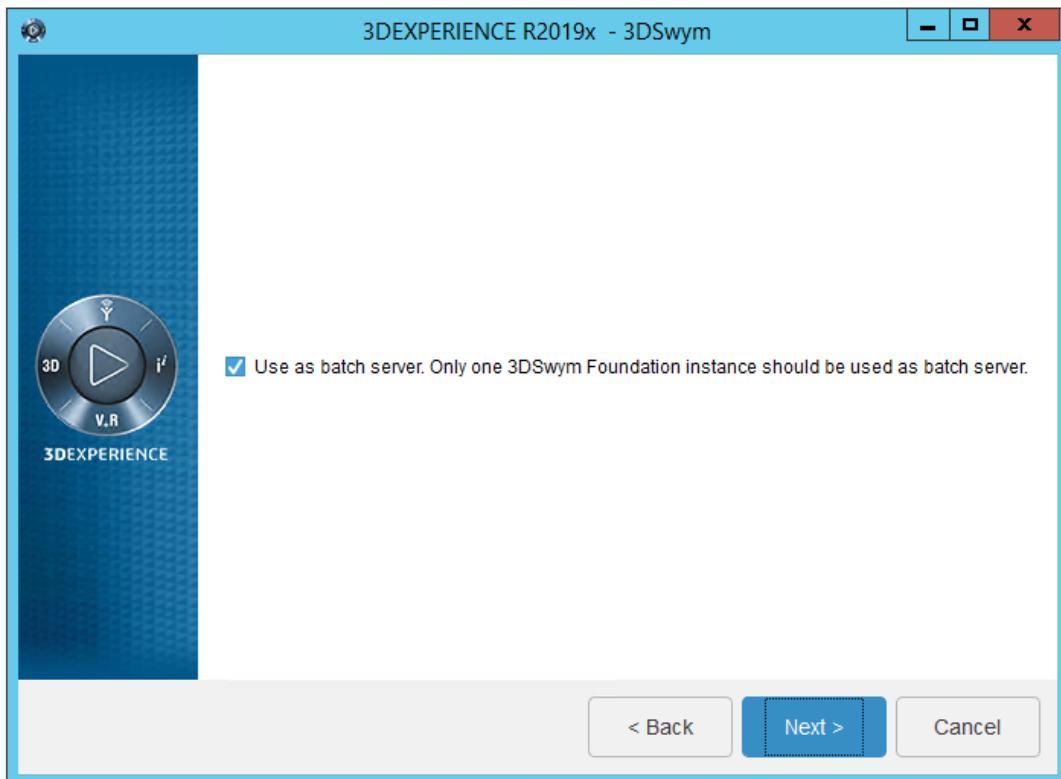
Database user name for 3DSwym Widgets:

Database user password for 3DSwym Widgets:



**3DEXPERIENCE**

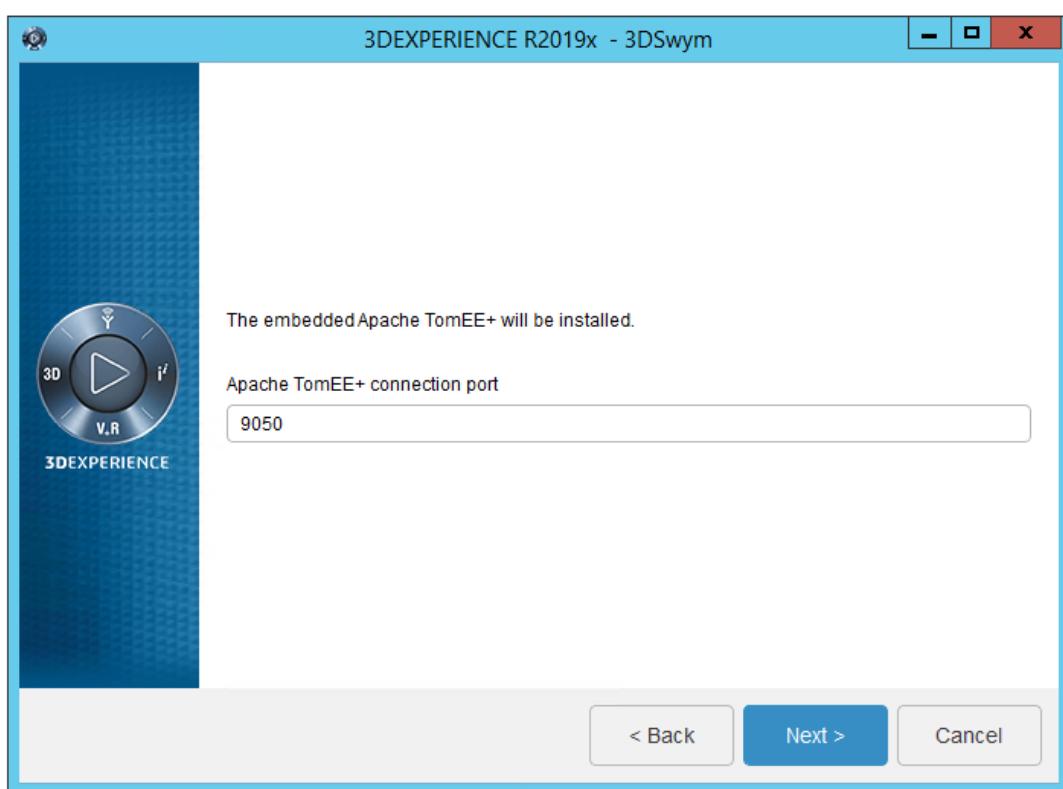
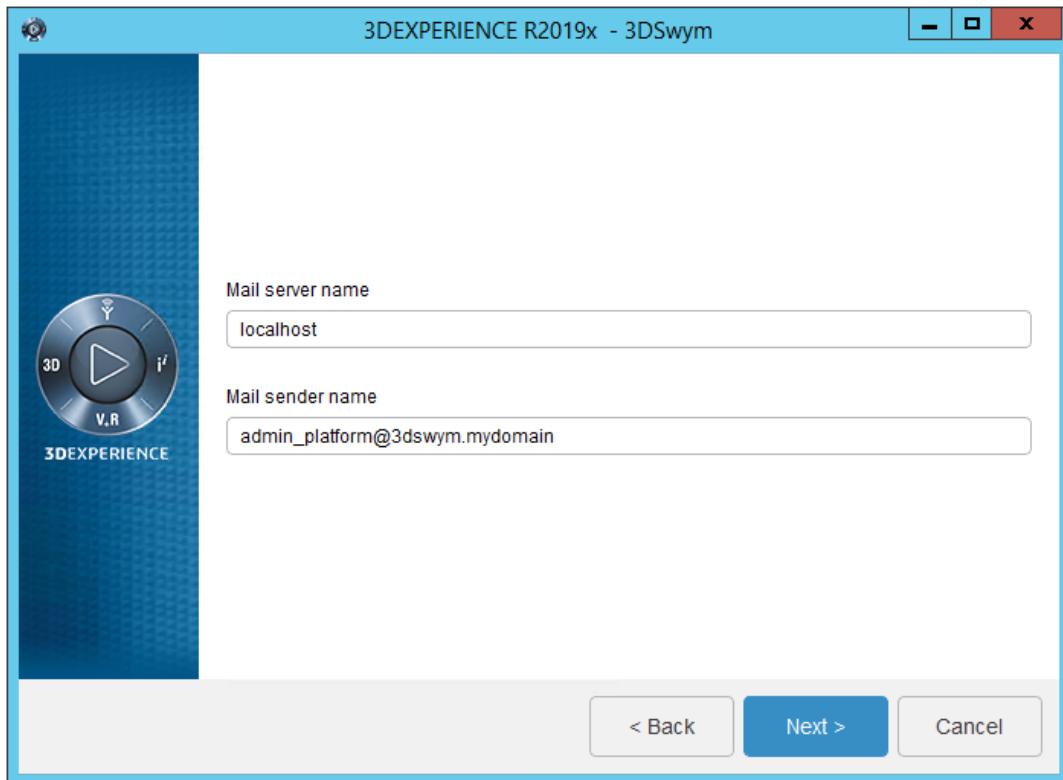
## Best Practices



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

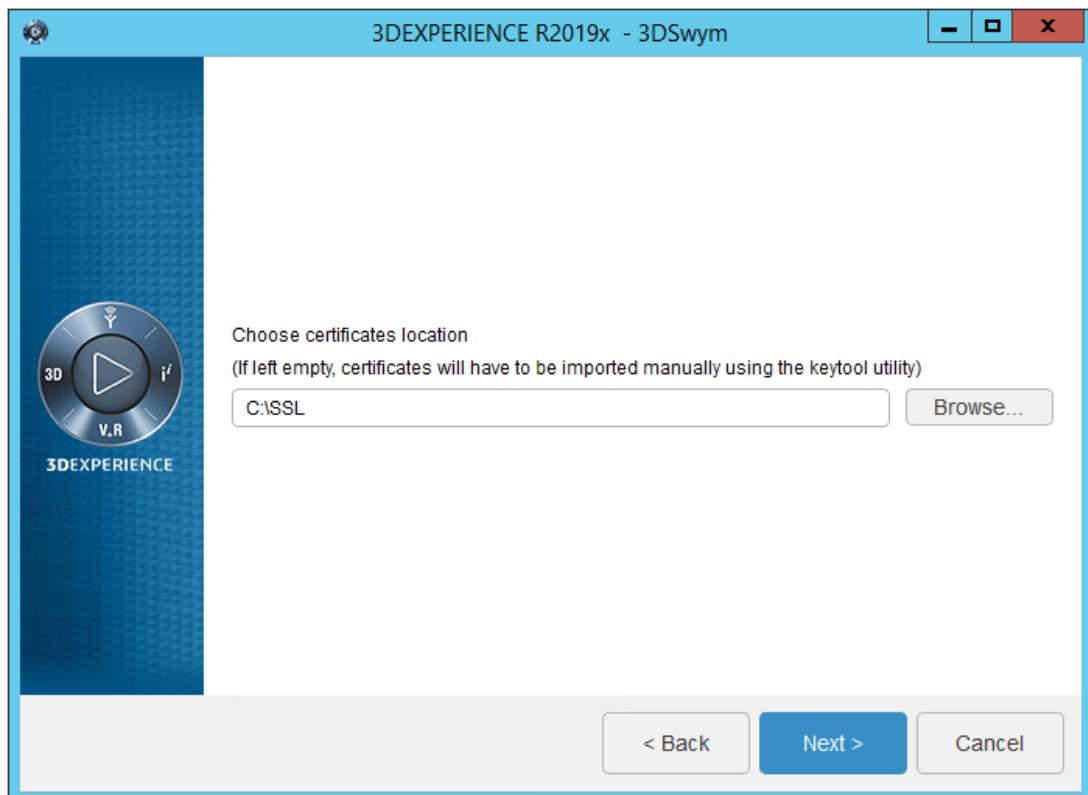
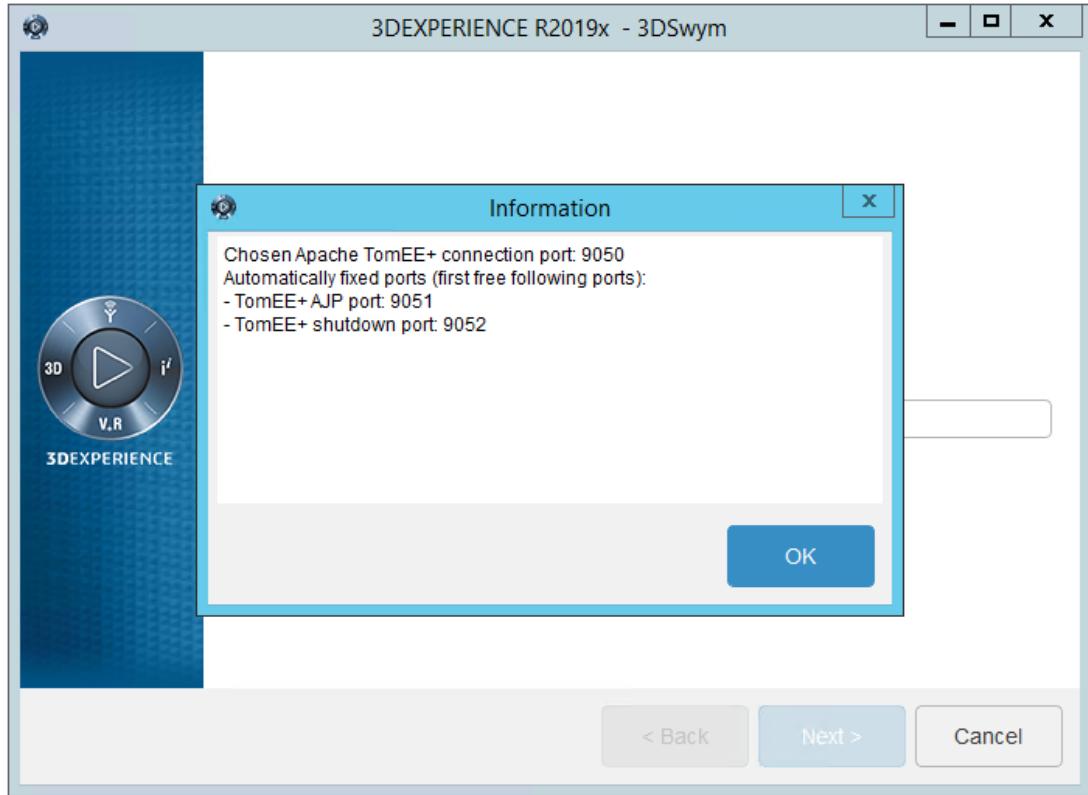
## Best Practices



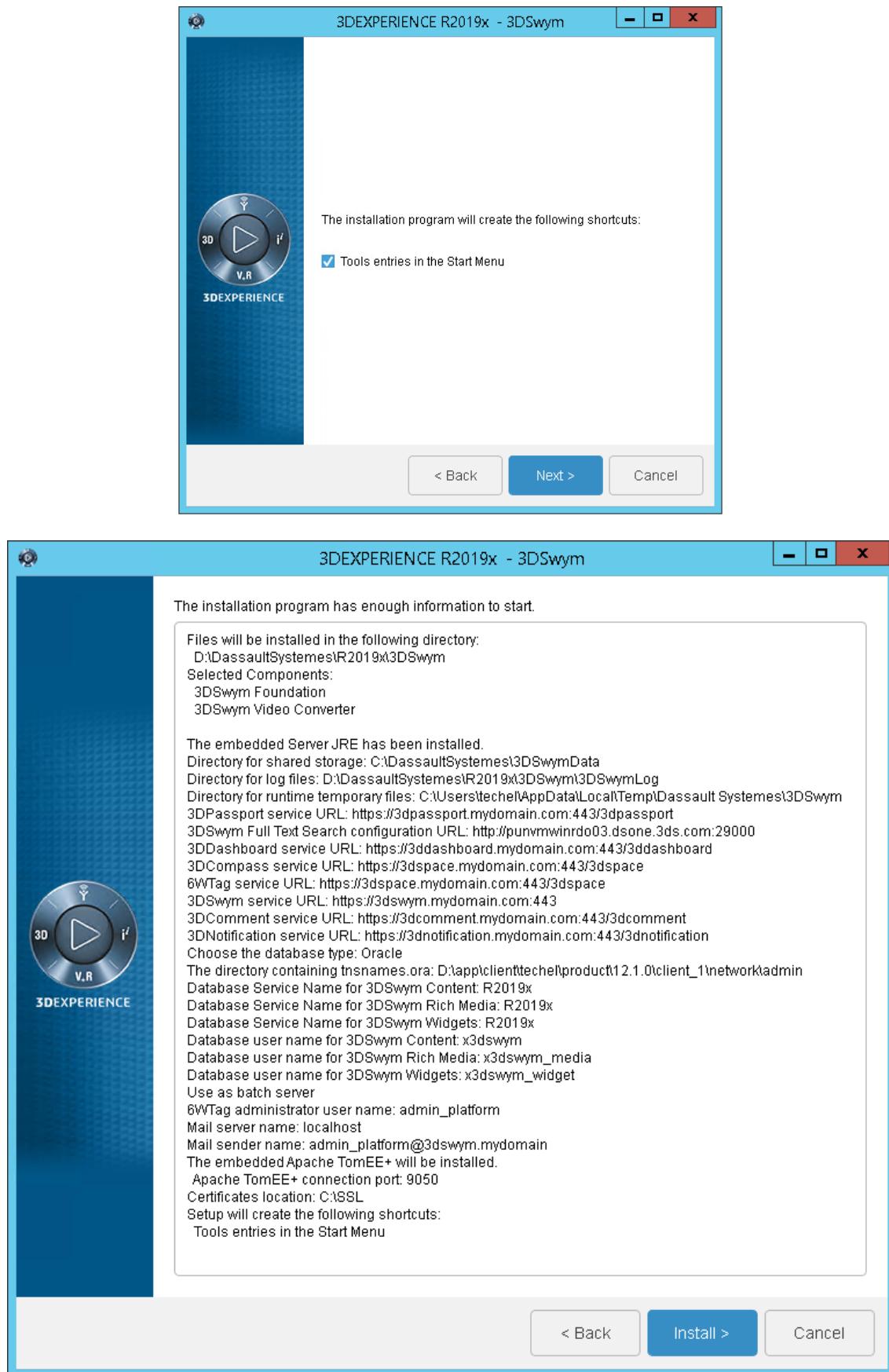
Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

## Best Practices

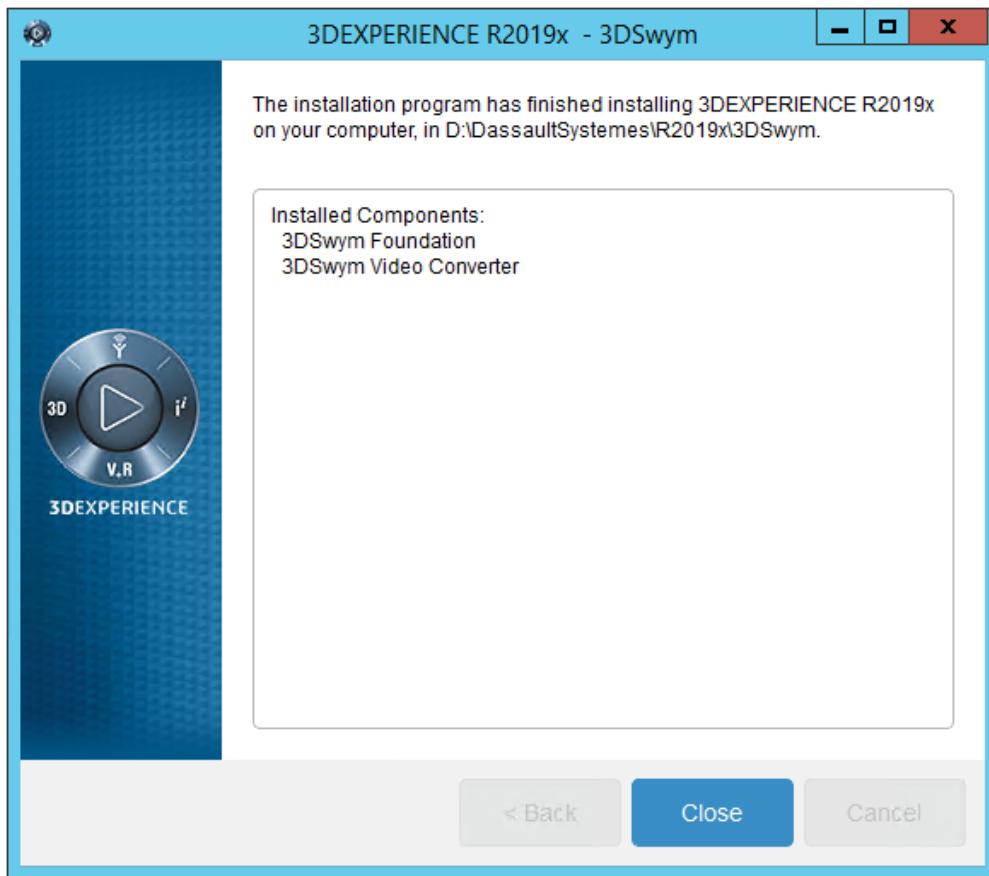


## Best Practices



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

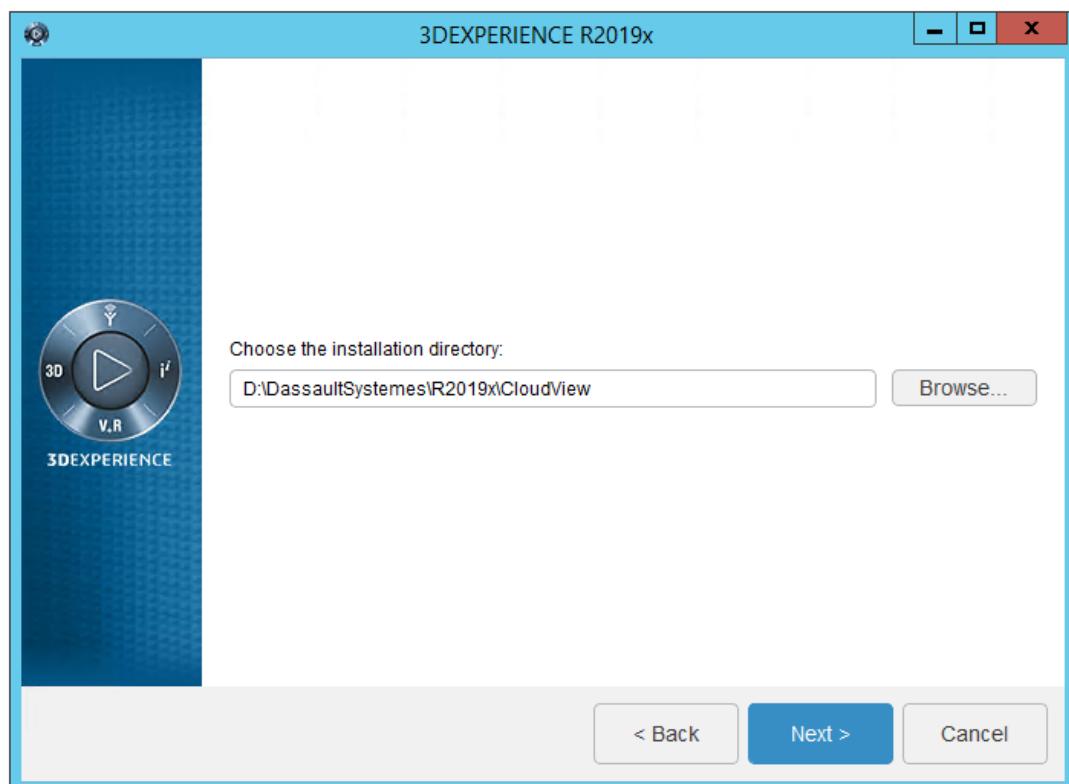
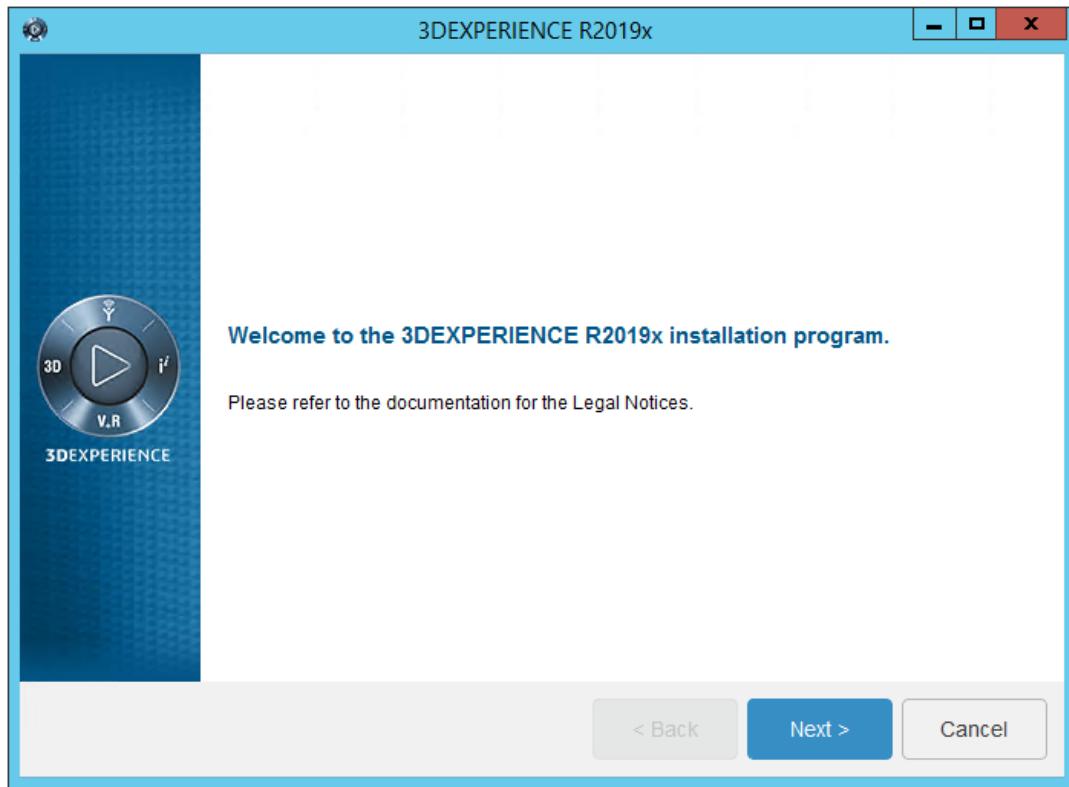


### 4.7.2. Installing EXALEAD CloudView

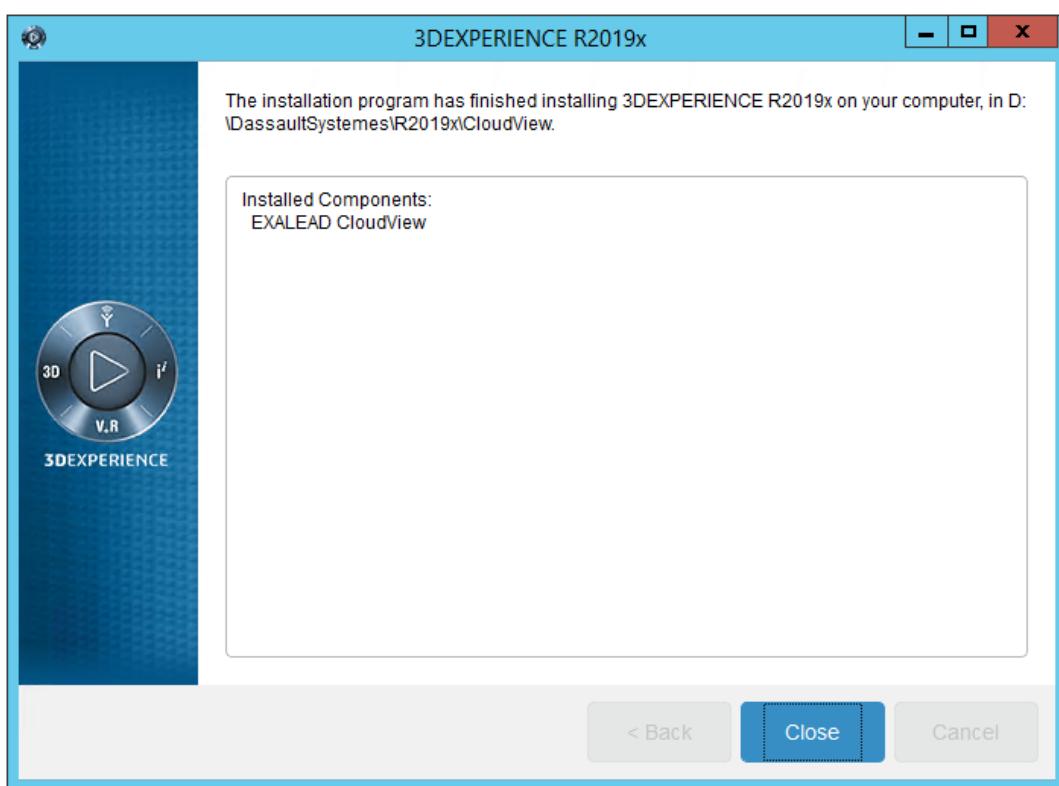
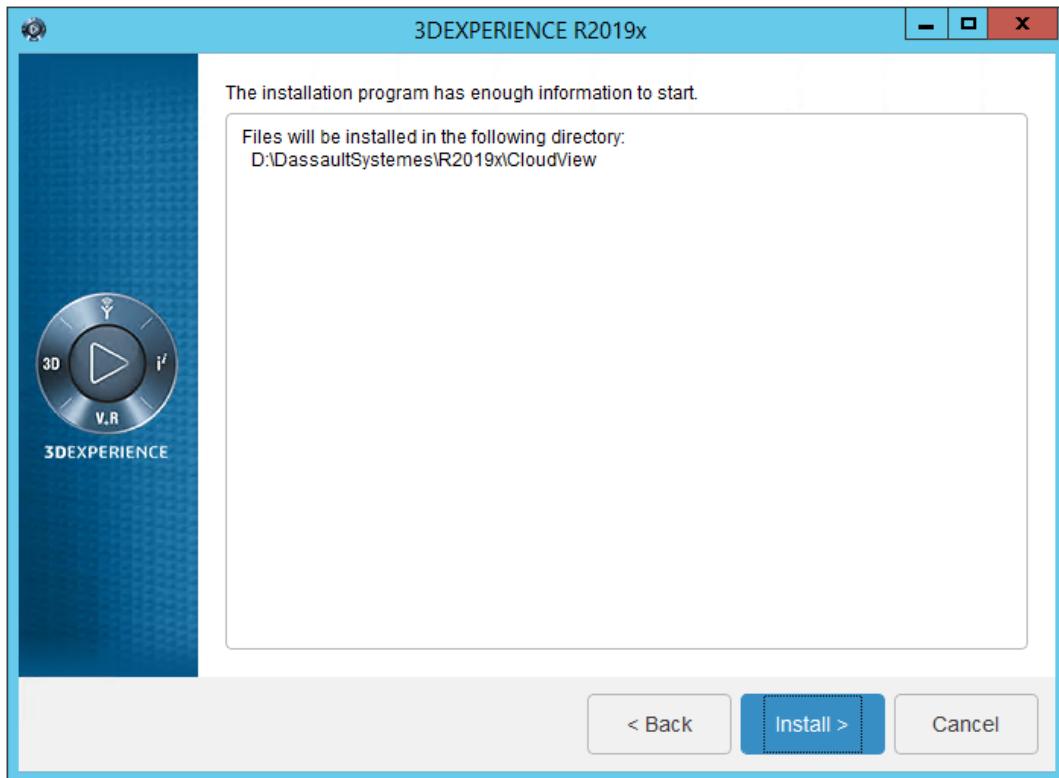
The name of the installation media is, EXALEAD\_CloudView-V6R2019x.Windows64.zip.

1. Unzip the media file to create the following directory:  
EXALEAD\_CloudView.Windows64
2. Change to the distribution directory.  
EXALEAD\_CloudView.Windows64/1
3. Double-click setup.exe on Windows and then start the installation procedure. The EXALEAD CloudView installation procedure starts. Follow the below snapshots to complete the EXALEAD CloudView installation.

## Best Practices



## Best Practices



### 4.7.3. Installing 3DSwym Index

Install 3DSwym Index along with EXALEAD\_CloudView on another machine.

EXALEAD\_CloudView is a prerequisite for 3DSwym Index and you must install both these components on the same machine.

The name of the installation media is, 3DSwym-V6R2019x.Windows64.zip.

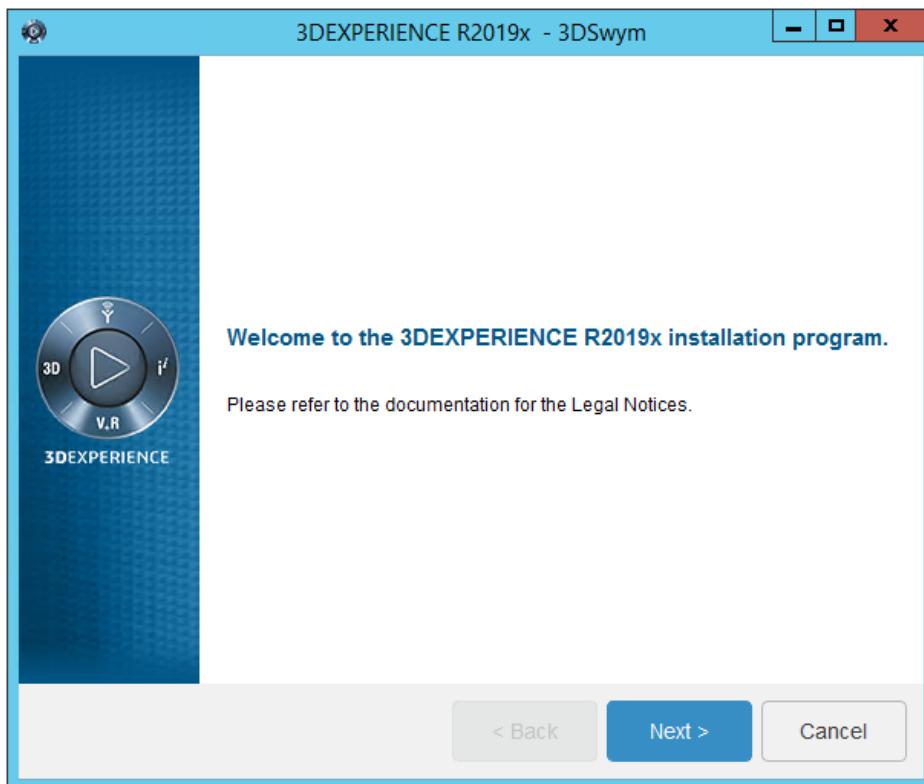
1. Unzip the media file to create the following directory:

3DSwym.Windows64

2. Change to the distribution directory.

3DSwym.Windows64/1

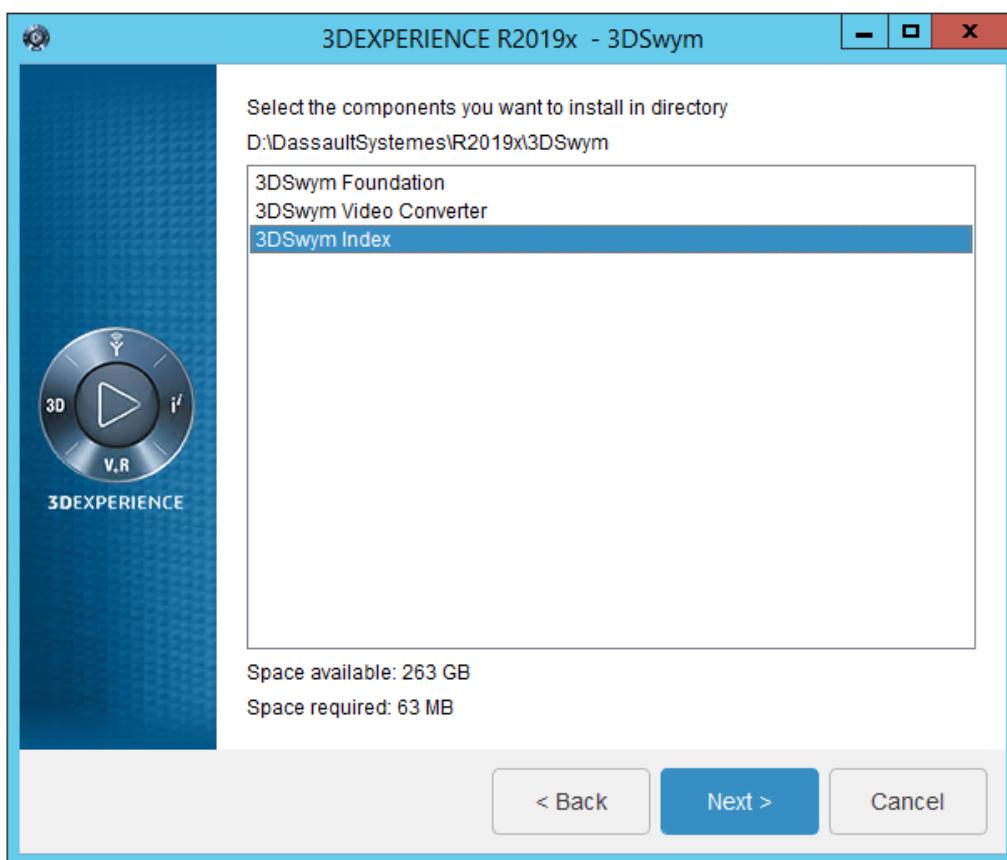
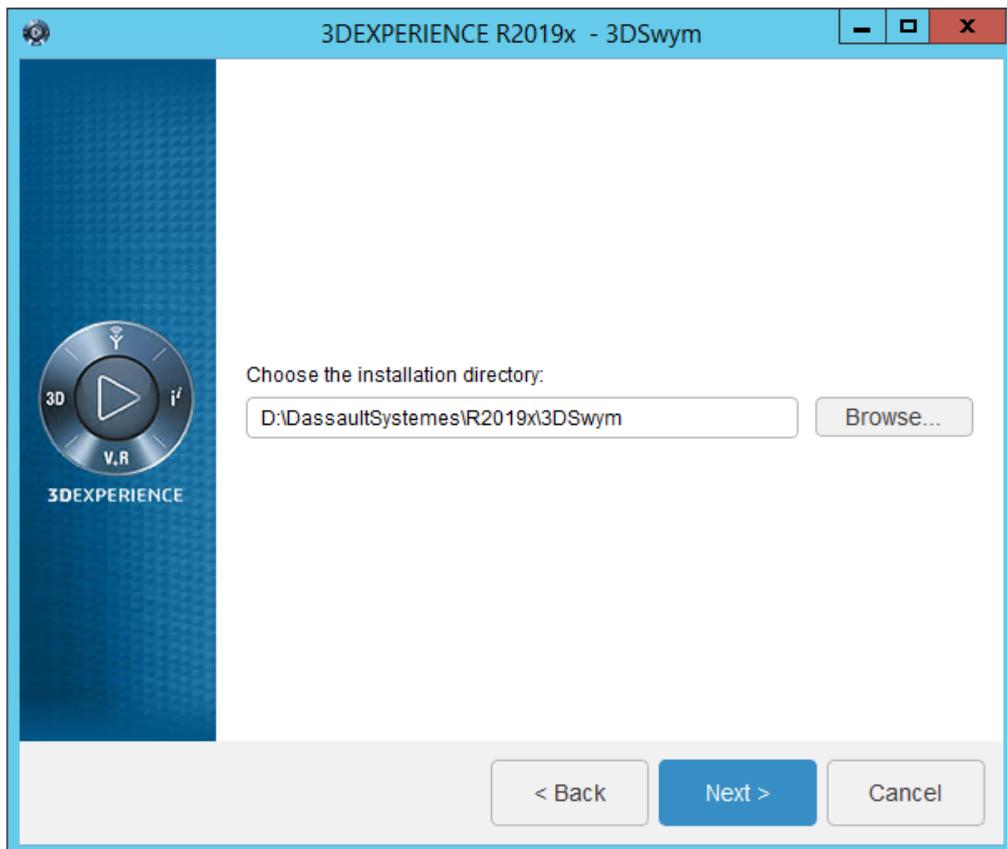
3. Double-click setup.exe on Windows and then start the installation procedure using the 3DSwym Index component. The 3DSwym installation procedure starts. Follow the below snapshots to complete the 3DSwym Index installation.



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

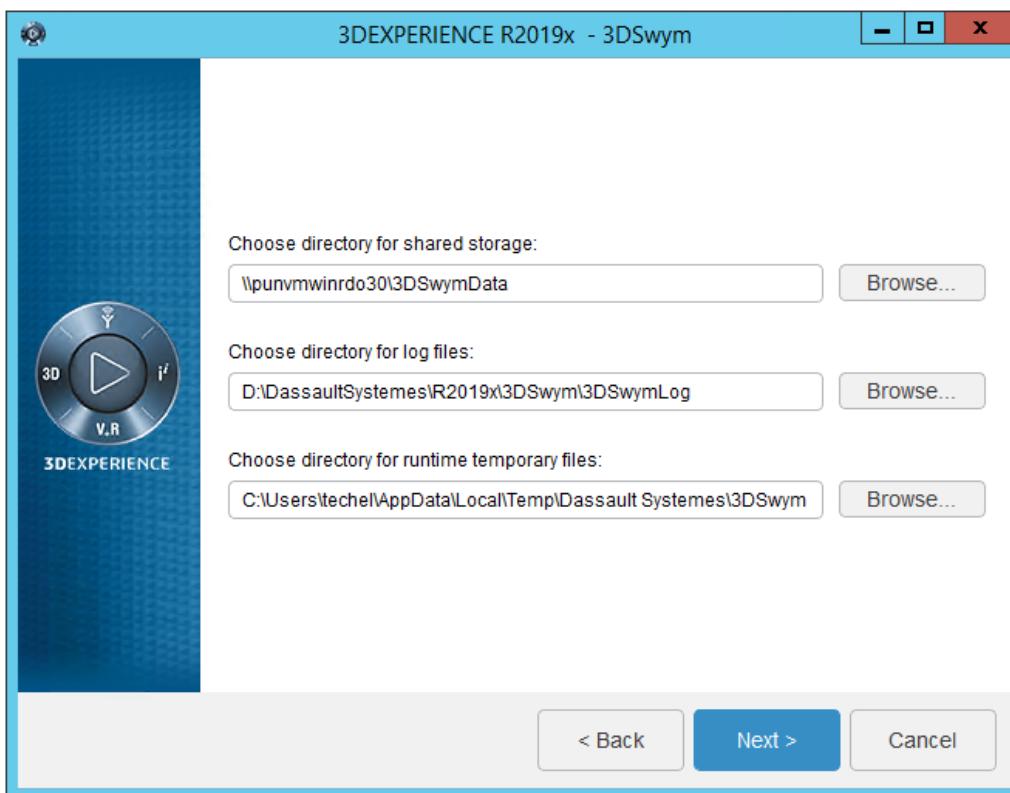
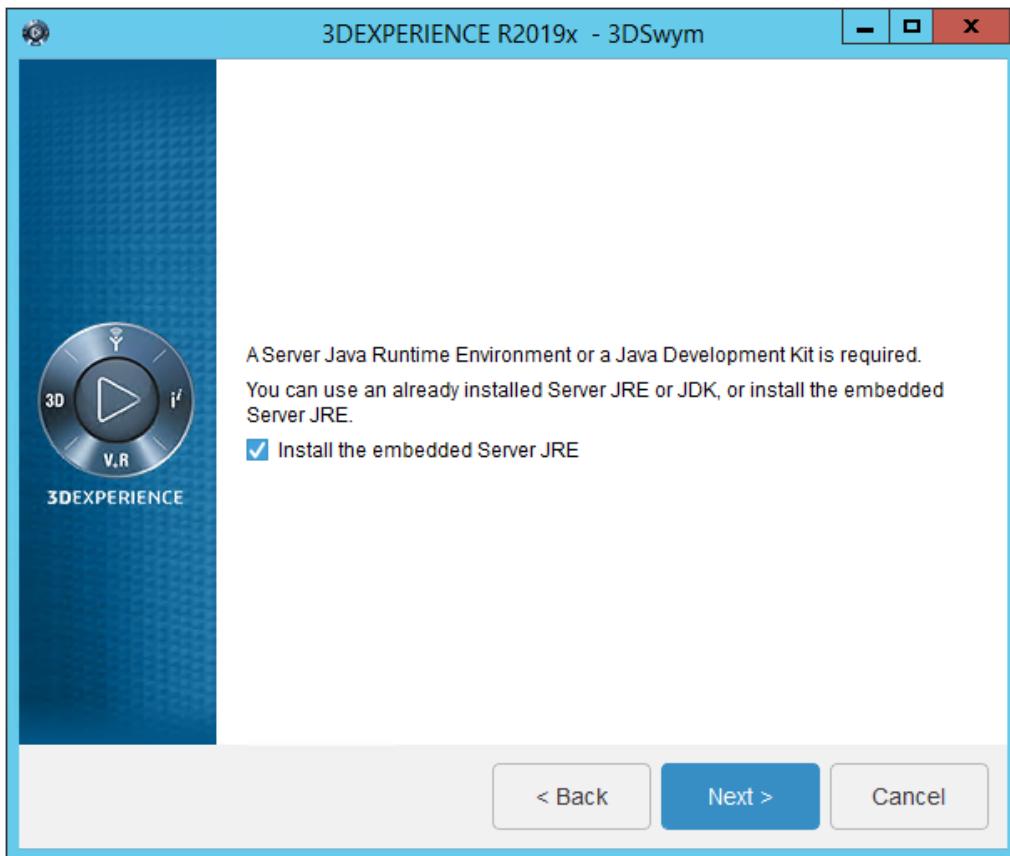
## Best Practices



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

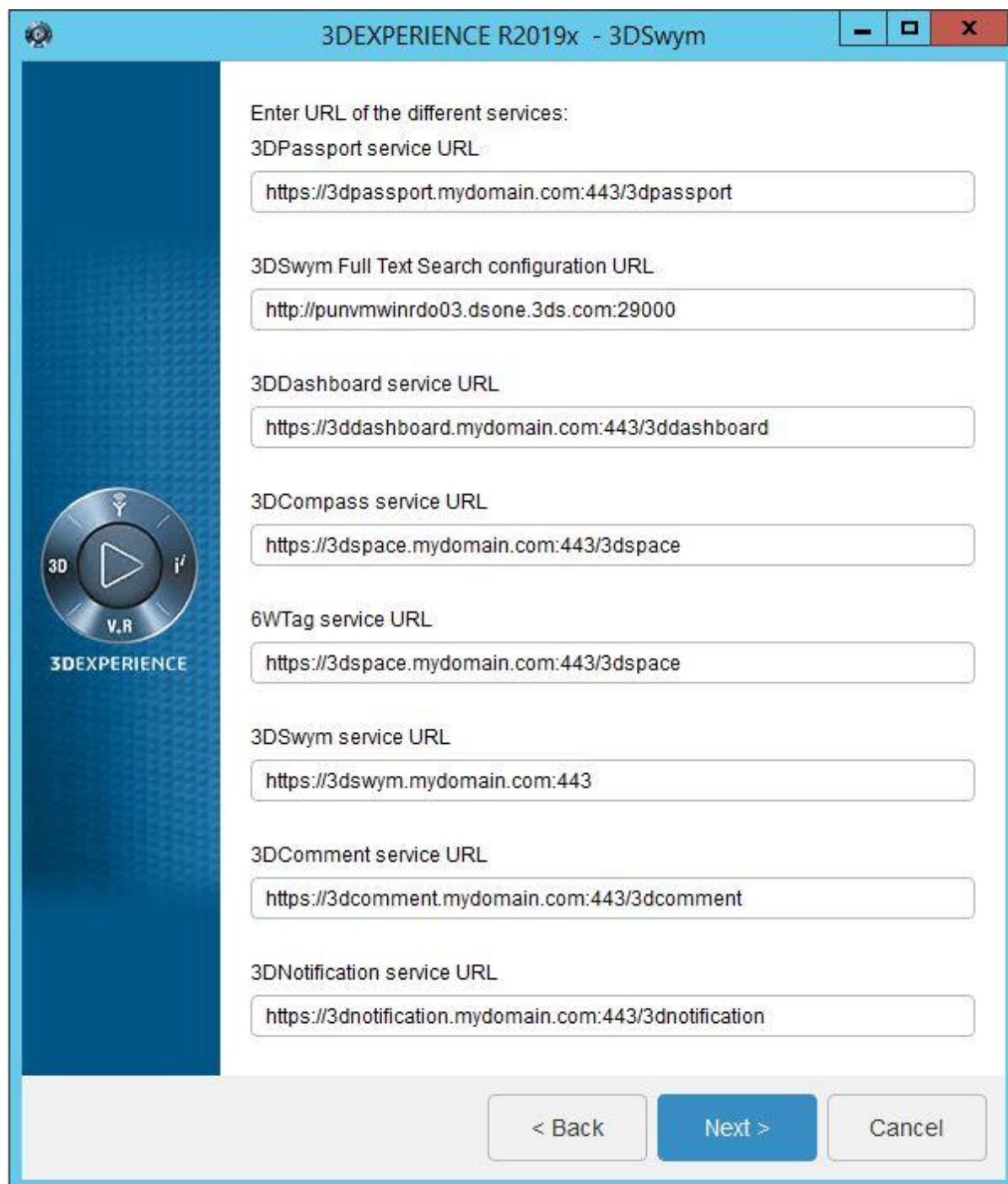
This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

## Best Practices



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

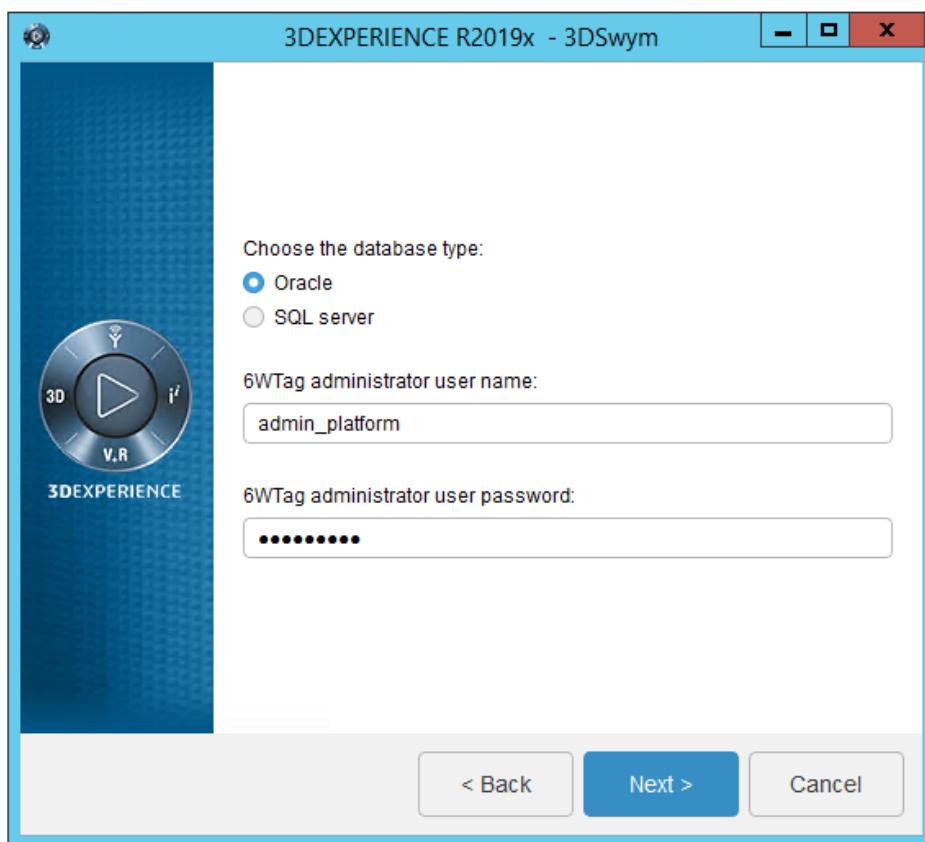
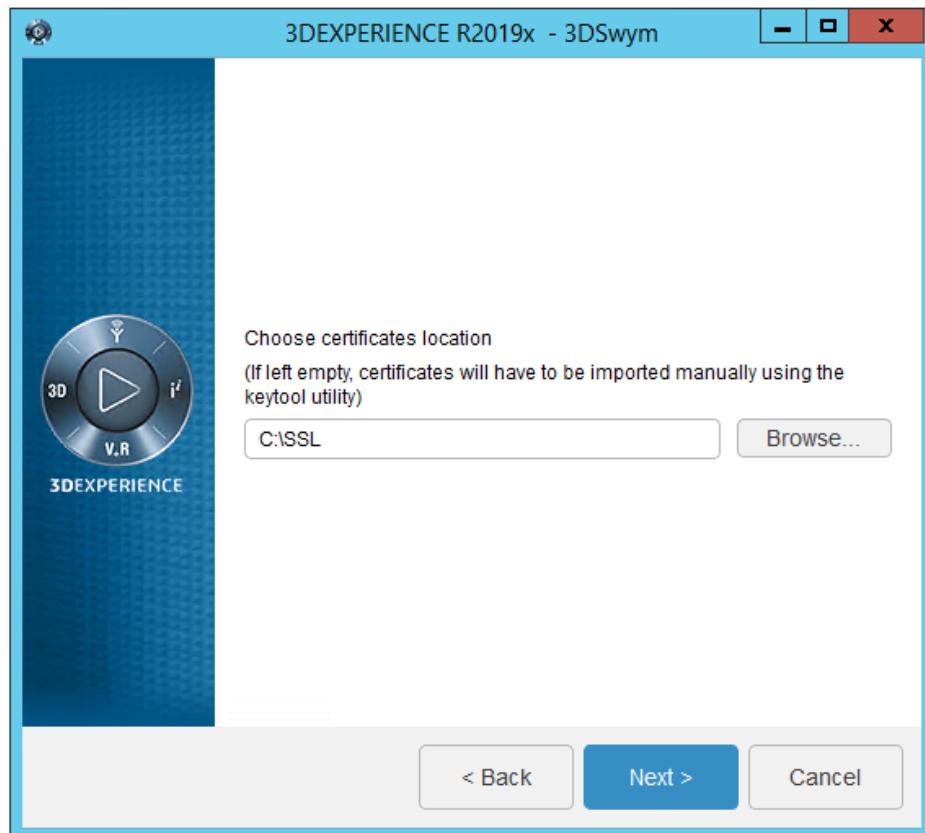
This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

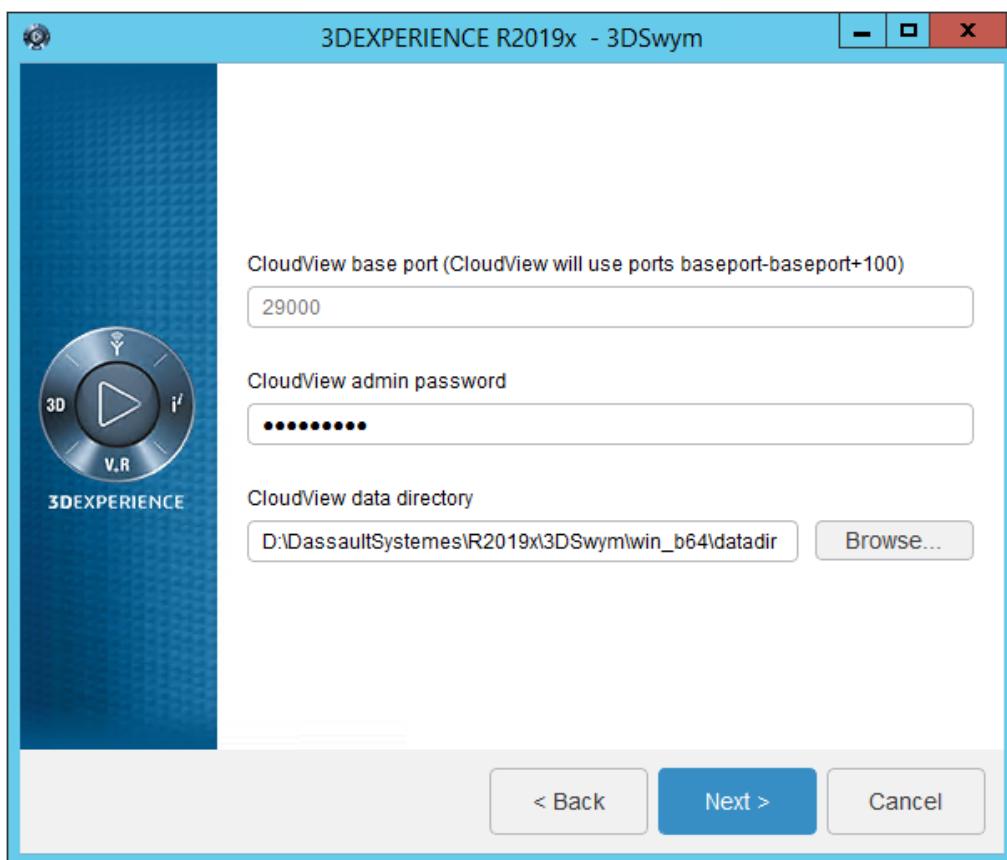
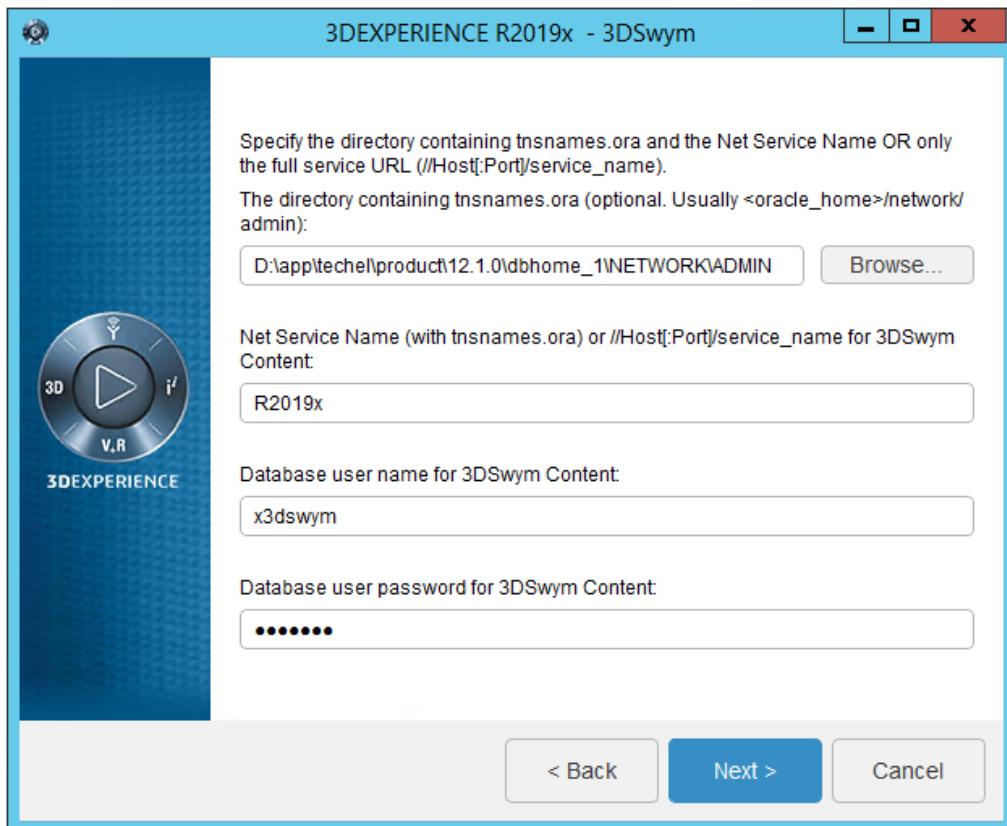
## Best Practices



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

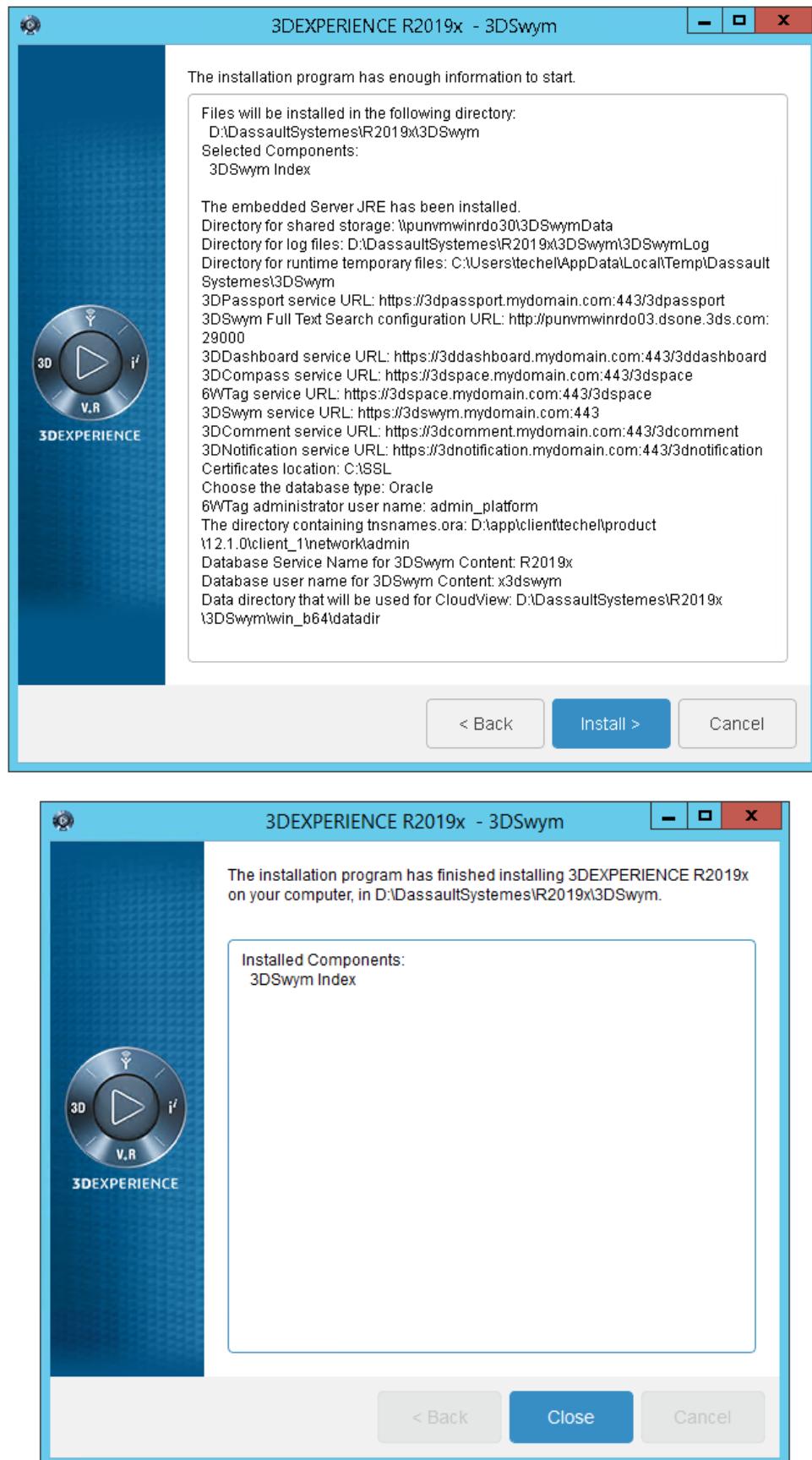
## Best Practices



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

## Best Practices



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

### 4.7.4. Post Installation Tasks

Perform the following tasks after installation:

- ▶ Configure Apache httpd.conf and create 3DSWYM.conf as exemplified in section 3.6.3 of this document.
- ▶ Test 3DSWYM installation with the following URL:  
For example: <https://3dszym.mydomain.com:443>
- ▶ Check login using admin\_platform for admin page access.
- ▶ For Miscellaneous 3DSwym operations, refer to [Operations](#).

## 4.8. 3DComment

The 3DComment service provides an ability to interact with other 3DEXPERIENCE platform members by liking content and adding comments to any item.

### 4.8.1. Installing 3DComment

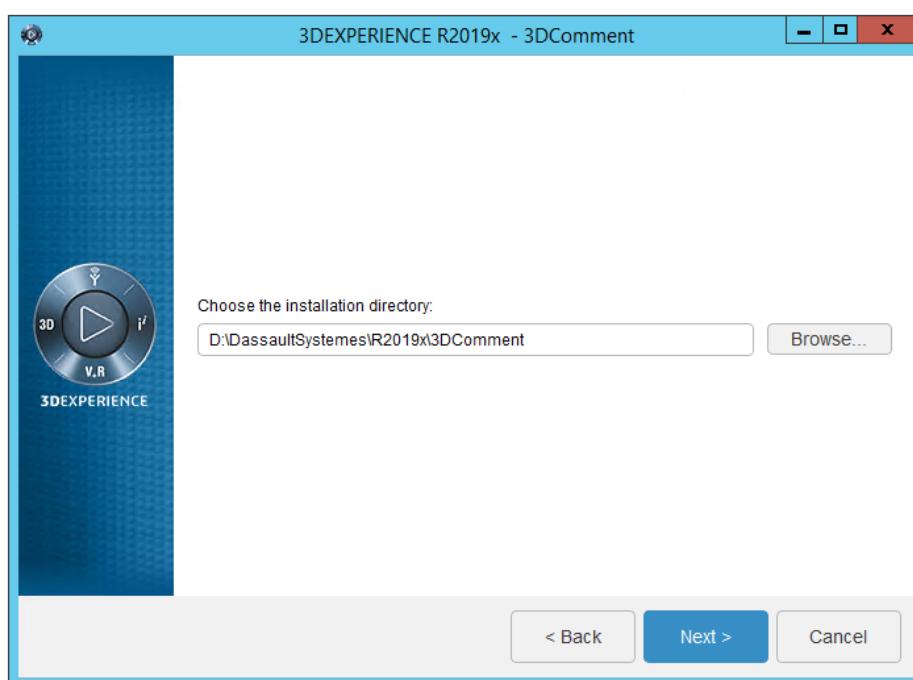
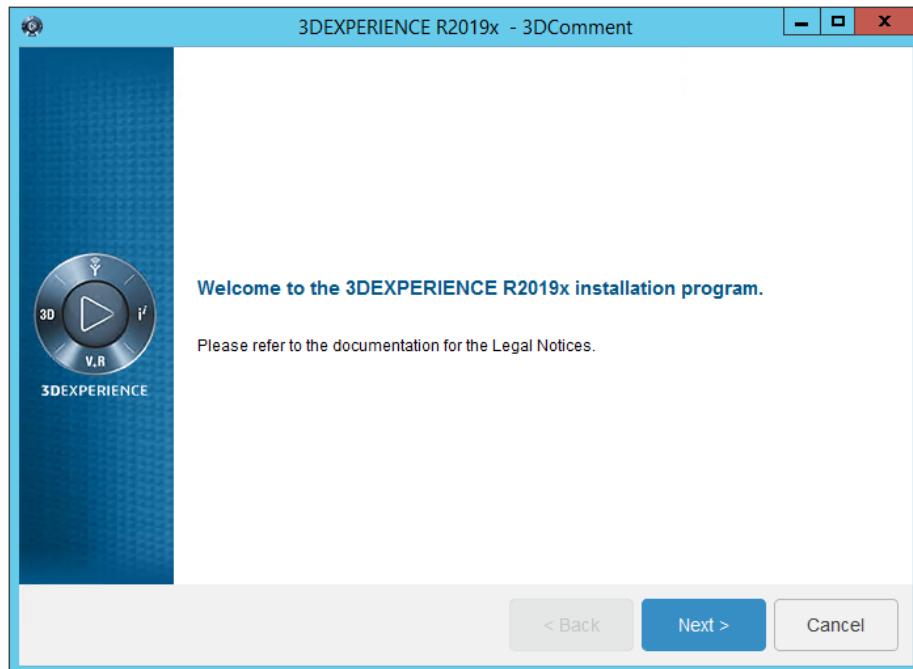
The name of the installation media is, 3DComment-V6R2019x.Windows64.zip.

1. Unzip the media file to create the directory, 3DComment.Windows64
2. Change to the distribution directory.

3DComment.Windows64/1

3. Double-click setup.exe on Windows and then start the installation procedure. The 3DComment installation procedure starts. Follow the below snapshots to complete the 3DComment installation.

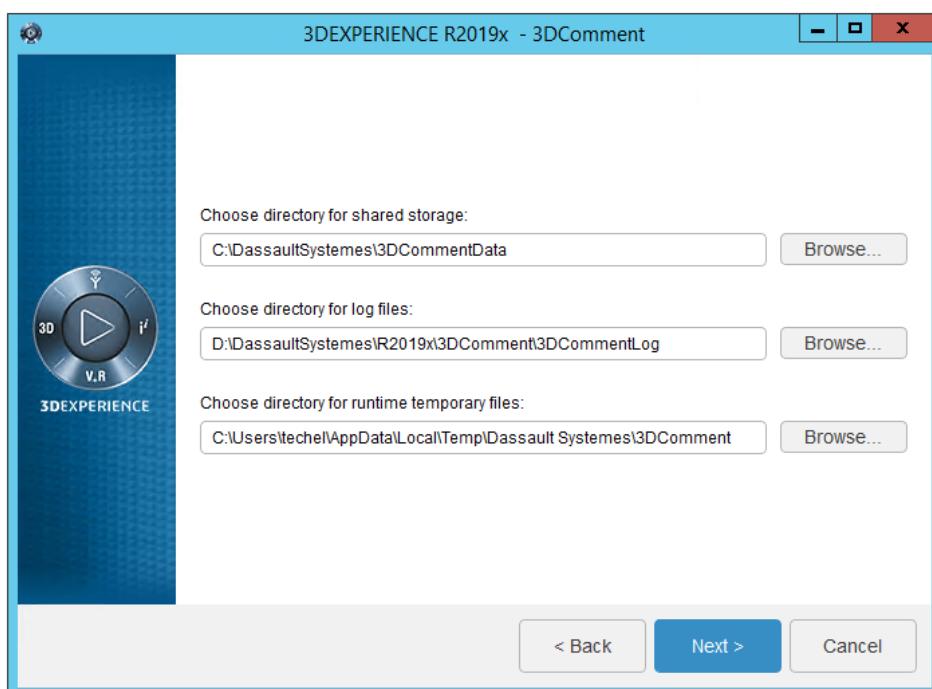
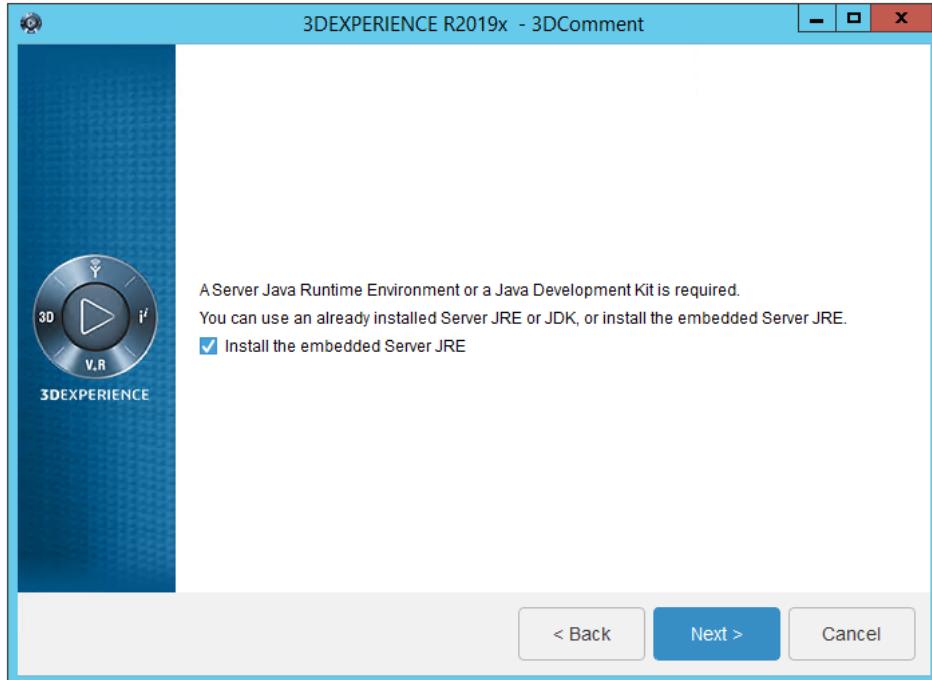
## Best Practices



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

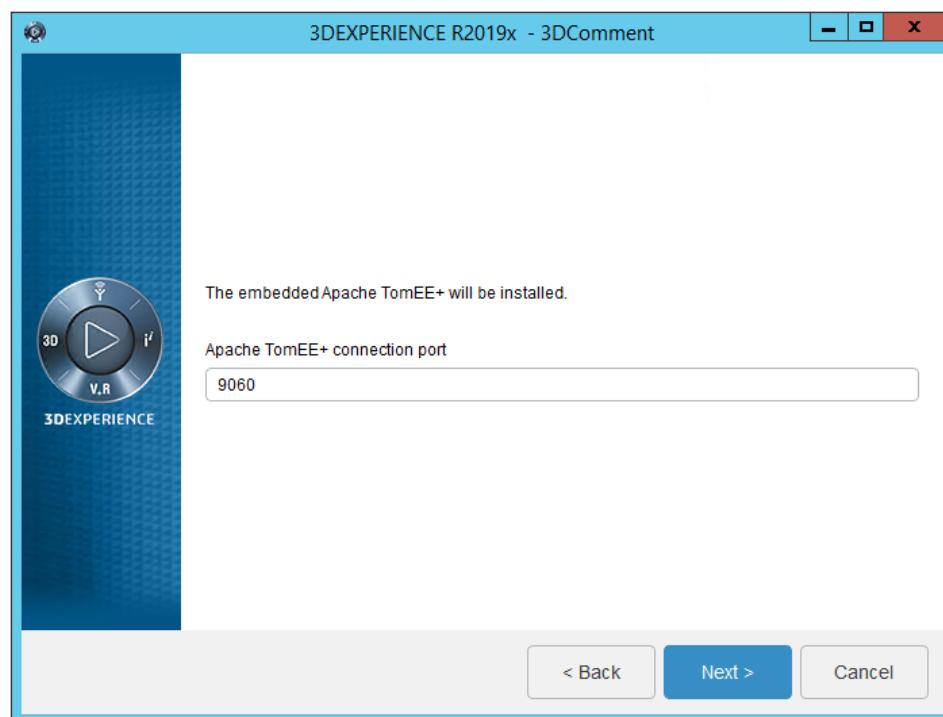
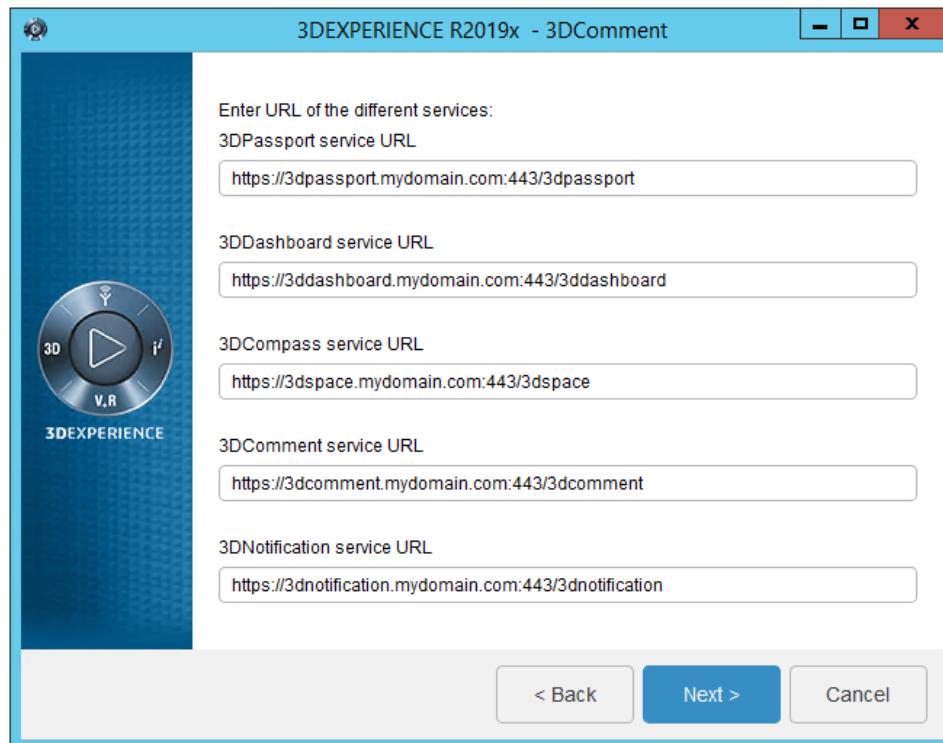
## Best Practices



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

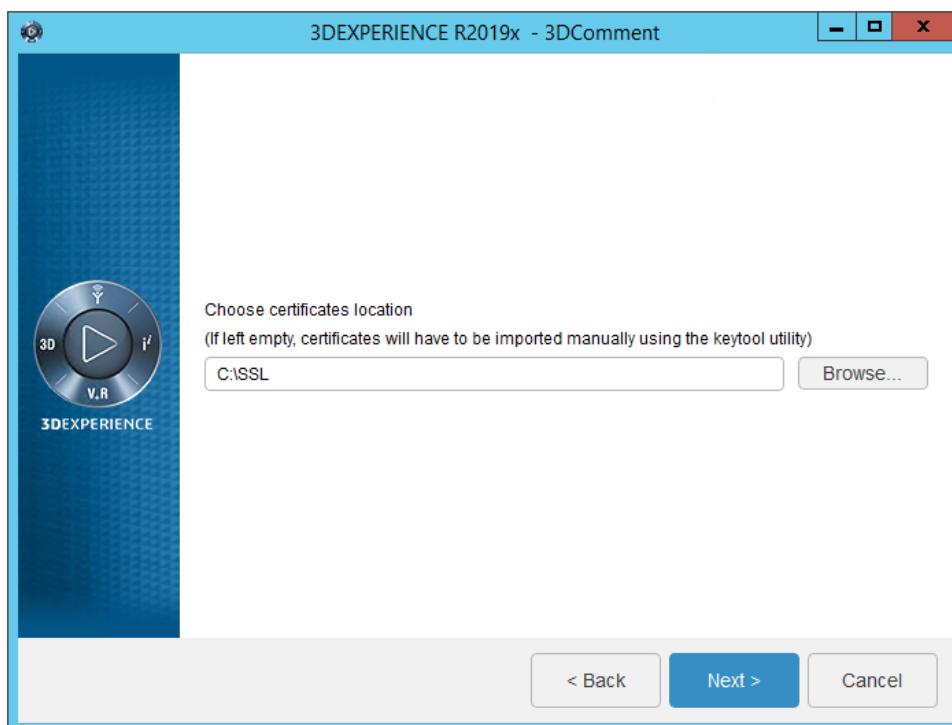
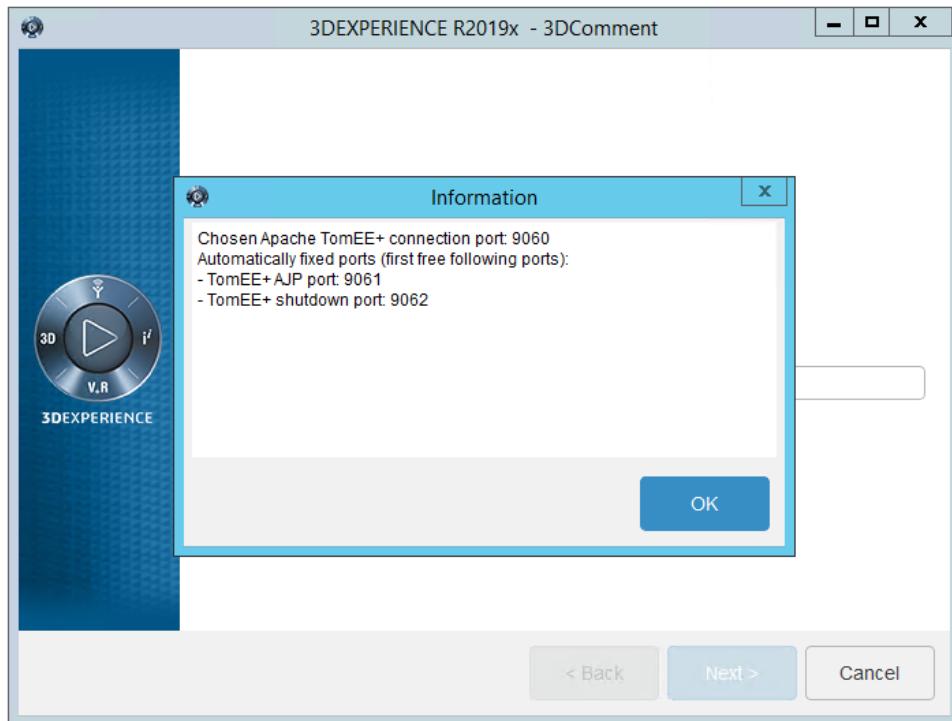
## Best Practices



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

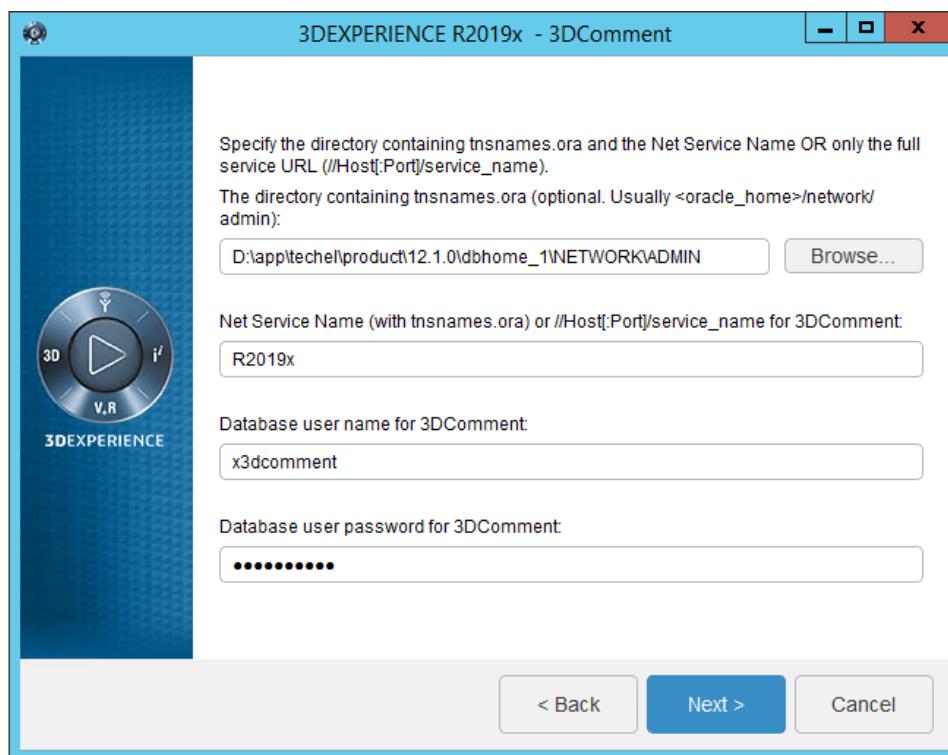
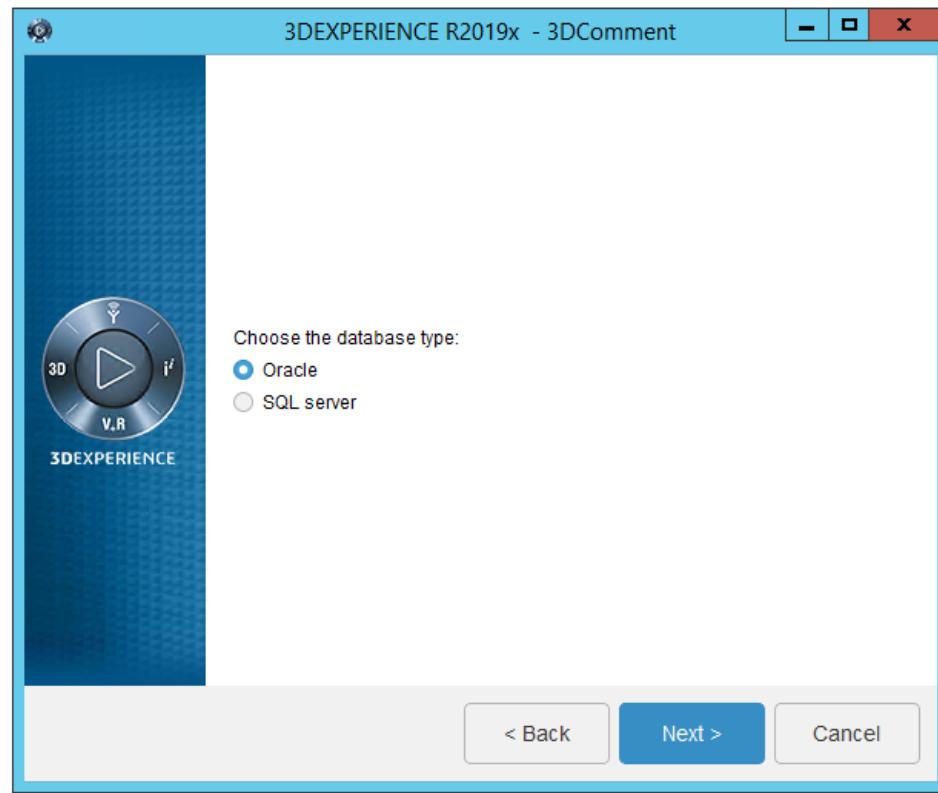
## Best Practices



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

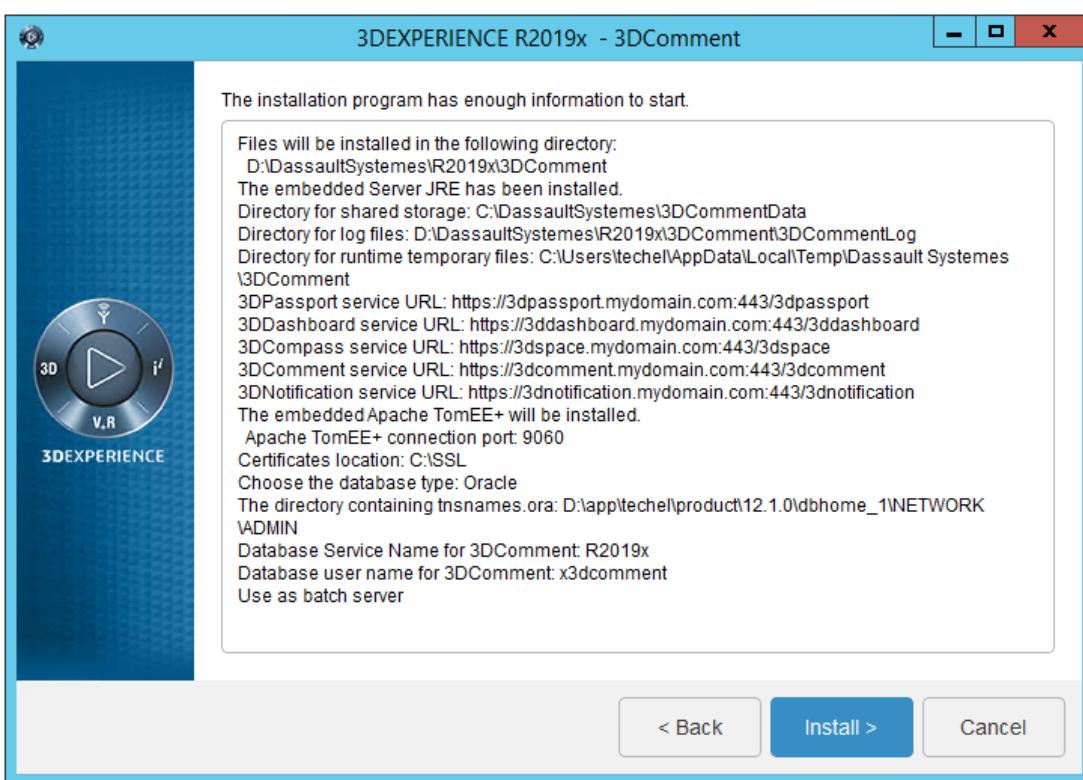
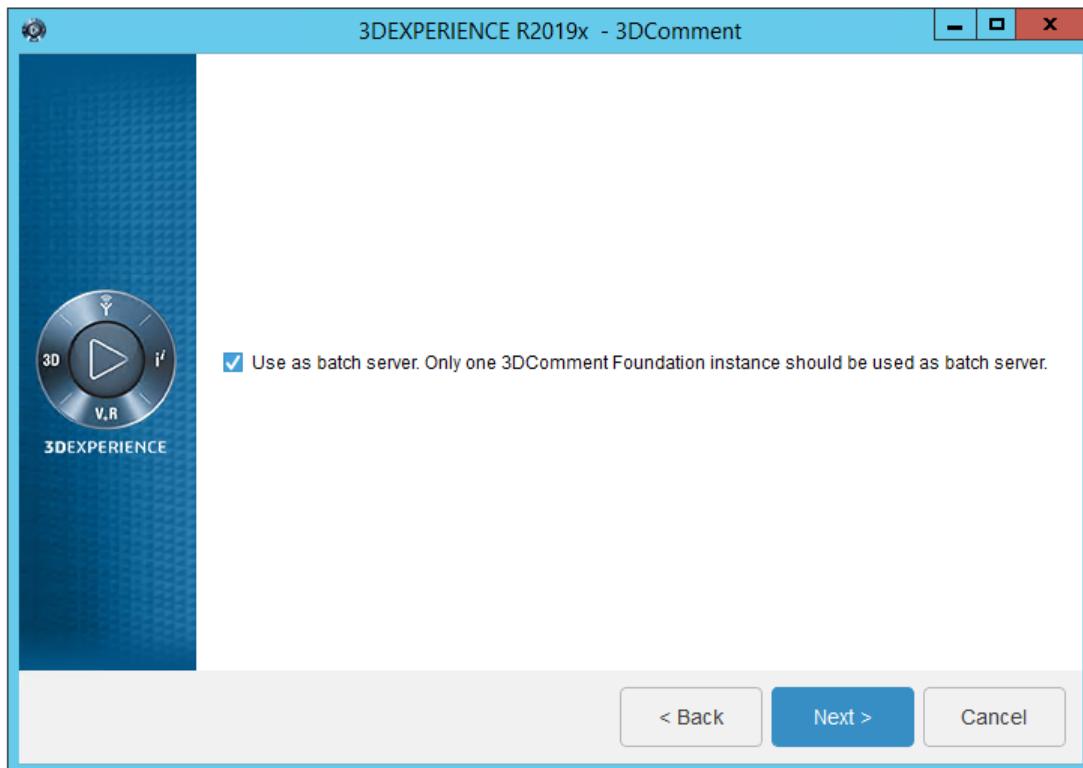
## Best Practices



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

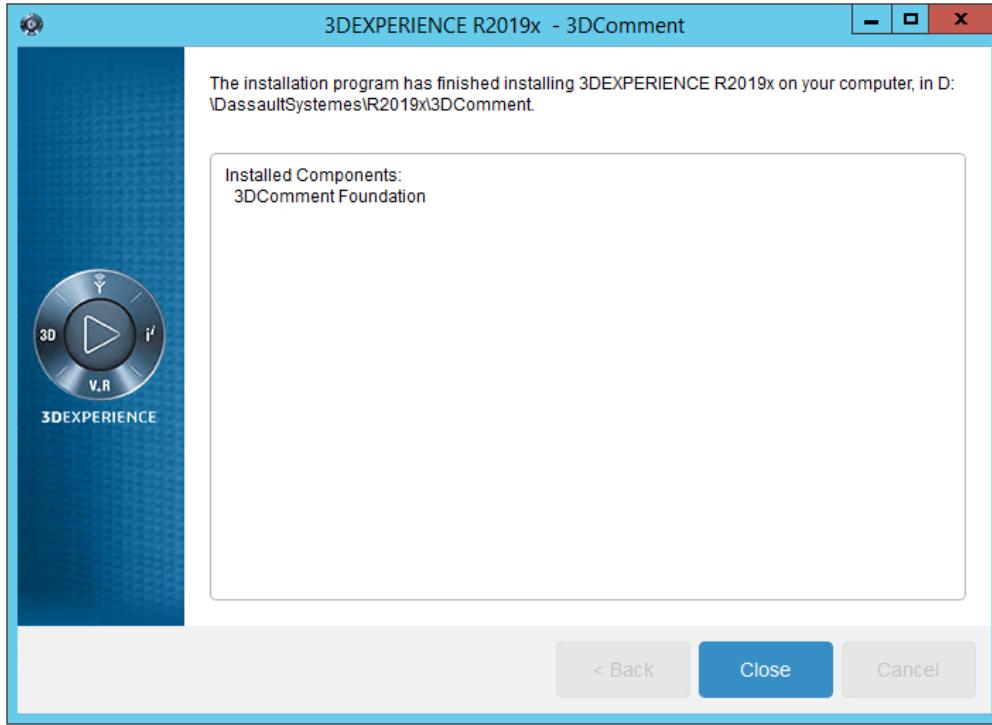
This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

## Best Practices



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.



### 4.8.2. Post Installation Task

Configure Apache httpd.conf and create 3DComment.conf as exemplified in section 3.6.3 of this document.

## 4.9. 3DNotification

3DNotification gives 3DEXPERIENCE platform users timely updates about the activities going on. 3DNotification is the service used to send notification messages to 3DEXPERIENCE platform users:

- ▶ A source app or service sends a notification request to the 3DNotification service.
- ▶ The 3DNotification service processes the request.

The 3DNotification service sends a notification message to the 3DEXPERIENCE platform users through different channels (the notification center, alerts, and emails).

### 4.9.1. Installing 3DNotification

The name of the installation media is: 3DNotification-V6R2019x.Windows64.zip

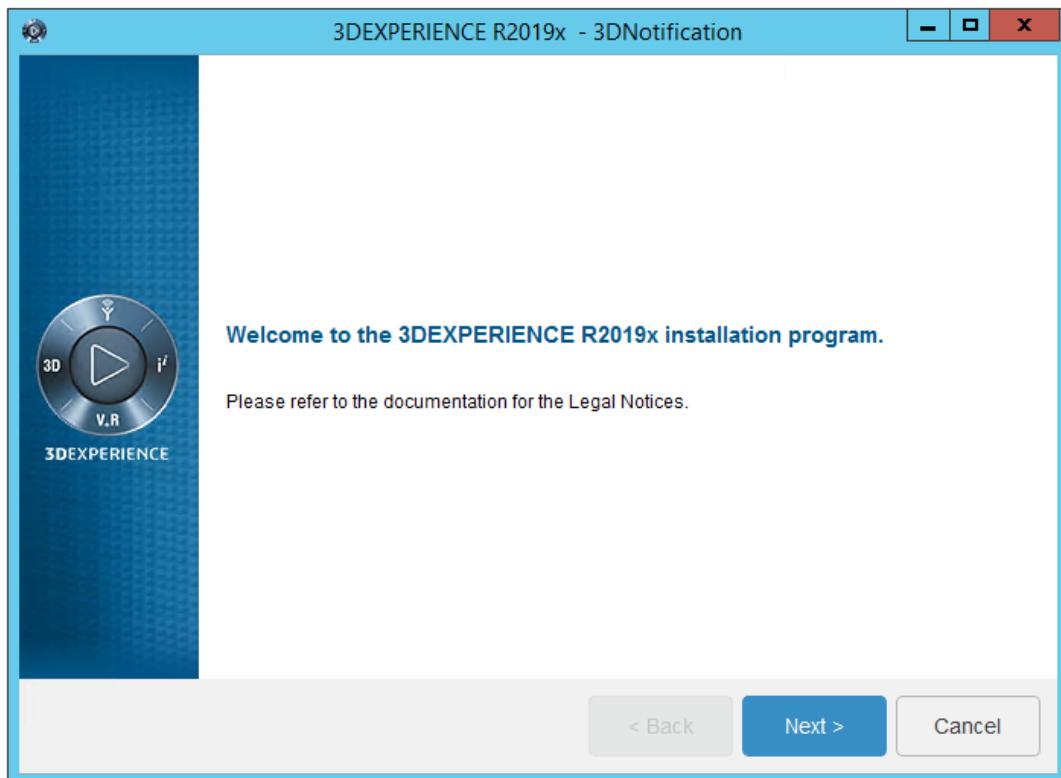
1. Unzip the media file to create the directory, 3DNotification.Windows64
2. Change to the distribution directory.

3DNotification.Windows64/1

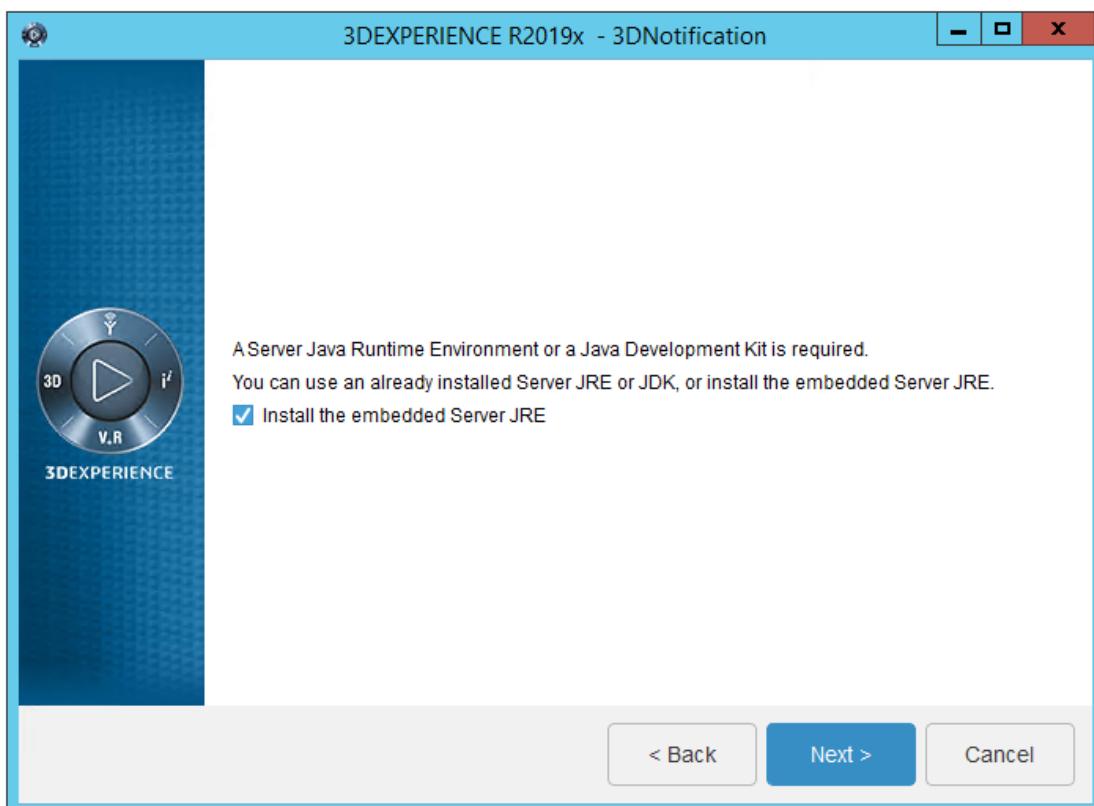
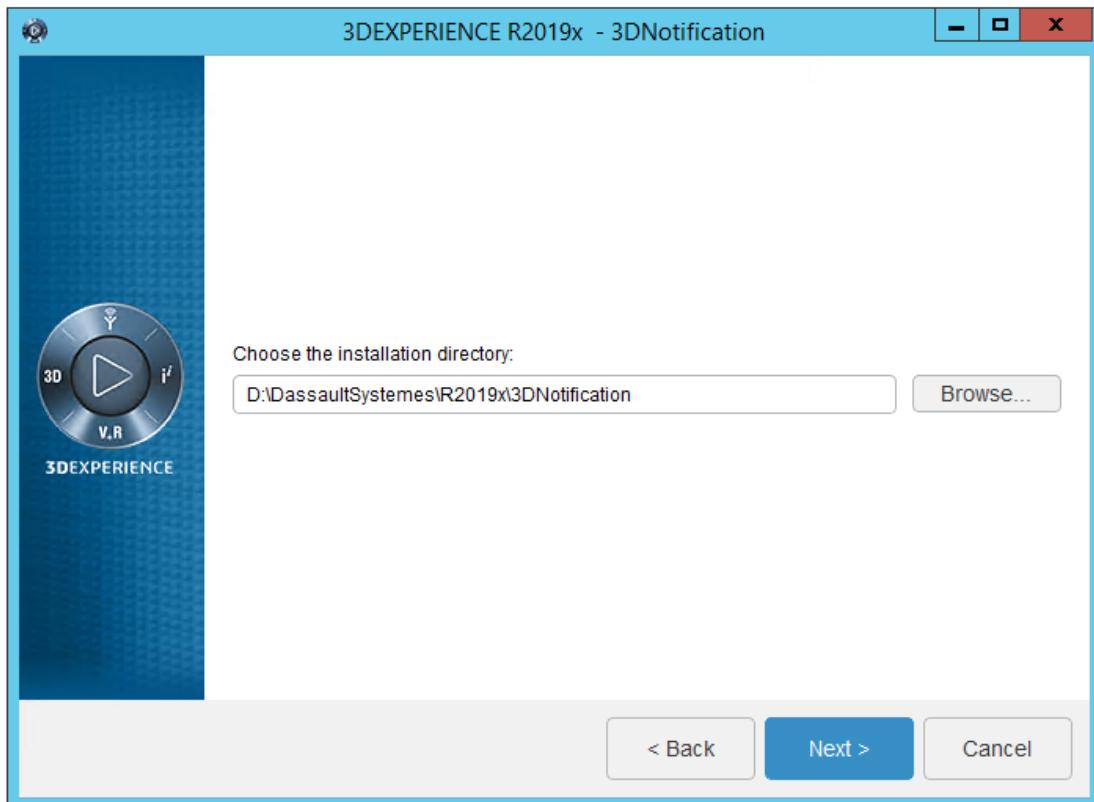
Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

3. Double-click setup.exe on Windows and then start the installation procedure. The 3DNotification installation procedure starts. Follow the snapshots to complete the 3DNotification installation.



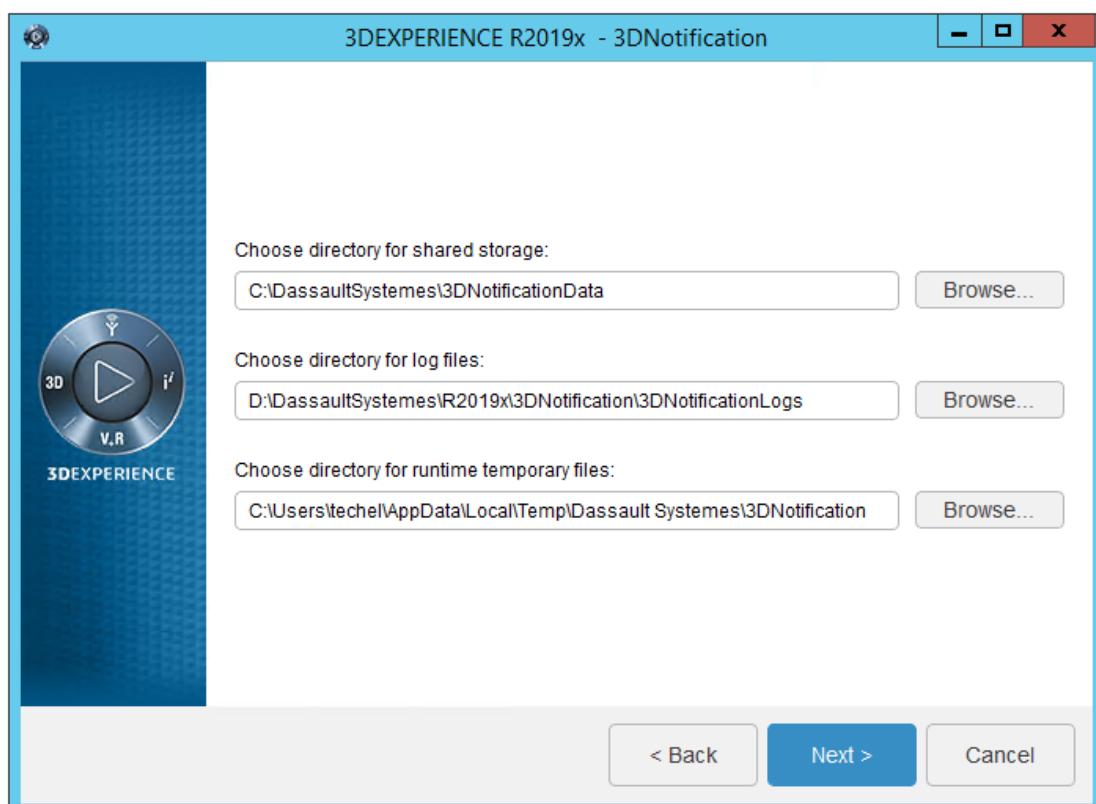
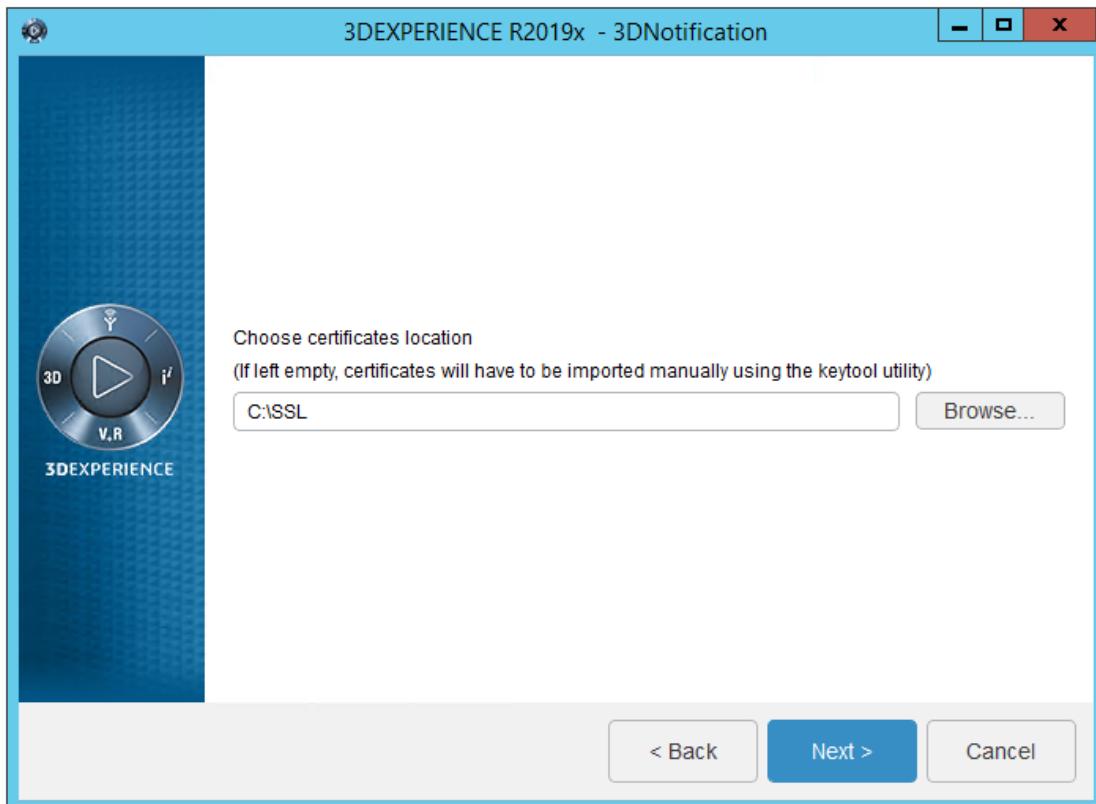
## Best Practices



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

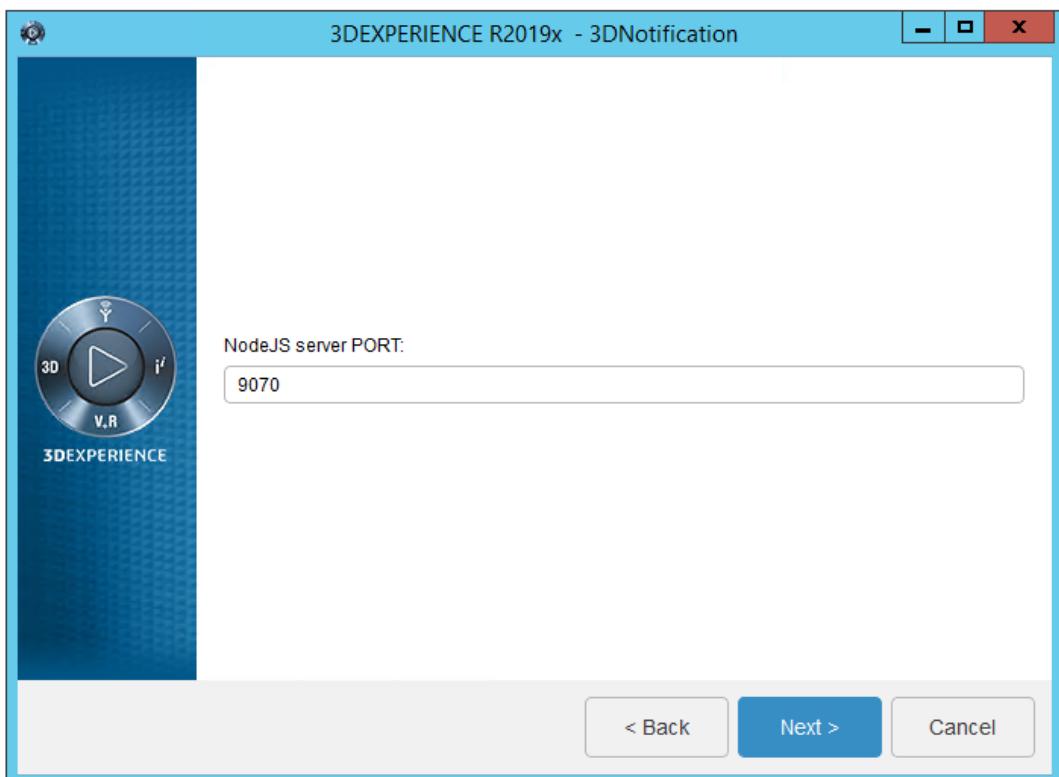
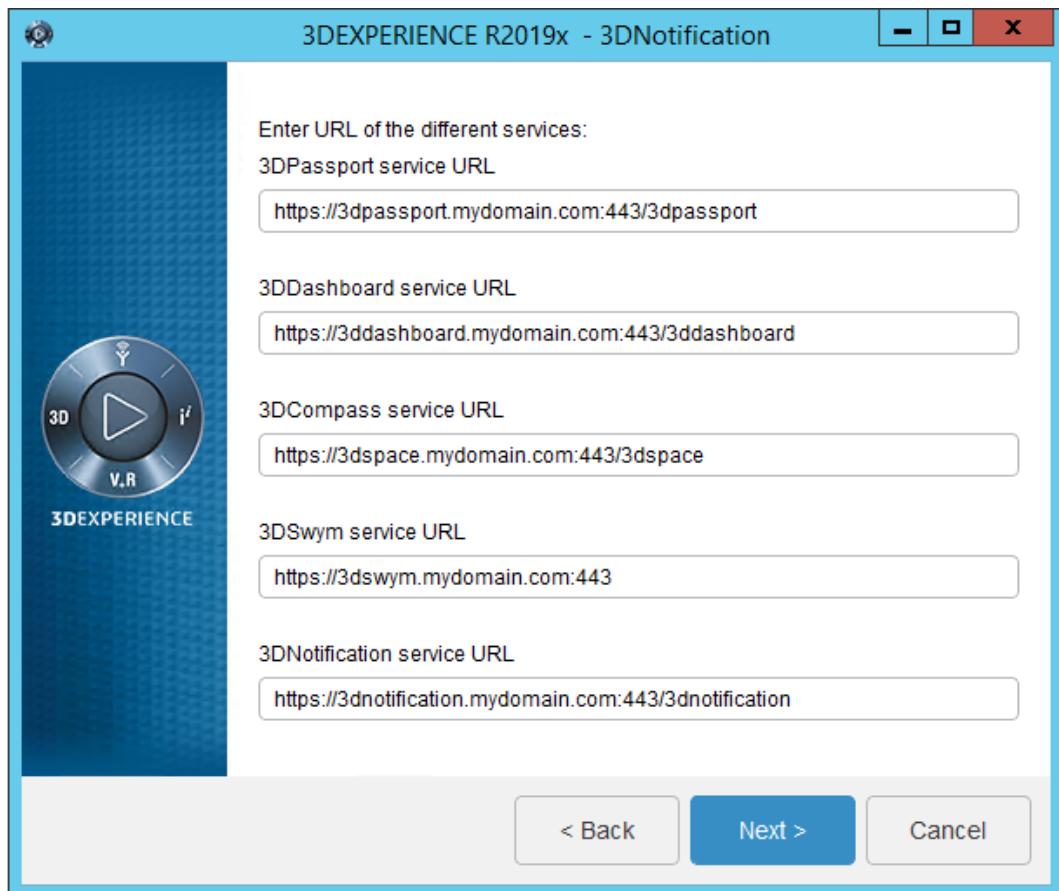
## Best Practices



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

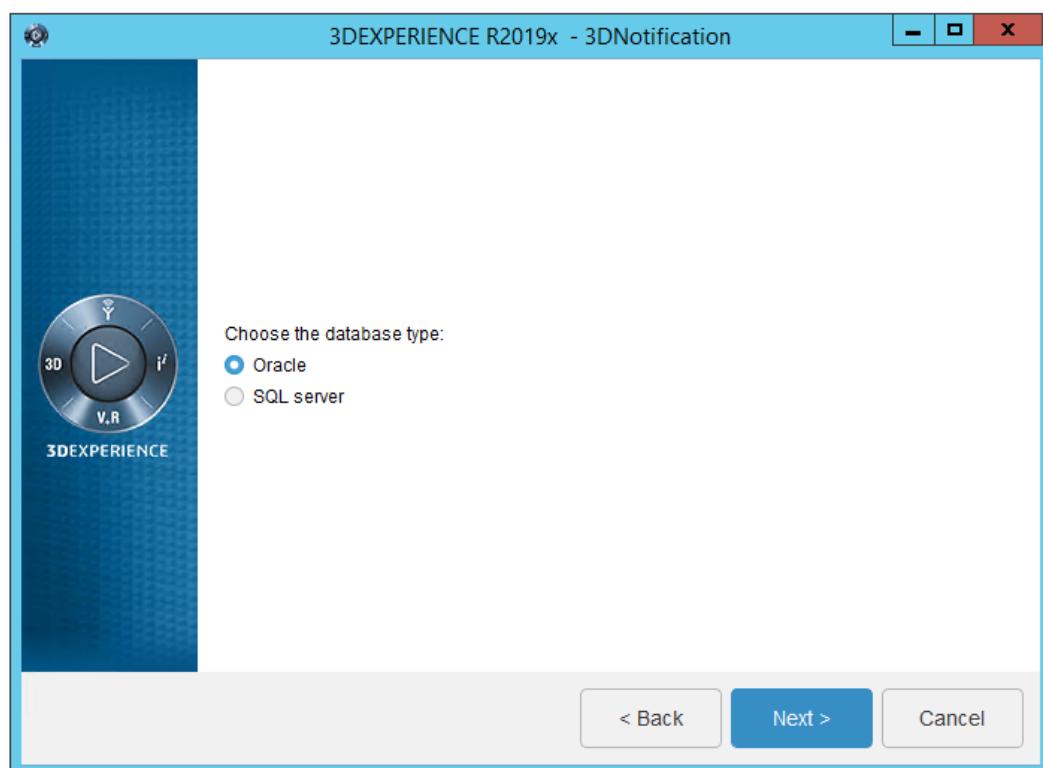
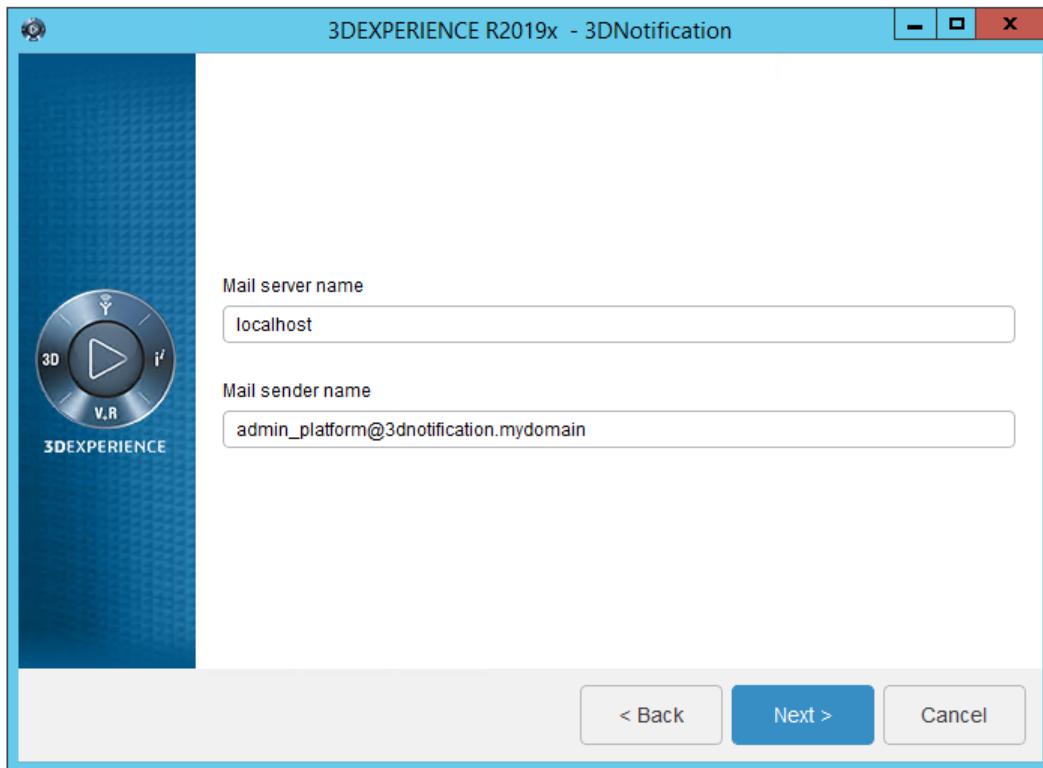
## Best Practices



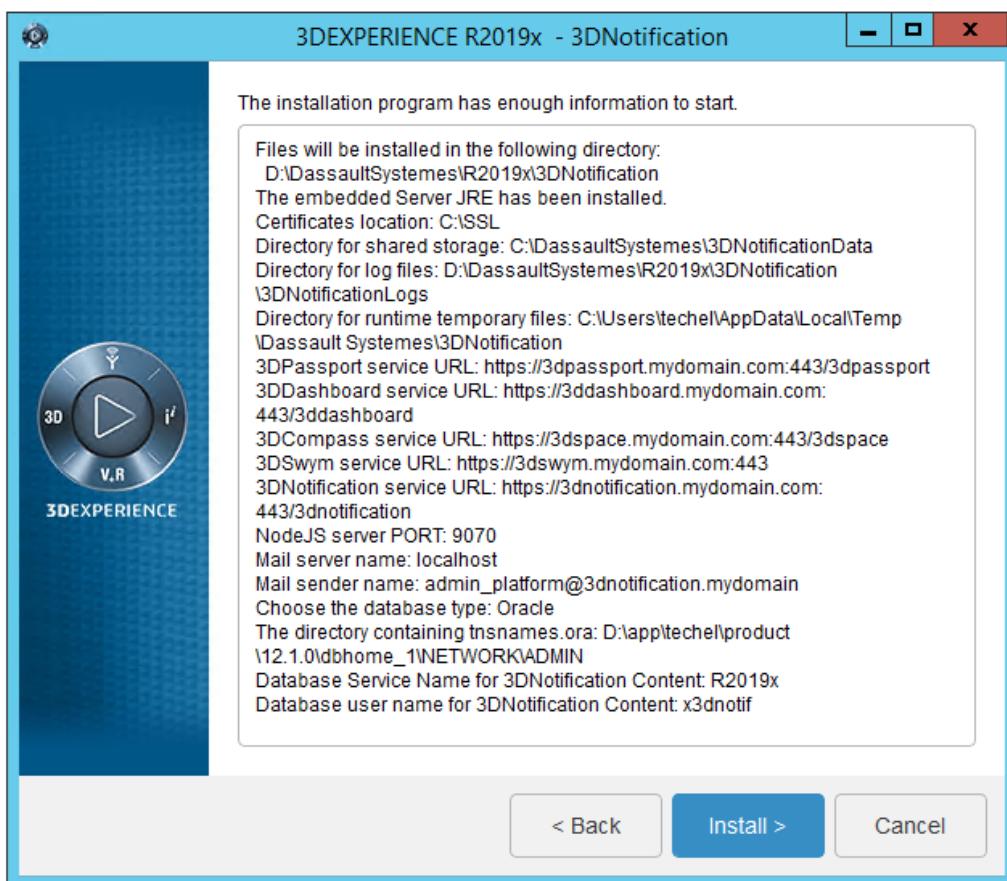
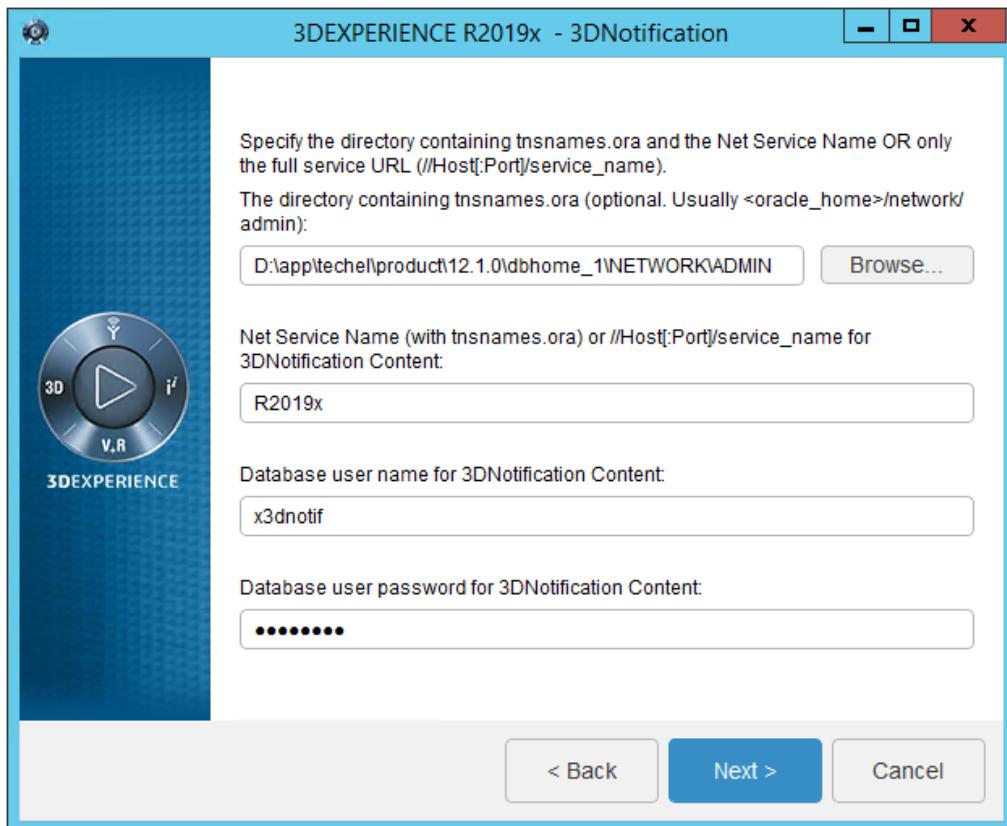
Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

## Best Practices

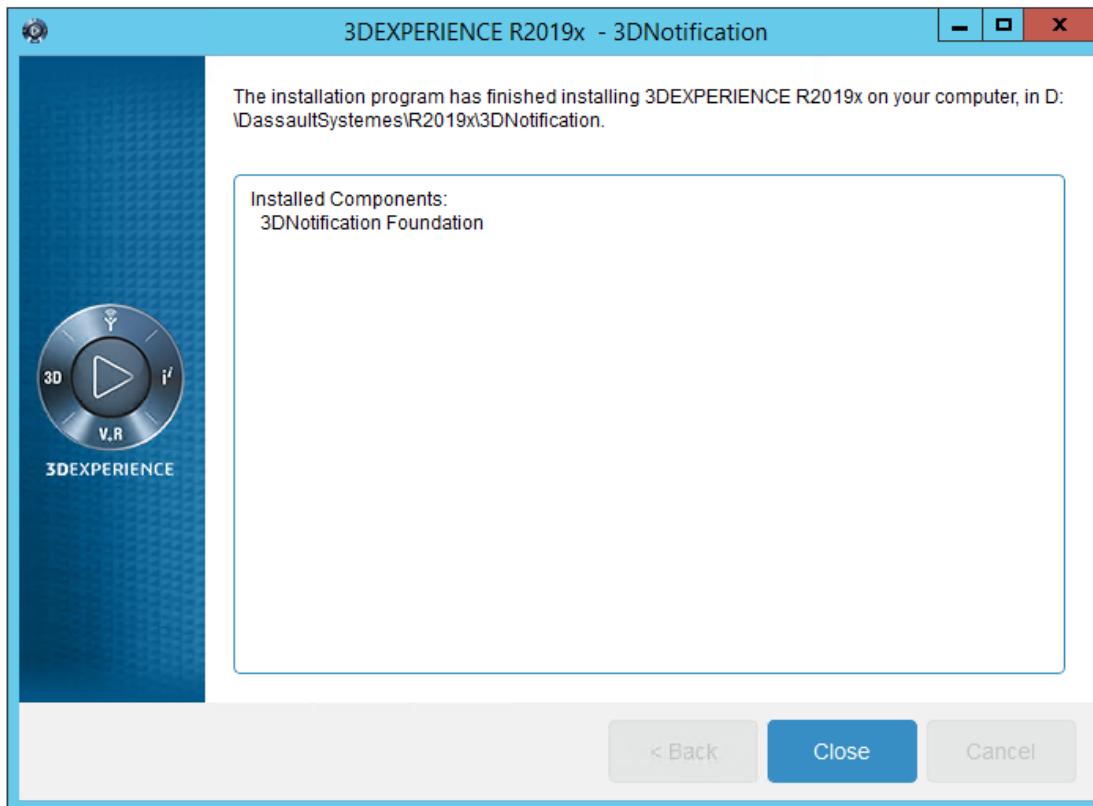


## Best Practices



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.



### 4.9.2. Post Installation Task

After installation, perform the following tasks:

- ▶ Configure Apache httpd.conf and create 3DNotification.conf as exemplified in section 3.6.3 of this document.
- ▶ Launch 3DSPACE.
- ▶ At Login, a "Bell" icon at upper right corner confirms installation of 3DNotification.

## 5. Simulation Apps and Services

### 5.1. X3D\_Web\_Simulation:

The name of the installation media is, X3D\_Web\_Simulation-V6R2019x.Windows64.zip.

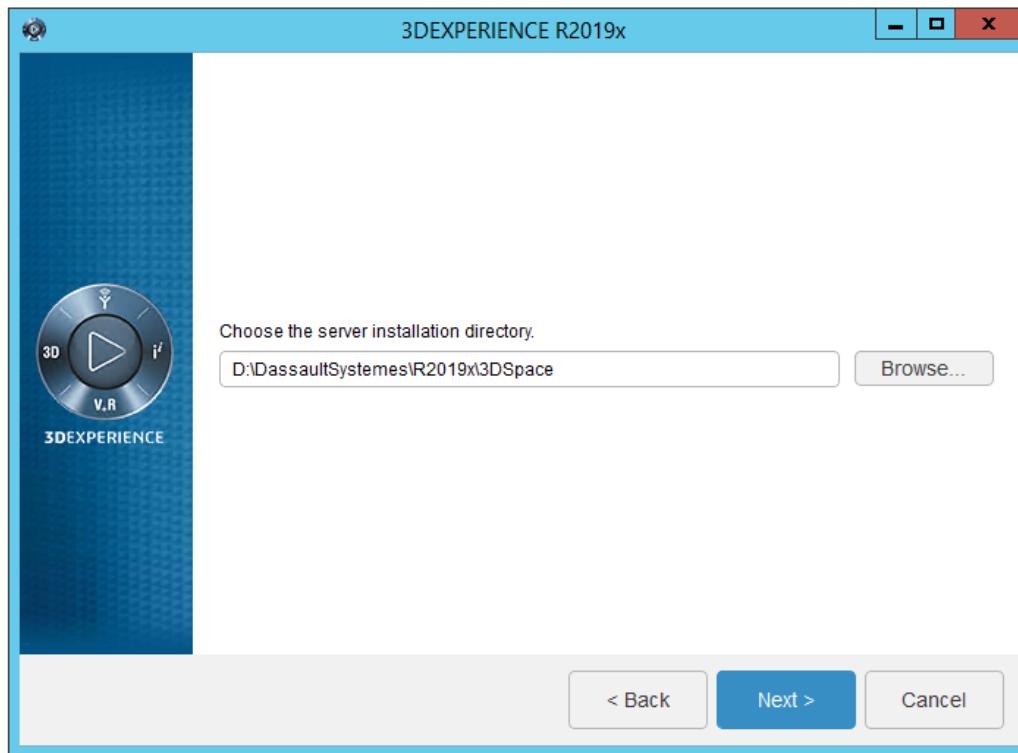
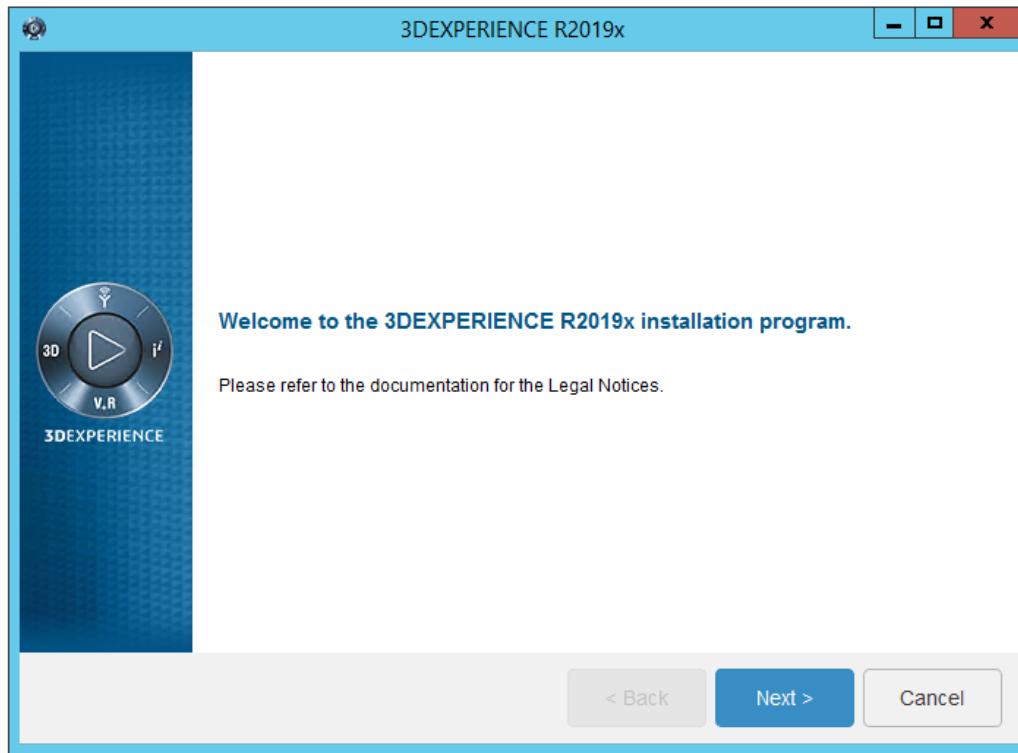
1. Unzip the media file to create the following directory:  
X3D\_Web\_Simulation.Windows64.
2. Change to the distribution directory.

X3D\_Web\_Simulation.Windows64/1

Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

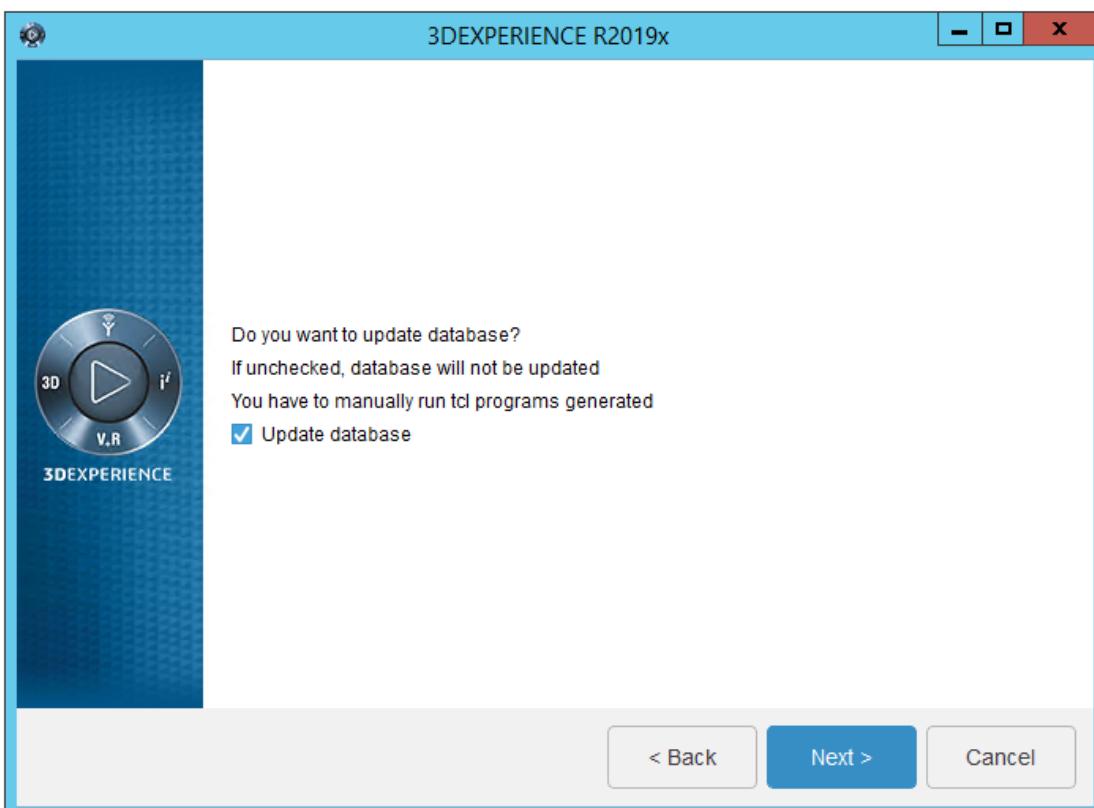
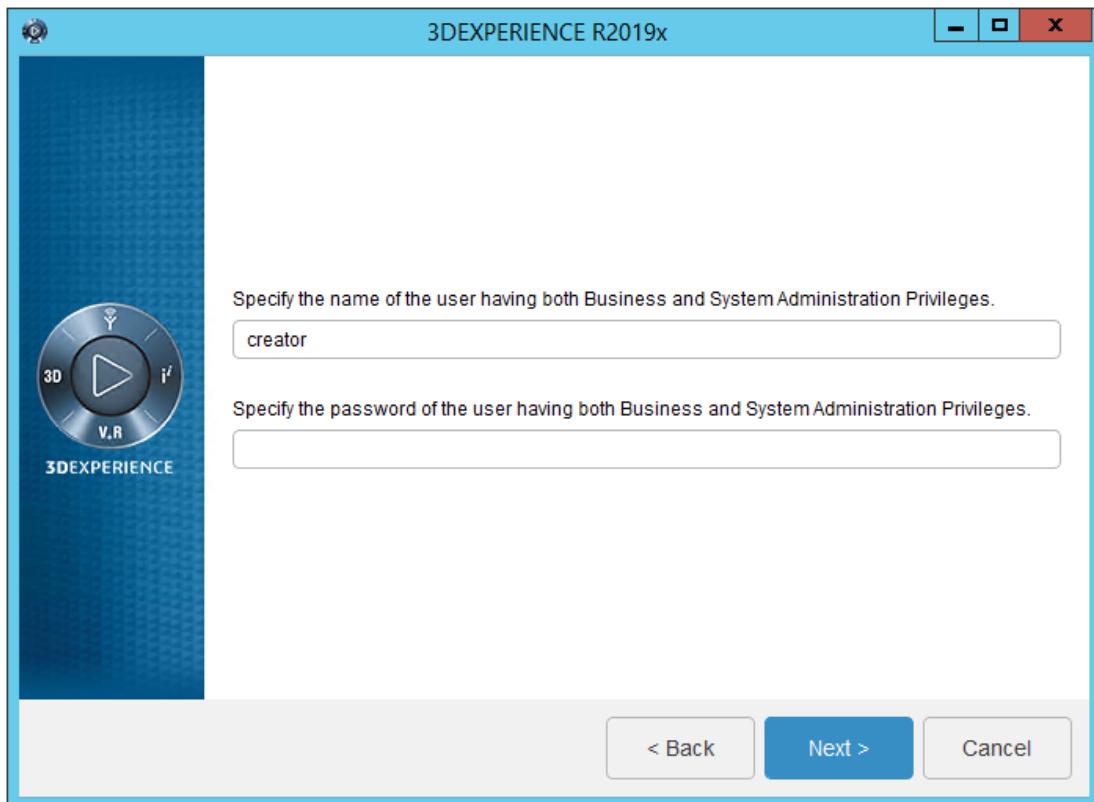
3. Double-click setup.exe on Windows and then start the installation procedure. The installation procedure for Web apps starts. Follow the snapshots to complete the installation.



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

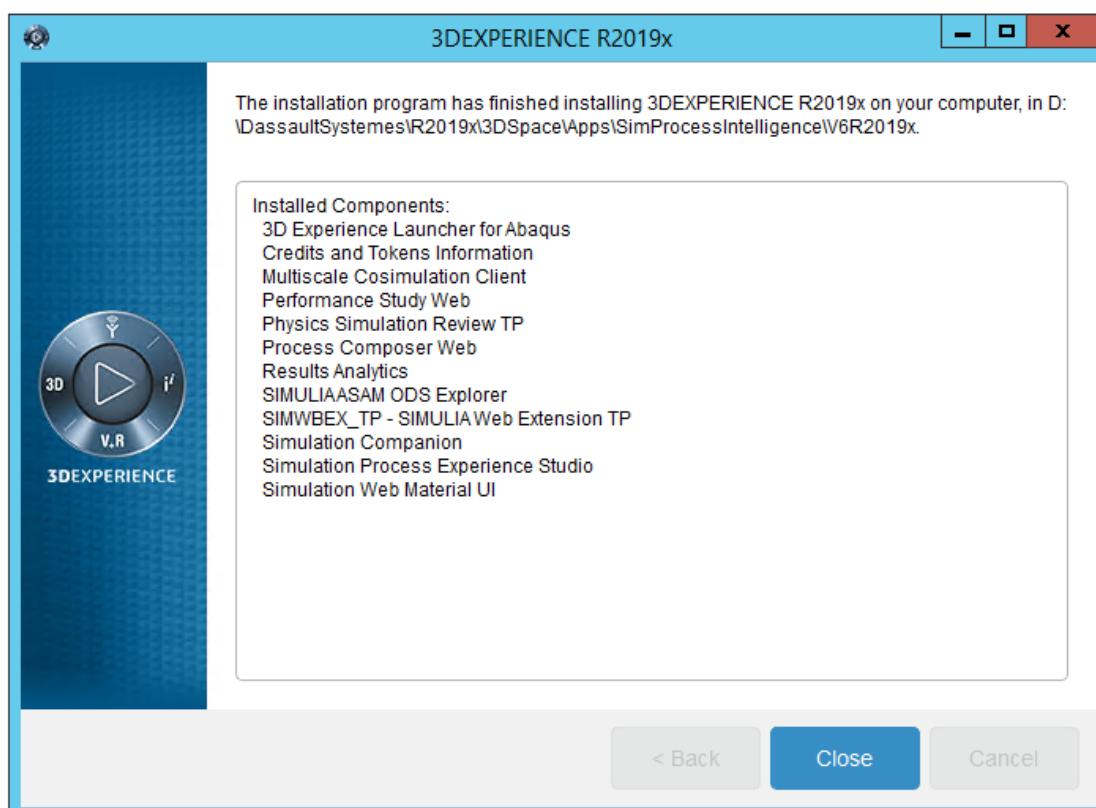
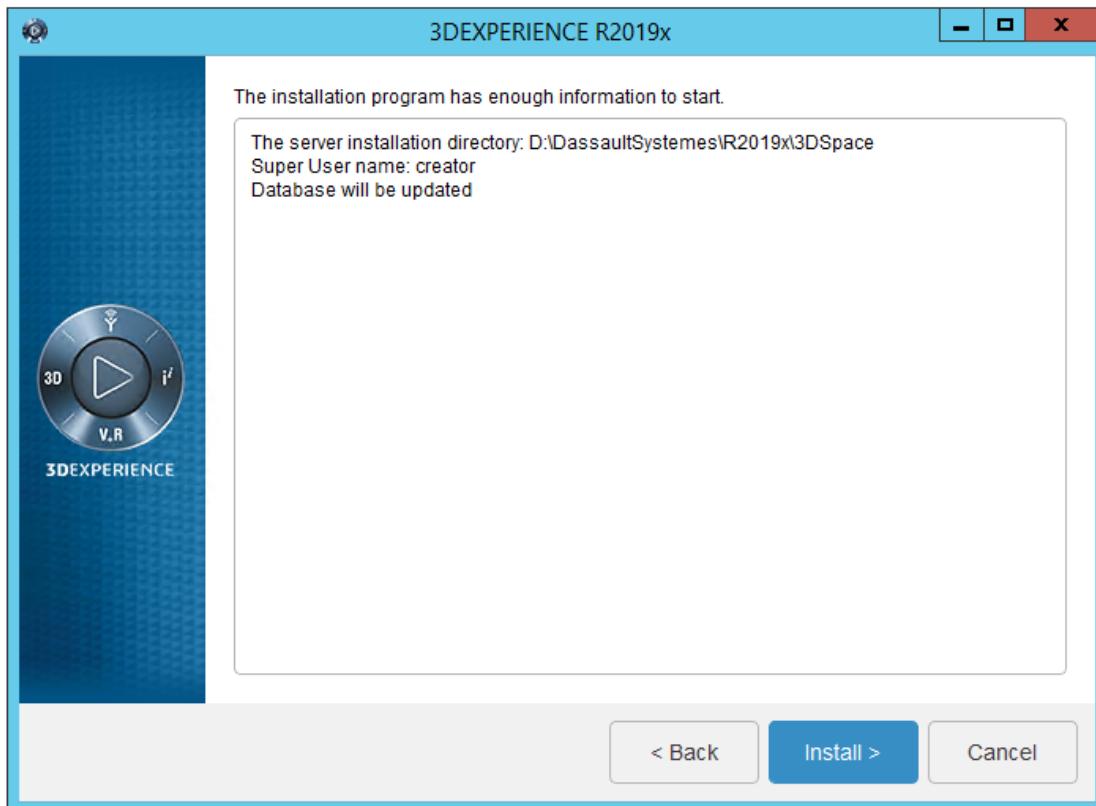
## Best Practices



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

## Best Practices



### 5.1.1. Post Installation Task

Perform the following task after installation:

Run the WAR utility and deploy (or redeploy) the 3DSpace application on the Java EE application server.

- ▷ ‘BuildDeploy3DSpace\_CAS’ select and run as administrator
- ▷ ‘BuildDeploy3DSpace\_NoCAS’ select and run as administrator

## 5.2. 3DOrchestrate

3DOrchestrate is a part of the simulation workflow infrastructure of the 3DEXPERIENCE platform. 3DOrchestrate allows users to distribute and parallelize the execution of simulation process jobs across available computer resources and to share the results.

You can run simulation on 3DOrchestrate server and its stations using the 3DEXPERIENCE process, Physics Simulation or Simulation for Designers Apps, or Functional Generative Design.

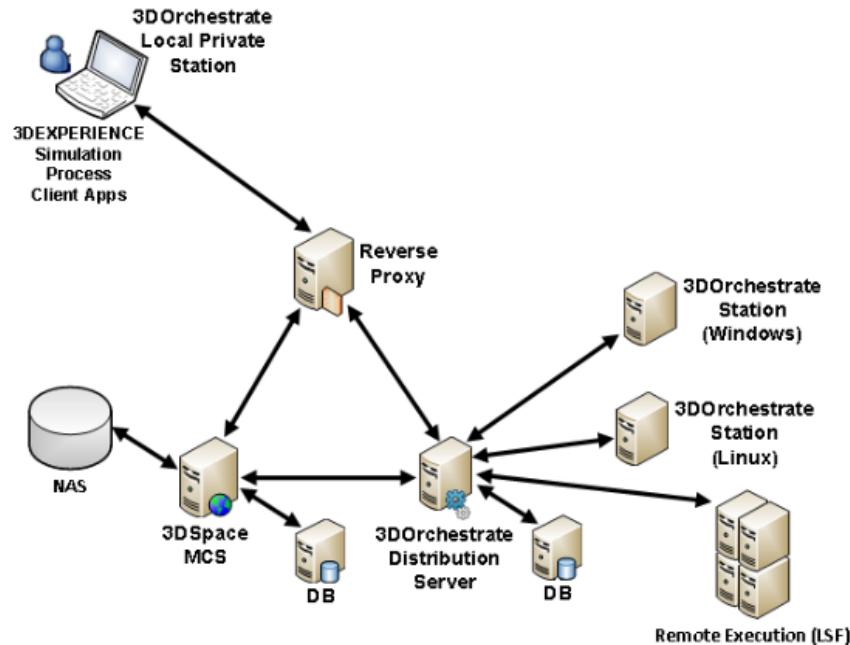
Install the following three software components of 3DOrchestrate on different machines:

- ▶ 3DOrchestrate Distribution Server
  - This is the main server application that accepts job execution requests from the client apps and distributes them to 3DOrchestrate Stations.
  - This is a Java enterprise application that can be installed on a separate server machine from the 3DSpace MCS (Main Collaboration Server).
  - This component is labeled with the three-letter code EED in the installer.
- ▶ 3DOrchestrate Station
  - A station is a lightweight, stand-alone java based application that runs on individual computers on your network.
  - Install station on any compute node (workstation or server) that will execute any kind of application (simulation or other) used in the physics simulation and simulation process jobs.
  - Install the station software on any 3DEXPERIENCE platform whenever the user wants to execute the backend simulation process jobs on the client machine. Hence, 3DEXPERIENCE R2017x onwards, every installation of a 3DEXPERIENCE platform client (NativeApps) comes with an embedded Private Station that will start automatically when required.
  - This component is labeled with the three-letter code EER in the installer.

### ► 3DOrchestrator Platform Services

- Install this component into the existing 3DSpace MCS.
- It provides web services that allow the 3DOrchestrator Distribution Server to store results in the 3DEXPERIENCE platform database.
- This component is labeled with the three-letter code EEP in the installer.

System Architecture/Deployment:



For more details, refer to the following Dassault Systèmes documentation:

**Installation and Setup > Install > Simulation > 3DOrchestrator - Installation and Administration > Installation Roadmap**

#### 5.2.1. Installing the 3DOrchestrator Distribution Server

Install the 3DOrchestrator Distribution Server on a server machine in your network.

Before you begin, refer to the following Dassault Systèmes documentation:

- **Installation and Setup > Install > Simulation > 3DOrchestrator - Installation and Administration > Key Concepts > Installation and System Configuration Considerations**
- **Installation and Setup > Install > Simulation > 3DOrchestrator - Installation and Administration > Key Concepts > Software Prerequisites**

SIMULIA 3DOrchestration media includes three separate installable components:

- ▶ 3DOrchestrator Distribution Server (EED)
- ▶ 3DOrchestrator Station (EER)
- ▶ SIMULIA Station Adapters Executors

The installation media filename is, SIMULIA\_3DOrchestration-V6R2019x.Windows64.zip.

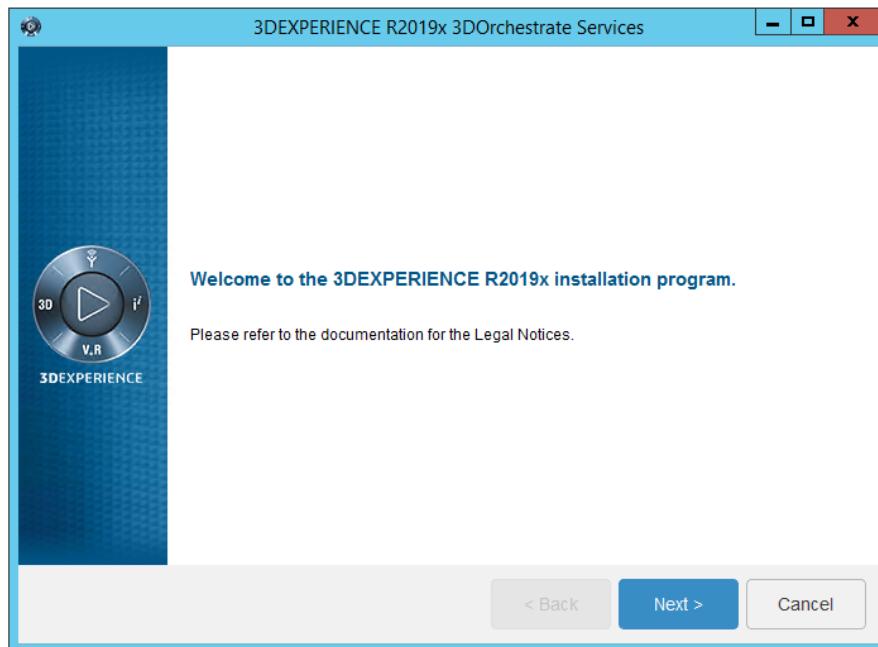
1. Unzip this media file to create the following directory:

SIMULIA\_3DOrchestration.Windows64

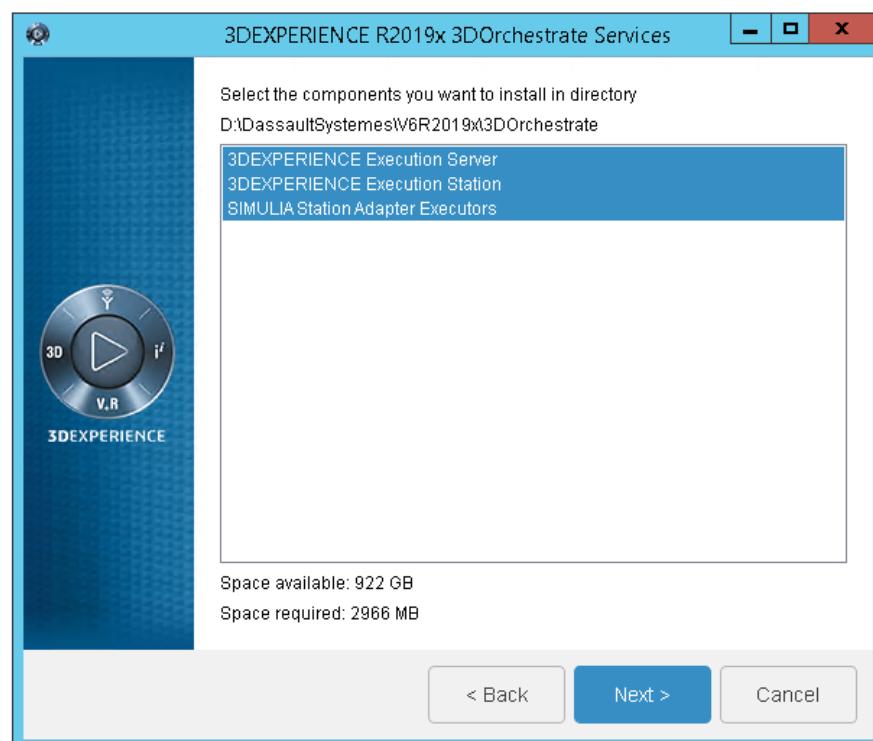
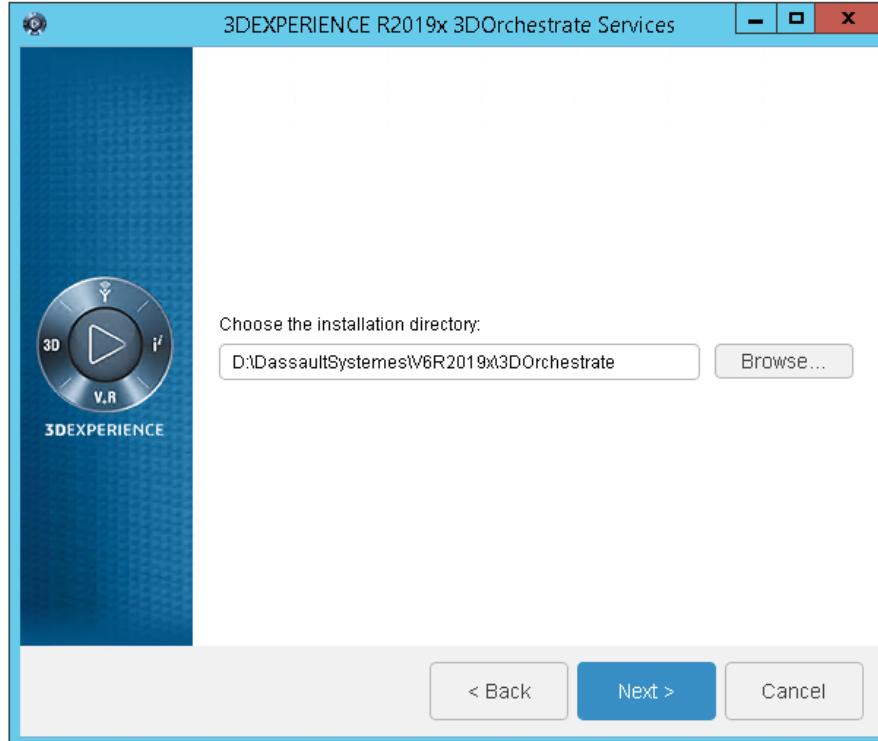
2. Change to the distribution directory.

SIMULIA\_3DOrchestration.Windows64/1

3. Double-click setup.exe on Windows and then start the installation procedure. The 3DOrchestrator Distribution Server installation procedure starts. Follow the snapshots to complete the installation.



## Best Practices



For standard installation, select only the server component:

- ▶ **3DEXPERIENCE Execution Server**

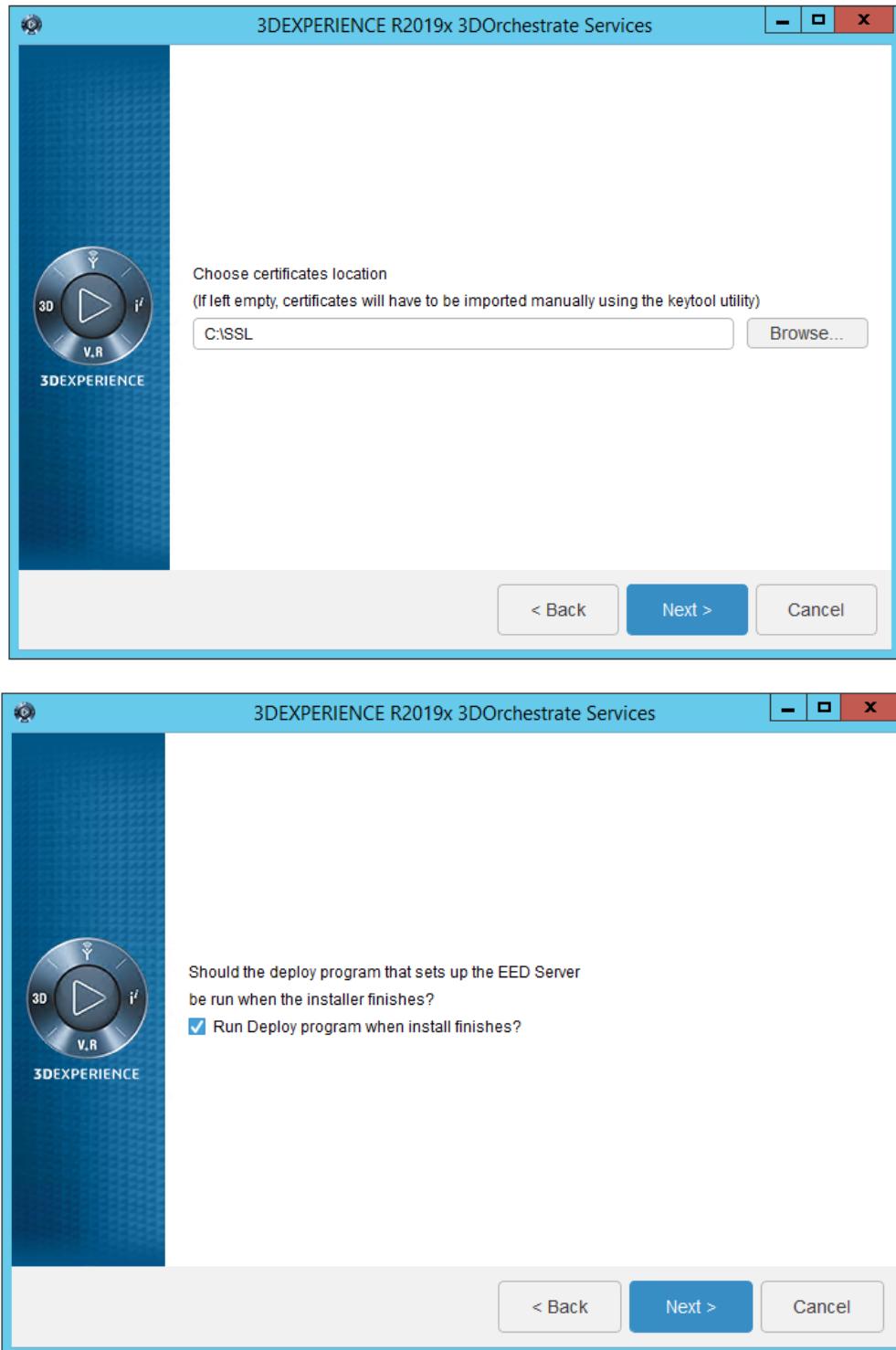
Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

## Best Practices

If you want to run 3DOrchestrator station on the server machine, then select the following two components from the installation dialog box:

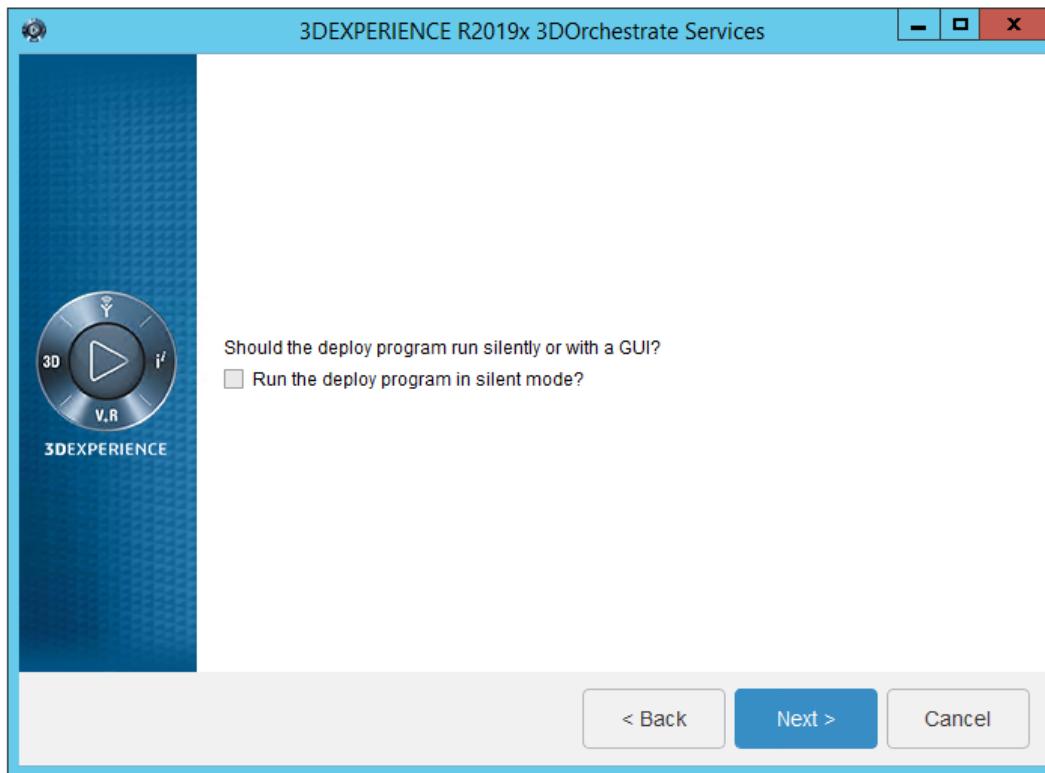
- ▶ 3DEXPERIENCE Execution Station
- ▶ SIMULIA Station Adapter Executors



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

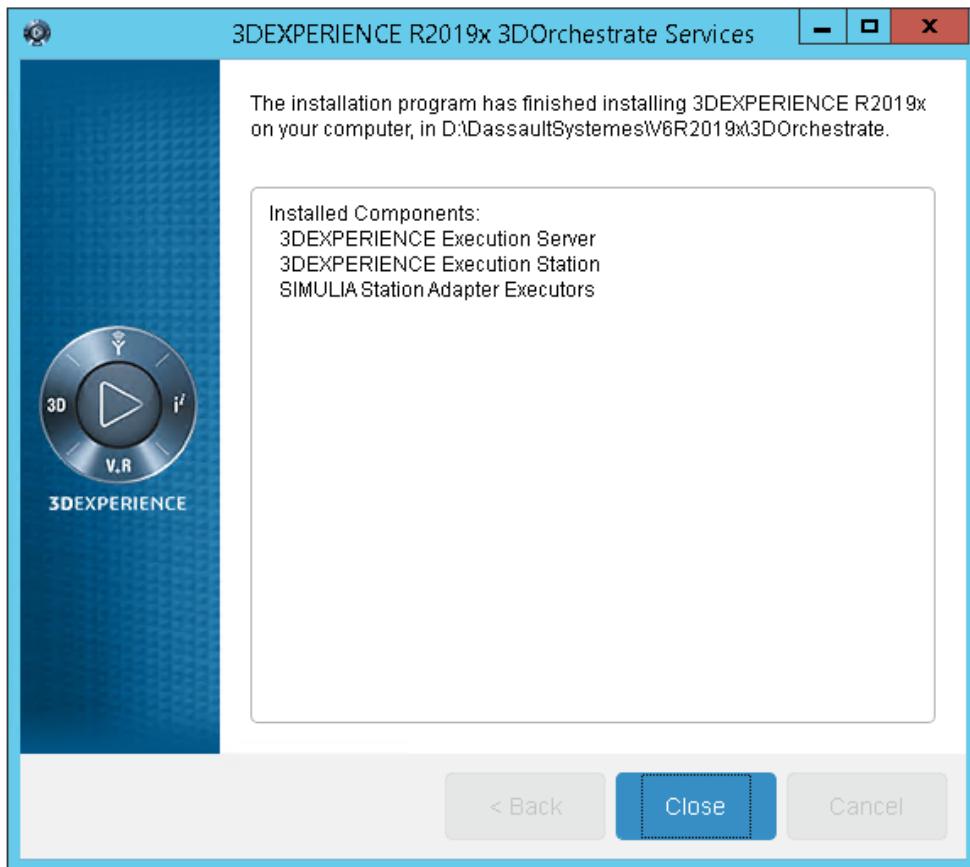
This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

## Best Practices



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.



### 5.2.2. Post Installation Task

Perform the following task after installation:

To import 3DEXPERIENCE server certificates, run the `import_certificates.bat` file available at the following location:

For example: `D:\DassaultSystemes\V6R2019x\3DOrchestrator\win_b64\code\command`

### 5.2.3. Deploying 3DOrchestrator in the Java Application Server

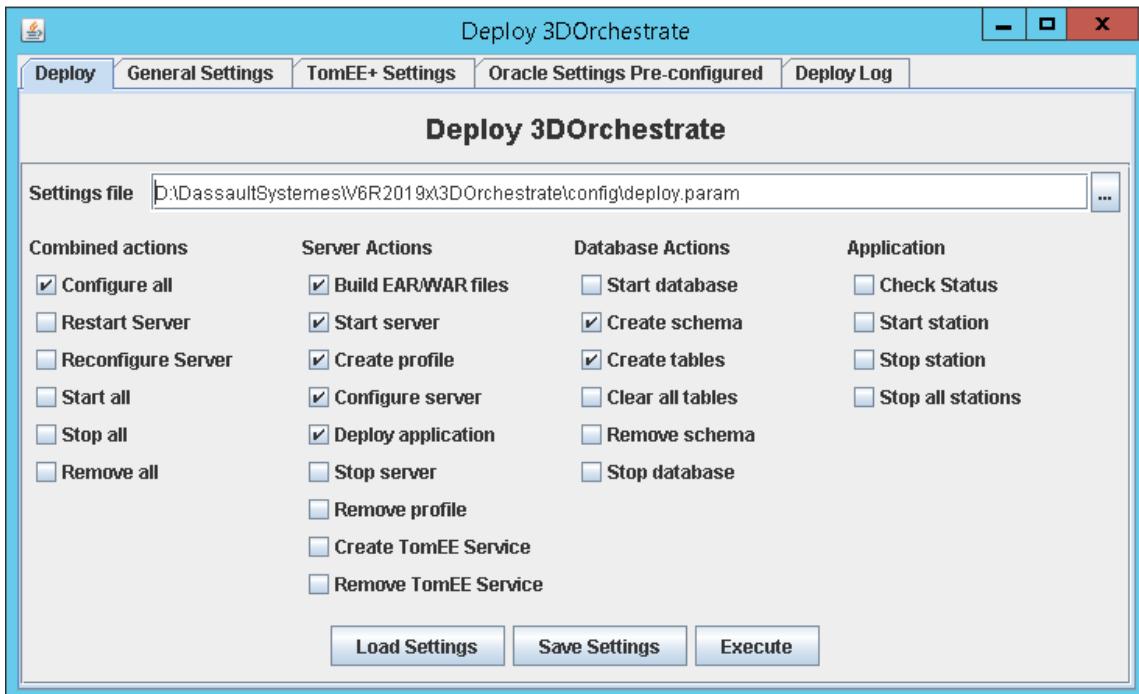
Run the utility for deploying 3DOrchestrator in Java application server from the following location. For example:

`<3DOrchestrator_installation_directory>\win_b64\reffeles\SMAExeServer\deploy\smaexe-deploy.bat`

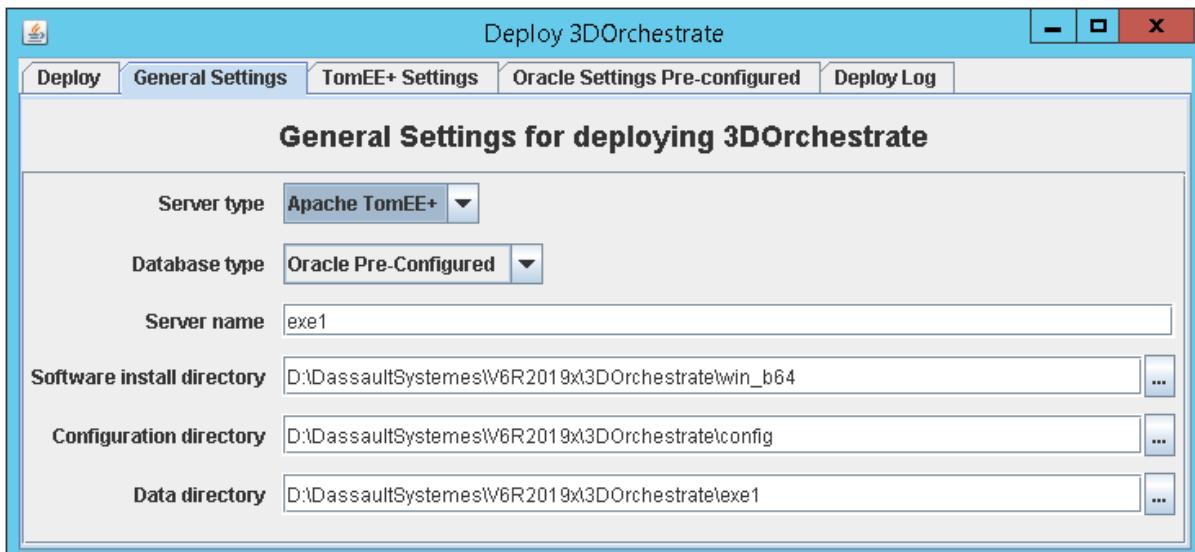
**Deploy:** The **Deploy 3DOrchestrator** dialog box displays a list of several actions to perform. Configure the required settings using the respective tabs and save the settings to a parameters file. Then, select the actions to perform and click **Execute**. The options under

## Best Practices

**Combined actions** will set or clear other selections in a group to perform more complex, combined actions; for example, **Configure all** or **Reconfigure server**.



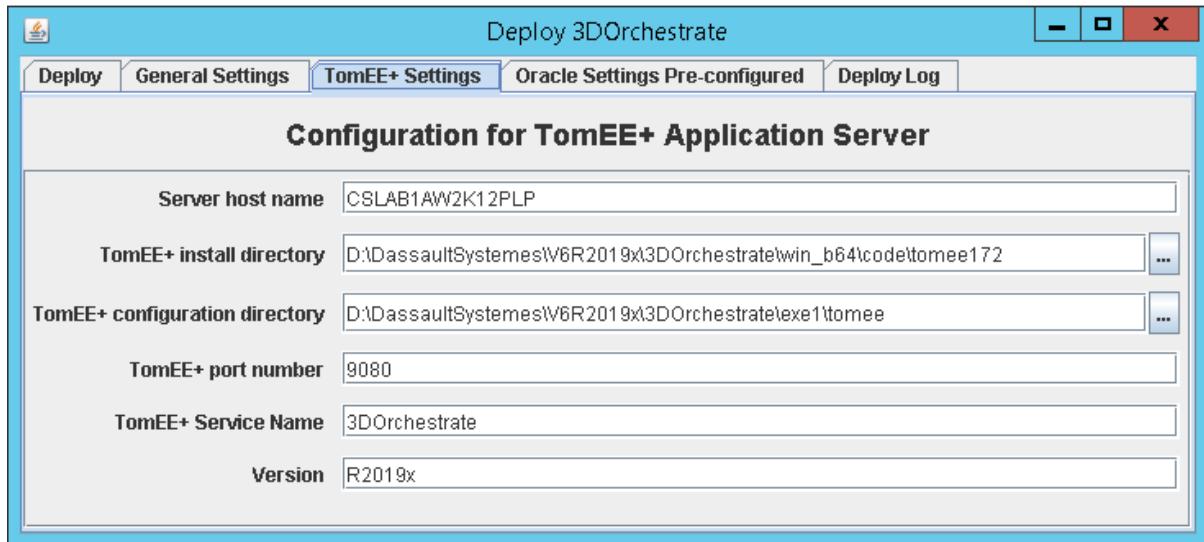
**General Settings:** Click this tab to set the Java EE application name (server name) and to select various subdirectories for installation. The default application/server name is **exe1**.



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

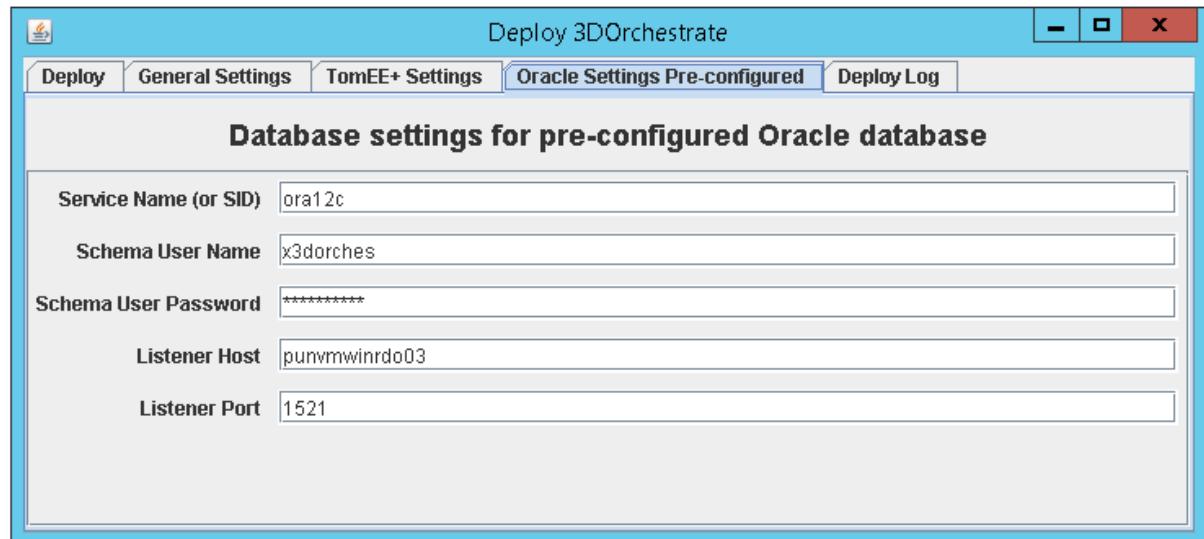
This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

**TomEE+ Settings:** With this tab setting, you can enter the server machine host name and port number that you want to use for the application.



**Note:** TomEE+ port number must be open before allocating to orchestrate.

**Database Settings:** Click the **Oracle Settings Pre-configured** tab to enter various database settings such as schema user name/password, and tablespace name. For Orchestrate database user details, refer section 3.5.7.



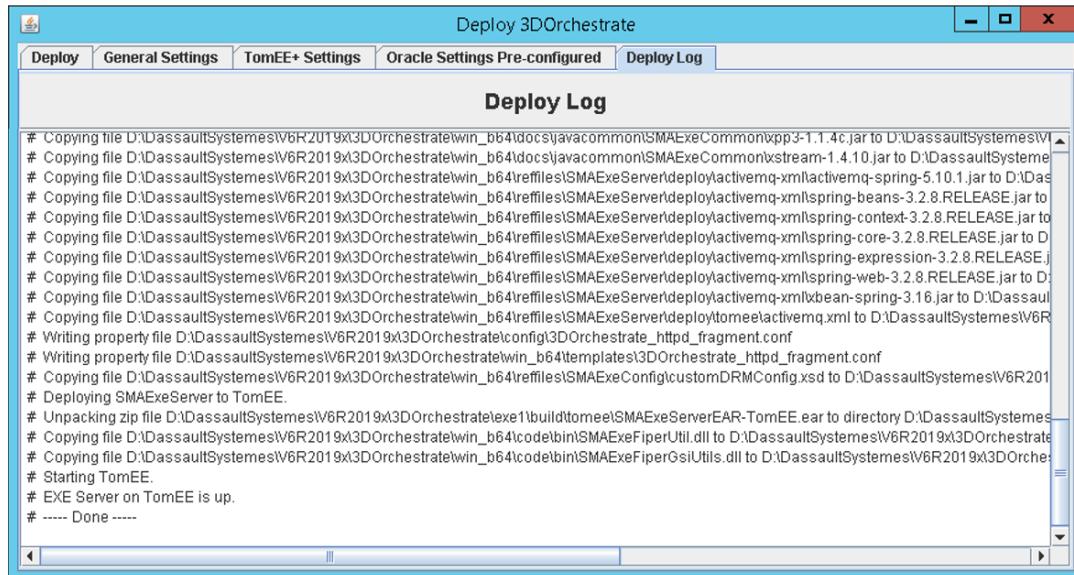
**Deploy Log:** Displays a log (informational) of messages for every action you perform.

The deployment utility performs all actions required to deploy and run the 3DOrchestrator Distribution Server application. It takes care of editing all required configuration files except for the Dassault Systèmes license client configuration.

## Best Practices

After utility deployment, the EAR file is generated at the following path:

<server\_install\_dir>/<servername>/build/tomee/SMAExeServerEAR-TomEE.ear



### Deploy the Application:

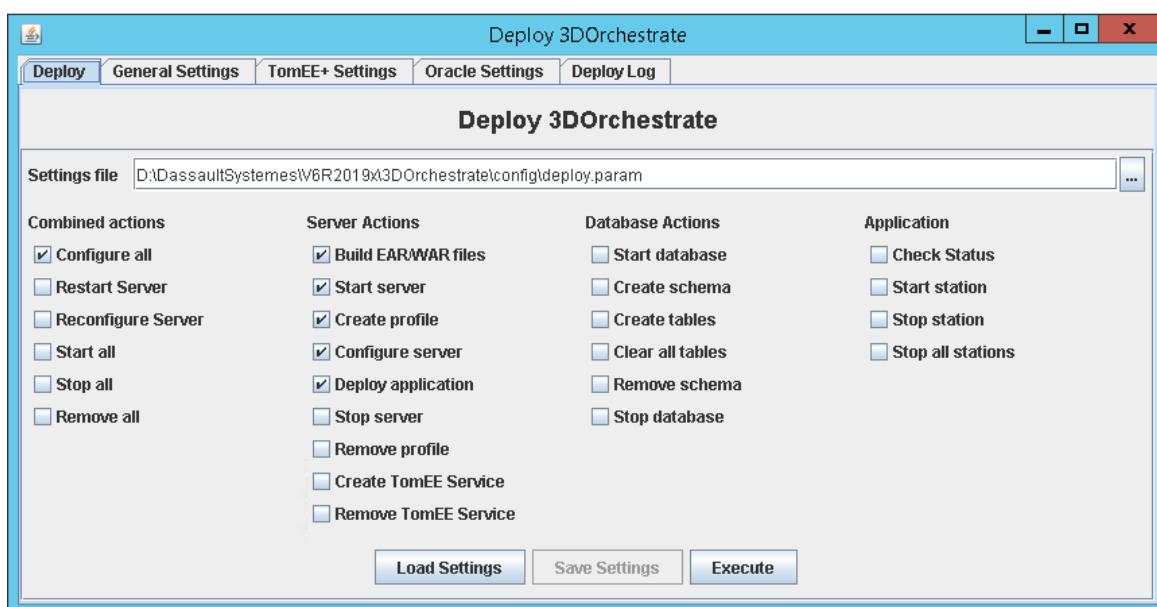
As you are using preconfigured Oracle, before deploying the application, create the tables used by 3DOrchestrate. Login to the database instance created by the schema user.

Execute the following SQL script:

START

"<server\_install\_dir>\win\_b64\reffiles\SMAExeServer\database\oracle\createtables.sql"

Click the **Deploy** tab. Select the following options and click **Execute**.



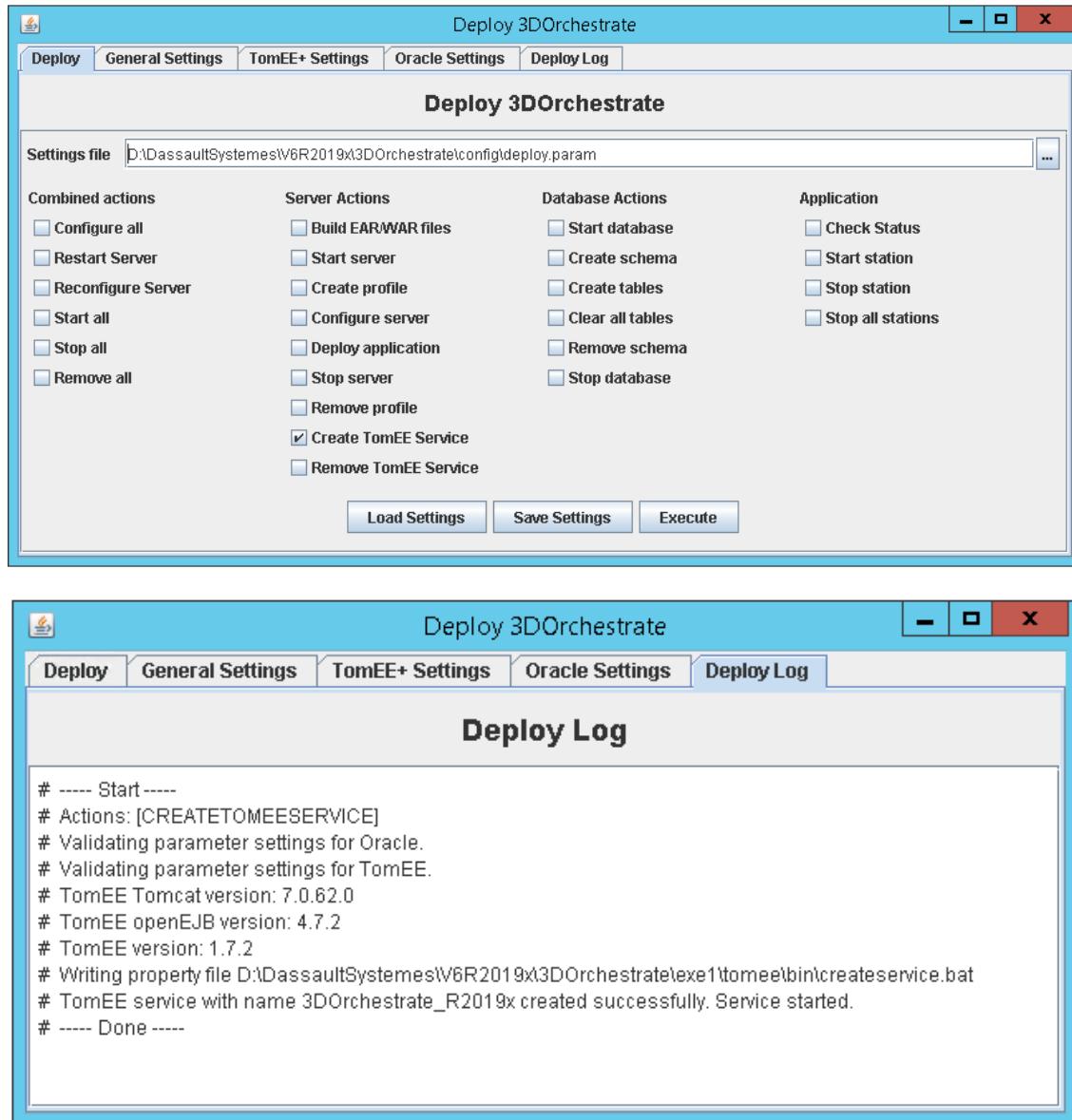
Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

## Best Practices

### Deploy the TomEE Service:

- Click the **Deploy** tab and clear all options.
- Select **Create TomEE Service** and click **Execute**.



- The 3DOrchestrator TomEE Service is created. Right-click to select **Start service**.

#### Expected Result:

Name	Description	Status	Startup Type	Log On As
3DEXPERIENCE R2019x 3DOrchestrator TomEE	3DEXPERIENCE R2019x 3DOrchestrator TomEE	Running	Automatic	Local System

Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

### 5.2.4. Reverse Proxy Configuration for 3DOrchestrator

On-premise installations of the 3DEXPERIENCE platform require a reverse proxy server.

When you use the **Configure server** option (or command-line config action) of the 3DOrchestrator deployment utility, a template file for the Apache HTTP Server reverse proxy configuration is generated in the following file:

```
<server_install_dir>/config/3DOrchestrator_httpd_fragment.conf
```

This template file is also copied into the following directory:

```
<server_install_dir>/<os>/template/3DOrchestrator_httpd_fragment.conf
```

The contents of the 3DOrchestrator\_httpd\_fragment.conf file is as follows:



```
3dorchestrator.conf
1 ProxyPreserveHost Off
2 ProxyPass        /SMAExeServer-REST http://CSLAB1AW2K12PLP:8080/SMAExeServer-REST
3 ProxyPassReverse /SMAExeServer-REST http://CSLAB1AW2K12PLP:8080/SMAExeServer-REST
4
5 #JMS
6 ProxyPass        /SMAExeServer/jms http://CSLAB1AW2K12PLP:61716/SMAExeServer
7 ProxyPassReverse /SMAExeServer/jms http://CSLAB1AW2K12PLP:61716/SMAExeServer
8
9 # Web socket support for EK
10 ProxyPassMatch /ek/(.*)$ ws://$1
11 # Results Analytics servant definition
12 ProxyPassMatch /([a-zA-Z0-9\$]+:[0-9]+)/([a-zA-Z0-9\$]+\s+)$ http://$1/$2
13 #EJB
14 ProxyPass        /SMAExeServer/ejb http://CSLAB1AW2K12PLP:8080/SMAExeServer/ejb
15 ProxyPassReverse /SMAExeServer/ejb http://CSLAB1AW2K12PLP:8080/SMAExeServer/ejb
16
17 #JMS
18 ProxyPass        /SMAExeServer/jms http://CSLAB1AW2K12PLP:61716
19 ProxyPassReverse /SMAExeServer/jms http://CSLAB1AW2K12PLP:61716
20
21 RequestHeader set x-forwarded-port "443"
```

### 5.2.5. Post Deployment Task

Check the status of 3DOrchestrator Distribution server URL from the client machine.

For example: <https://3dorchestrator.mydomain.com:443/SMAExeServer-REST/adminstatus>

<https://3dorchestrator.mydomain.com:443/SMAExeServer-REST/ping>

Following is the expected response when the admin status URL runs on the web browser:

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```
<SystemInfo dateStamp="2018-09-28 22:09:26" major="6" minor="421" fix="0" isHotFix="false" build="0" buildSnapshot="356">Compute
Orchestration Server</SystemInfo>
```

### 5.3. Installing the 3DOrchestrator Platform Services (SIMULIA\_EEP)

Install 3DOrchestrator platform services into the existing 3DSpace MCS. This component provides web services that allow the 3DOrchestrator Distribution Server to store results in the 3DSpace database.

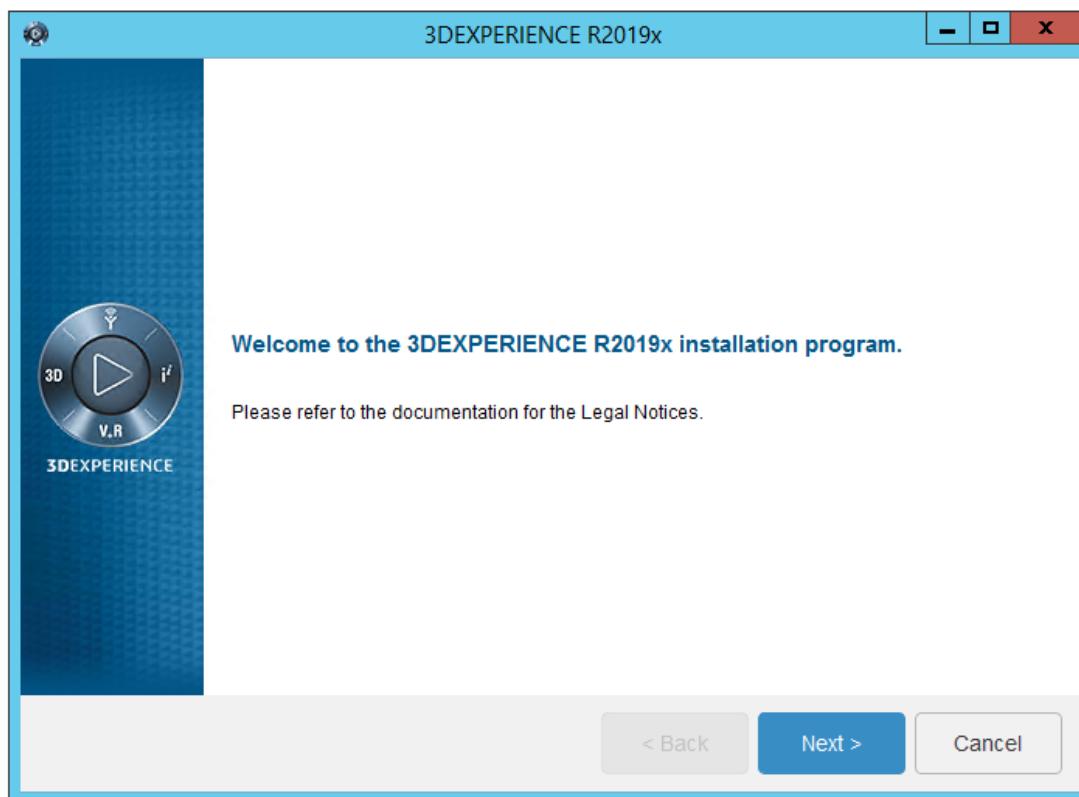
Ensure that you install 3DSpace MCS before you begin installation for 3DOrchestrator Platform Services.

The name of the installation media is, SIMULIA\_EEP-V6R2019x.Windows64.zip.

1. Unzip the media to create the following directory: SIMULIA\_EEP.Windows64
2. Change to the distribution directory.

SIMULIA\_EEP.Windows64/1

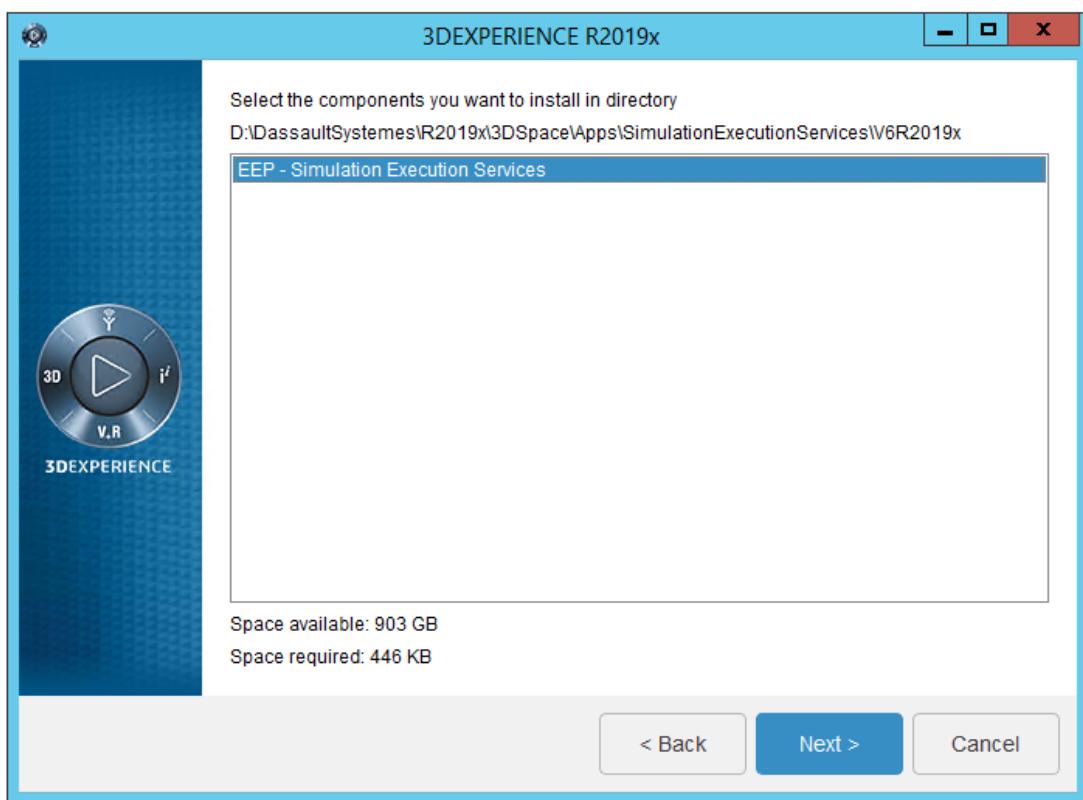
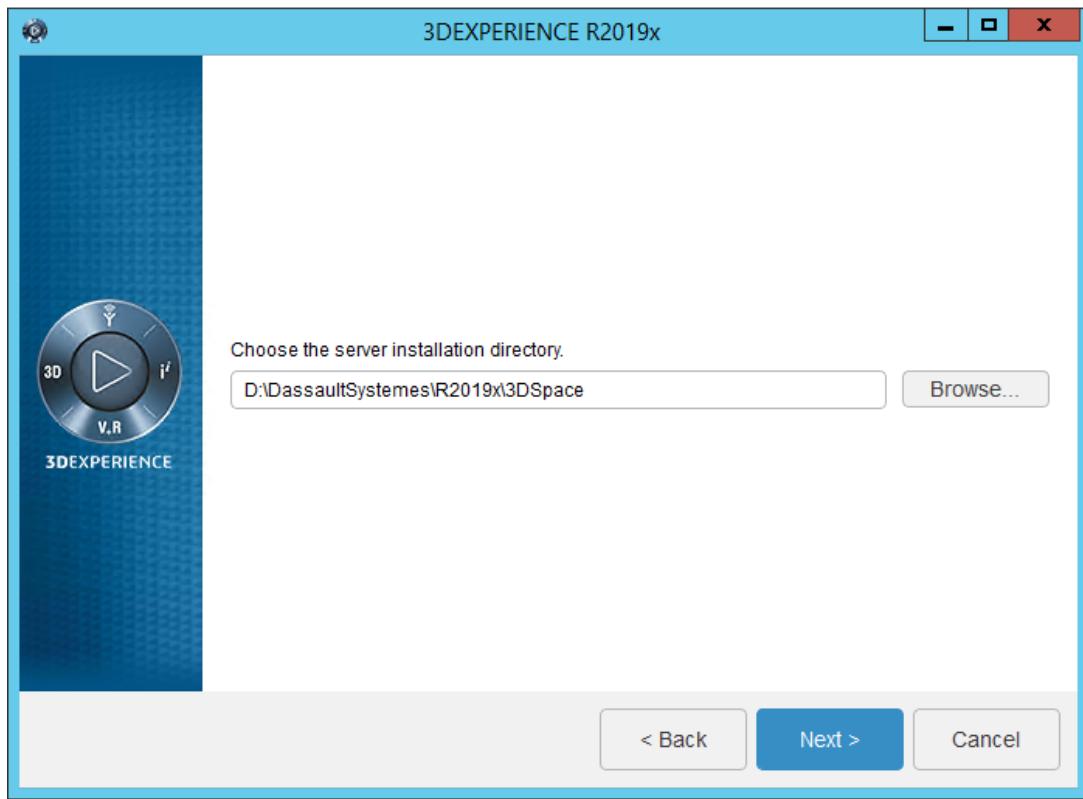
3. Double-click setup.exe on Windows and then start the installation procedure. The 3DOrchestrator Platform Services installation procedure starts. Follow the snapshots to complete the installation.



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

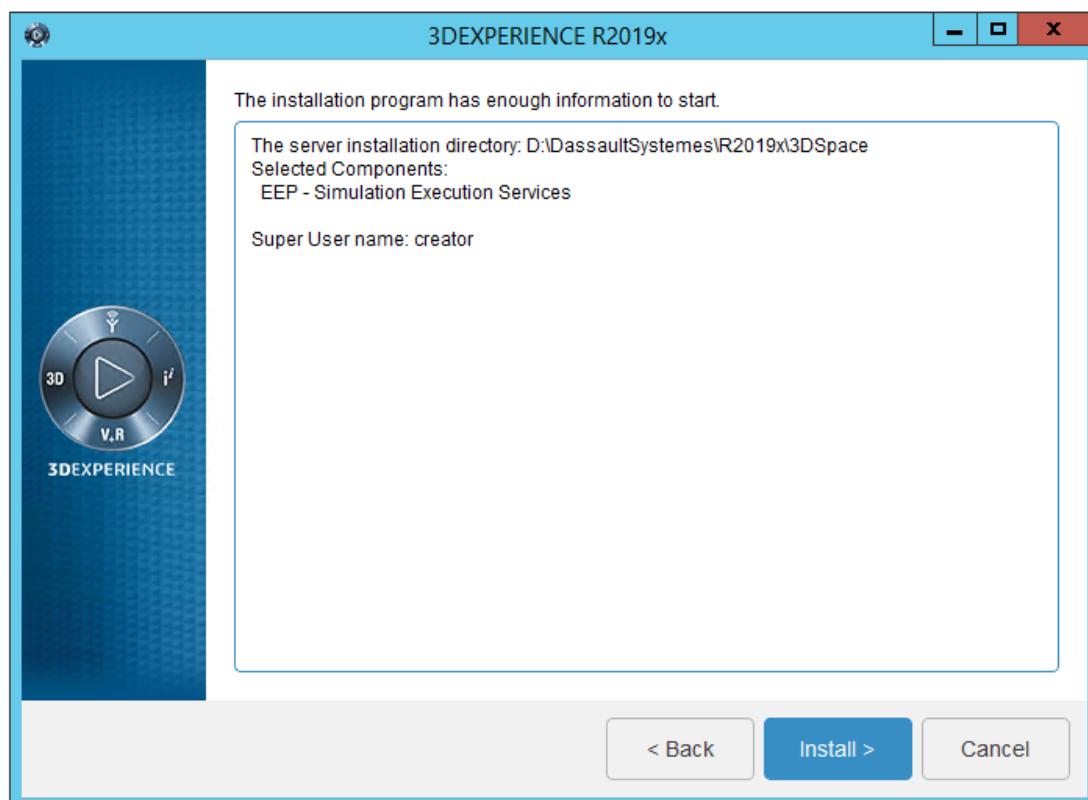
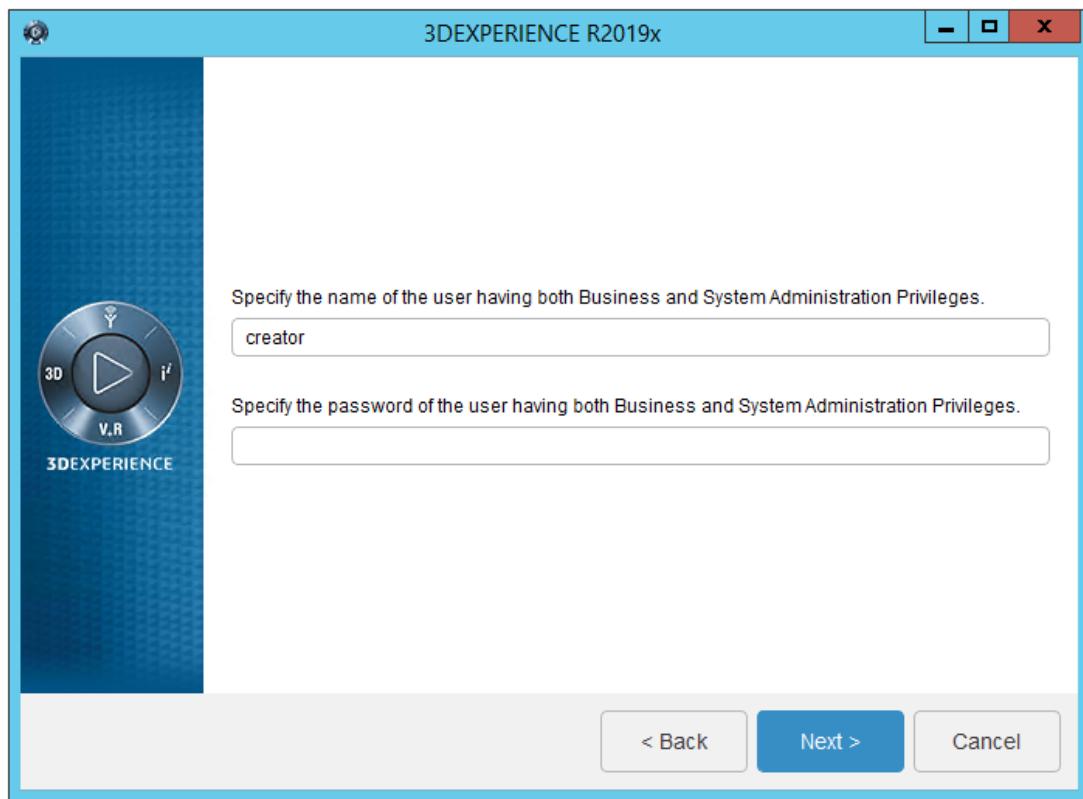
## Best Practices



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

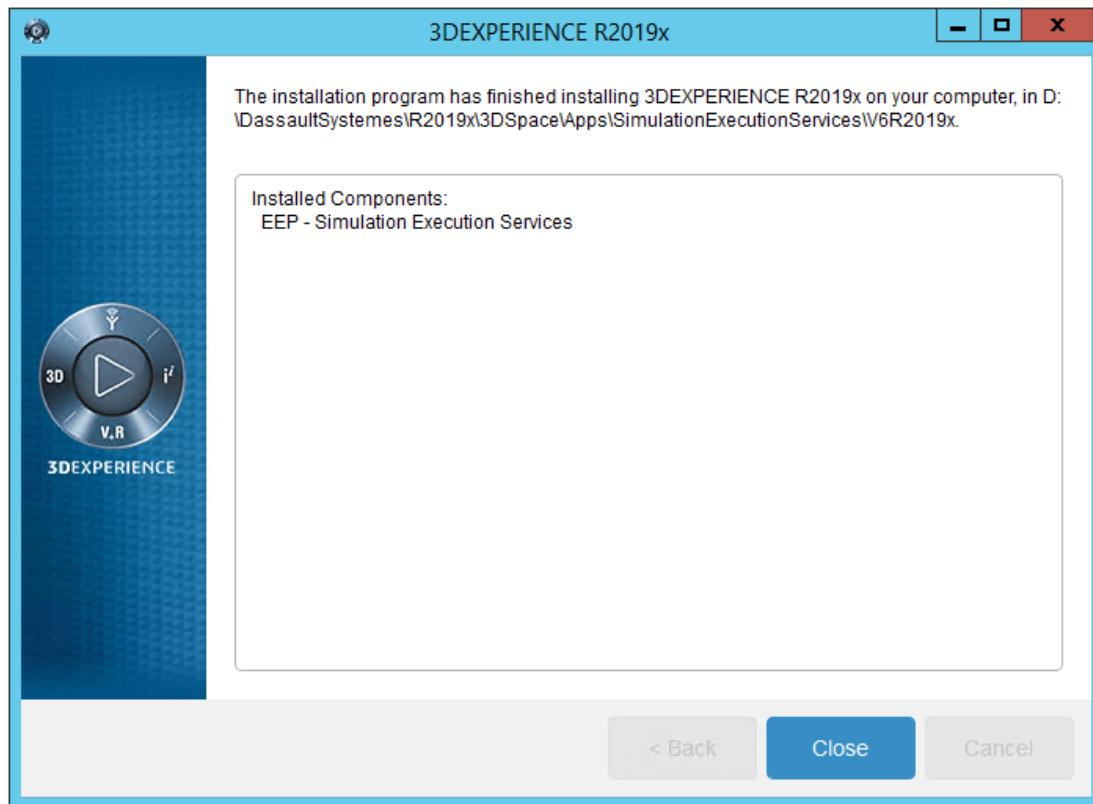
This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

## Best Practices



Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.



### 5.3.1. Post Installation Task

After the installer finishes, you must edit the SMAExeConfiguration.properties file to connect 3DSpace to the 3DOrchestrator Distribution Server.

- ▶ Edit this copy of the file under the /STAGING/ subdirectory:
  - ▷ <collaboration\_server\_dir>/STAGING/ematrix/properties/SMAExeConfiguration.properties
- ▶ In most 3DEXPERIENCE systems a proxy server is used, so set this property as follows:

smaexe.proxyserver.url=https://<proxy-server-fqdn>:<port>/

where, <proxy-server-fqdn> is the fully qualified domain name of the proxy server.

For example:

- ▷ smaexe.proxyserver.url=https://3dorchestrator.mydomain.com:443/
- ▶ Set the smaexe.proxyserver.url property to the preceding URL to connect to the 3DOrchestrator Distribution Server, whether or not a proxy server is being used.
- ▶ Do not include the application context root "SMAExeServer-REST" in this URL (though it was used in older releases.)

Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

- ▶ If you are not using a proxy server and the 3DOrchestrator Distribution Server machine is directly accessible, set the property as follows:

```
smaexe.proxyserver.url=https://<hostname>:<port>
```

- ▶ Substitute the hostname and port number of your 3DOrchestrator Distribution Server application.
- ▶ Perform the following tasks after installation:  
Run the WAR utility and deploy (or redeploy) the 3DSpace application in your Java EE application server.
  - ▷ 'BuildDeploy3DSpace\_CAS' select and run as administrator
  - ▷ 'BuildDeploy3DSpace\_NoCAS' select and run as administrator

### 5.4. Installing and Starting a Public (Regular) Station

You must install the 3DOrchestrator Station program on all computers or servers that are required to run a simulation workflow application. This type of station is called a regular, public station. It is a publically available network resource and can be used by any end user to execute a simulation process.

After you install the station software, you must add the `hostname.cpr` connection profile file to allow the station to find the 3DOrchestrator Distribution Server if the 3DOrchestrator Station Service is installed separately.

For more information, refer to the following Dassault Systèmes documentation:

**[Installation and Setup | Install | Simulation | 3DOrchestrator - Installation and Administration | Installing 3DOrchestrator | Installing and Starting a Public \(Regular\) Station](#)**

To start the installer with a graphical user interface, double-click or execute the following file:

```
<temp_dir>\1\setup.exe
```

Choose both of the following components to install:

- ▶ 3DEXPERIENCE Execution Station
- ▶ SIMULIA Station Adapter Executors

Install the **SIMULIA Station Adapter Executors** to execute any SIMULIA adapters from Process Composer or from the other process apps. Additional station adapter executors will be available in the future from Dassault Systèmes ENOVIA.

Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.

For complete installation of the above two components, refer to [Installing the 3DOrchestrator Distribution Server \(EED\)](#).

- ▶ To configure the station after the installer finishes, add the hostname.cpr connection profile to point the station to the 3DOrchestrator Distribution Server. Copy the hostname.cpr file from the 3DOrchestrator Distribution Server installation, where the deployment utility creates it in the following directory:
  - ▷ <server\_install\_dir>/config/

Place a copy of the .cpr file in either of the following locations:

- ▷ <station\_install\_dir>/config/ directory of the station installation
- ▷ root directory (Windows or Linux) of the user who will start the station program (see Home Directories for 3DOrchestrator)
- ▶ Start the station program from the command line using the following Windows batch file or Linux shell script:
  - ▷ <station\_install\_dir>/<os>/code/command/SMAExeStation
- ▶ When you start a public station, always use the following credentials in the Login Station dialog:
  - ▷ User ID: fiperstation
  - ▷ Password: fiperstation

### 5.5. Native Client Configuration Task

For public station service, refer to the following Native Client installation directory (client machine).

For example: D:\DassaultSystemes\B421\config\

Native client installation includes station installation with SEI product code.

Also, to modify specific information on all the properties, refer to Dassault Systèmes documentation.

**Configure the SMAExeStation.properties file by commenting the following parameters (Client machine):**

- ▶ fiper.station.applicationinfo=ApplicationInfo.xml
- ▶ fiper.file.fs.simshared = \$SHARED\_DRIVE
- ▶ fiper.station.tempdir = C:\DassaultSystemes\R2018x\3DOrchestrator\exe1\station

**Recommendation:** Use a private station for 3DOrchestrator Station Services.

## 6. Web Apps Installation Information

Before installing any web app, refer to the README.txt file available with the installable. The file contains prerequisites for installation of a particular web app.

For example:

For CTP-Contract-basedProgramManager web app, the README.txt file contains:

\*\*\* Installation prerequisite \*\*\*

Before Installing CTP-Contract-basedProgramManager, ensure that you have installed the 3DSpace service and CSV-Industry Innovation from the assembly media of 3DEXPERIENCE platform.

From the 3DEXPERIENCE Web Apps assembly media, install the following roles/options in the following order:

- ▶ CHG-ChangeManagement,
- ▶ PDA-ProductArchitect or PDM-ProductManager.

**Note:** The installation of PDA-ProductArchitect will require installation of CCM-ClassificationManager \*\*\* Installation prerequisite \*\*\* Before Installing PDA-ProductArchitect.

\*\*\* Role/Option Installation \*\*\*

CTP-Contract-basedProgramManager installation details:

For installation on the 3DSpace stack from the directory,  
ENOVIAProgramandContractManagement:

1. install the media ENOVIAProjectManagementFoundation
2. install the media ENOVIAProgramChangeControlFoundation
3. install the media ENOVIAContractandProgramManagementFoundation

**Note:** MSProject integration is installed by CSV-Industry Innovation/CollaborationforMicrosoft.

\*\*\* For additional information, refer to the Program Directory and User Assistance \*\*\*

# 7. Use of Installdata.xml and UserIntentions\_CODE.xml

## Installdata.xml

During GA installation, the installer asks for many inputs such as installation path, 3DPassport URL, and so on.

The answers for the inputs asked are recorded in the InstallData/InstallData.xml file along with all other details.

This xml file is used as a reference when installing an FP. The inputs/questions asked during GA are not asked again but answers are retrieved from this xml file.

For each service installed (3DPassport, 3DDashboard, and so on), there is a separate Installdata.xml file in the **Installdata** folder of each service.

## UserIntentions\_CODE.xml

This xml file is located inside the **Installdata** folder (same path as Installdata.xml).

It captures all the inputs given during installation so that if you want to replicate it, you can pass this xml and then it will install silently.

In a silent installation, you provide a response file such as, UserIntentions\_CODE.xml file recorded during a previous installation to the new installation program. The app is then installed without any user interaction.

## 8. Document History

Document Revision	Date	Revised By	Changes/Notes
1.0	04/09/2019	<b>Surya NERELLA</b> <b>Swapnil MASUTAGE</b>	<b>Original</b>
2.0	07/09/2019	<b>Surya NERELLA</b> <b>Swapnil MASUTAGE</b> and <b>Amol AMRUTKAR</b>	<b>3DOrchestration information and configuration updates</b>

Our **3DEXPERIENCE®** platform powers our brand applications, serving 12 industries, and provides a rich portfolio of industry solution experiences.

Dassault Systèmes, the **3DEXPERIENCE®** Company, provides business and people with virtual universes to imagine sustainable innovations. Its world-leading solutions transform the way products are designed, produced, and supported. Dassault Systèmes' collaborative solutions foster social innovation, expanding possibilities for the virtual world to improve the real world. The group brings value to over 210,000 customers of all sizes in all industries in more than 140 countries. For more information, visit [www.3ds.com](http://www.3ds.com).



**3DEXPERIENCE®**

Confidential Information. © [2019] Dassault Systèmes. All Rights reserved.

This document is intended for internal use only and is provided for information purpose. Any other use without the written prior authorization from Dassault Systèmes is strictly prohibited, except as may be permitted by law.