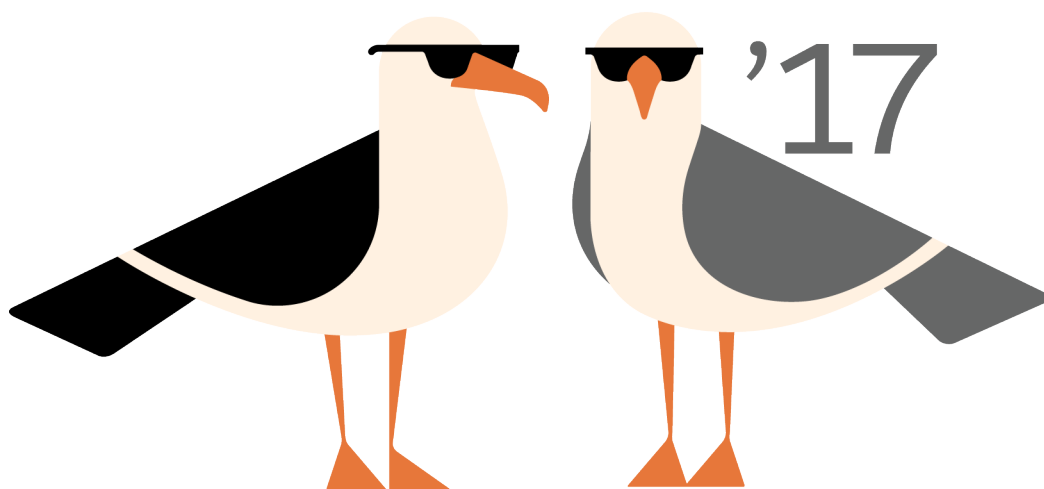

Salesforce DX Setup Guide (Beta)

Version 40.0, Summer '17




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CHAPTER 1 Before You Begin (Beta)

Before you begin to explore Salesforce DX, you must set up the Salesforce DX environment.

 **Note:** This release contains a beta version of Salesforce DX, which means it's a high-quality feature with known limitations. Salesforce DX isn't generally available unless or until Salesforce announces its general availability in documentation or in press releases or public statements. We can't guarantee general availability within any particular time frame or at all. Make your purchase decisions only on the basis of generally available products and features. You can provide feedback and suggestions for Salesforce DX in the [Salesforce DX Beta](#) group in the Success Community.

1. If you participated in the Salesforce DX Pilot, read the Salesforce DX release notes for upgrade instructions and other important information before you set up your environment.
2. Enable the Developer Hub (Dev Hub) in your production org (if you're a customer) or your business org (if you're an AppExchange partner).

If you want to try out Salesforce DX first, you can sign up for a trial org that has Dev Hub enabled.

3. If you want to include your team, you can add users to your Dev Hub org.
4. Ensure that your computers meet all system requirements.
5. Install the Salesforce CLI and the `salesforcedx` plug-in.
6. If you want to evaluate the Force.com IDE 2, download and install it.
7. Download the Salesforce DX samples from GitHub.

SEE ALSO:

[Salesforce DX Trial Org](#)

[Enable the Dev Hub in Your Org](#)

[Add Salesforce DX Users](#)

[System Requirements](#)

[Install the Salesforce DX CLI](#)

[Sample Source in GitHub](#)

[Force.com IDE 2 Developer Guide \(Beta\)](#)

CHAPTER 2 System Requirements

Use this list of system requirements to get the most out of Salesforce DX.

Operating Systems

The Salesforce DX CLI supports the following operating systems.

- Windows—Windows 7 (64 and 32-bit) or later
- Mac—macOS 10.11 or later
- Linux—Ubuntu 14.0.4

Node.js

The Salesforce DX CLI requires Node.js. If the CLI installer does not find Node.js on your computer, it installs it for you. If you install it yourself, be sure that you install version 6.9.5+.

macOS Requirement: Developer Toolset

Install the base developer toolset, which includes Git. You can install these command-line tools without installing the entire Xcode developer package or having a developer account.

```
xcode-select --install
```

You can ignore the “Can’t install the software because it is not currently available from the Software Update server” error message. It means that you already have Xcode installed.



Note: If you’re updating to a new version of macOS, run this command again.

Code Editor or IDE

You can use any code editor Salesforce DX, including the redesigned Force.com IDE built for Salesforce DX.

Version Control System

You can use any version control system (VCS) with Salesforce DX. We recommend that you use GitHub to take advantage of the samples in our GitHub repository.

SEE ALSO:

[Node.js](#)

[Force.com IDE 2 Developer Guide \(Beta\)](#)

[GitHub](#)

CHAPTER 3 Enable the Dev Hub in Your Org

Enable the Dev Hub in your org so you can create and manage scratch orgs from the command line and Lightning Experience. Scratch orgs are disposable Salesforce orgs to support development and testing.

1. Log in to your production org (if you're a customer), your business org (if you're an ISV), or your trial org as the System Administrator.
2. From Setup, enter *Dev Hub* in the Quick Find box and select **Dev Hub**.
3. Click **Non-GA Service Agreement** to read the service agreement.
4. To enable the Dev Hub, click **Enable**.

After you enable the Dev Hub, you can't disable it. If you're using a trial org, Dev Hub is already enabled.

SEE ALSO:

[Salesforce DX Trial Org](#)

[Add Salesforce DX Users](#)

CHAPTER 4 Add Salesforce DX Users

System administrators can access the Dev Hub by default. You can also enable more users to access the Dev Hub so they too can create scratch orgs.

You can add a user with the System Administrator profile. You can also add a user with a Standard User profile as long as you apply the set of permissions required for Salesforce DX. Because you're adding users to a Dev Hub org, avoid adding them as system administrators unless their work requires that level of authority.

1. Add the user to your Dev Hub org, if necessary.
 - a. In Setup, enter *Users* in the Quick Find box, then select **Users**.
 - b. Click **New User**.
 - c. Fill out the form, and assign the System Administrator or Standard User profile.
 - d. Click **Save**.

If you're adding a System Administrator user, you can stop here.
2. If you're adding a Standard User, create a permission set for Salesforce DX users if you don't have one.
 - a. From Setup, enter *Permission Sets* in the Quick Find box, then select **Permission Sets**.
 - b. Click **New**.
 - c. Enter a label, API name, and description. The API name is a unique name used by the Force.com API and managed packages.
 - d. Select a user license option. If you plan to assign this permission set to multiple users with different licenses, select **None**.
 - e. Click **Save**. The permission set overview page appears. From here, you can navigate to the permissions you want to add or change for Salesforce DX. For the required permissions, see [Permission Set for Salesforce DX Users](#) on page 6.
3. Apply the Salesforce DX permission set to the Standard User.
 - a. From Setup, enter *Permission Sets* in the Quick Find box, then select **Permission Sets**.
 - b. Select the Salesforce DX permission set.
 - c. In the permission set toolbar, click **Manage Assignments**.
 - d. Click **Add Assignments**.
 - e. Select the user to assign the permission set to.
 - f. Click **Assign**.
 - g. Click **Done**.

Permission Set for Salesforce DX Users

To give full access to the Dev Hub, the permission set must contain these permissions.

- Object Settings -> Scratch Org Info -> Read, Create, and Delete
- Object Settings -> Active Scratch Org -> Read and Delete
- Object Settings -> Namespace Registry -> Read, Create, and Delete

You can limit a user's access by modifying the permissions.

SEE ALSO:

[Permission Sets \(Salesforce Help\)](#)

[Salesforce DX Developer Guide \(Beta\)](#)

CHAPTER 5 Install the Salesforce DX CLI

In this chapter ...

- [Install the Salesforce DX CLI on macOS](#)
- [Install the Salesforce DX CLI on Windows](#)
- [Install the Salesforce DX CLI Using a Standalone Version](#)
- [Verify Your Installation and Install the Plug-In](#)

Use the CLI commands to create environments for development and testing, synchronize source code between your scratch orgs and version control system, and execute test suites. After you install the CLI for your operating system, install the Salesforce DX plug-in.

Install the Salesforce DX CLI on macOS

You install the Salesforce DX CLI on macOS with a `.pkg` file.

1. [Download](#) the `.pkg` file.
2. Double-click the `.pkg` file.

You can't use Homebrew to install the Salesforce CLI on macOS.

SEE ALSO:

[Verify Your Installation and Install the Plug-In](#)

Install the Salesforce DX CLI on Windows

You install the Salesforce CLI on Windows with an `.exe` file.

1. [Download](#) and run the Windows installer. If the installer does not find Git, it is also installed.
2. Check that your PATH environment variable includes the location of the Git binaries. For example:

```
set PATH=%PATH%;C:\Program Files\Git\bin
```



Warning: The Salesforce CLI works best within the native Windows command prompt (`cmd.exe`) and the Microsoft Powershell. We do not recommend using the Salesforce CLI with a Linux terminal emulator, such as cygwin or MinGW, because support for bugs is limited.

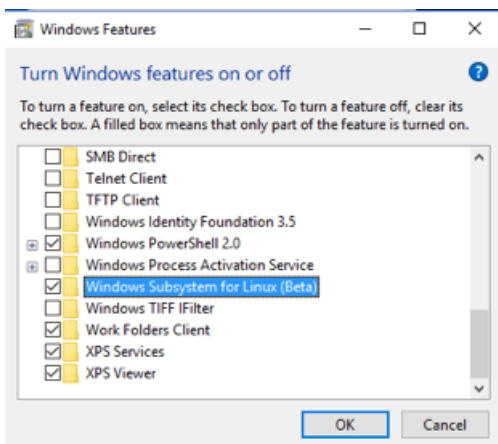
SEE ALSO:

[Verify Your Installation and Install the Plug-In](#)

Install the Salesforce DX CLI on the Windows 10 Subsystem for Linux

The Windows Subsystem for Linux (WSL) allows you to run native Linux command-line tools on Windows 10 alongside your traditional Windows desktop.

1. From the Run dialog box (Windows key + R), run `optionalfeatures.exe`.
2. In Windows Features, select **Windows Subsystem for Linux**.



- From the command prompt, enter `bash`, which triggers the installation of Ubuntu. At the prompt, enter `y` to agree to install the components.

```
> bash
```

- When the Ubuntu install is finished, create the directory `/mnt/c/ProgramFilesLinux`.

```
$ mkdir /mnt/c/ProgramFilesLinux
```

- Change to the new directory.

```
$ cd /mnt/c/ProgramFilesLinux
```

- Run `wget` with the download URL of the latest Linux (amd64) tarball. Find the appropriate URL in [this manifest file](#).

```
$ wget  
https://developer.salesforce.com/media/salesforce-cli/sfdx-v5.7.6-d42cf65-darwin-amd64.tar.xz
```

- Unpack the contents.

```
$ tar xvf sfdx-v5.7.6-d42cf65-darwin-amd64.tar.xz
```

- Change to the `sfdx` directory.


```
$ cd sfdx
```

- Run the install script.

```
$ ./install
```

- Install Git.

```
$ sudo apt-get install git
```

 **Note:** You must install Git for the Salesforce CLI to work correctly.

SEE ALSO:

[Verify Your Installation and Install the Plug-In](#)

Install the Salesforce DX CLI Using a Standalone Version

The standalone version of the Salesforce DX CLI is distributed as a tarball.

The tarball is called `sfdx-version-OS-ARCH.tar.xz`, where:

- `version` is a version string, such as `v5.7.6-d42cf65`
- `OS` is either `darwin`, `linux`, `freebsd`, `openbsd`, or `windows`
- `ARCH` is either `amd64` or `386`

- Download or `wget` the tarball. Find the download URL for your tarball from [this manifest file](#).
- Unpack the contents. For example, if you downloaded the tarball in your current directory:

```
$ tar -xvJf sfdx-v5.7.6-d42cf65-linux-amd64.tar.xz
```

3. Change to the `sfdx` directory.

```
$ cd sfdx
```

4. Run the install script.

```
$ ./install
```

The Salesforce CLI is installed in `/usr/local/bin/sfdx`.

SEE ALSO:

[Verify Your Installation and Install the Plug-In](#)

Verify Your Installation and Install the Plug-In

After installing the CLI, verify it by running the `sfdx update` command.

This command also installs the required plug-ins.

```
sfdx update
sfdx-cli: Updating to 5.7.6-d42cf65... (sfdxstable) 12.1 MB/12.1 MB
Installing required plugins for force... done
```

Run this command to return a list of the command families in the `force` topic:

```
sfdx force --help
```

This command returns all the `force` commands:

```
sfdx force:doc:commands:list
```

CHAPTER 6 Use the Salesforce CLI from Behind a Company Firewall or Web Proxy

If you install Salesforce DX CLI on a computer that's behind a company firewall or web proxy, you might receive error messages. In this case, you must further configure your system.

You get an error similar to the following when you run `force --help` after installing the CLI binary behind a firewall or web proxy. This error is from a Windows computer, but Linux and macOS users sometimes see similar errors.

```
Installing plugin salsesforcedx... !
! Error installing package.
! npm ERR! Windows_NT 6.1.7601
! npm ERR! argv "C:\\Program Files\\SFDX\\lib\\node.exe" "C:\\Program
File
s\\SFDX\\lib\\npm\\cli.js" "install" "salsesforcedx"
! npm ERR! node v6.9.5
! npm ERR! npm v3.10.10
! npm ERR! error:0906D06C:PEM routines:PEM_read_bio:no start line
! npm ERR!
! npm ERR! If you need help, you may report this error at:
! npm ERR! <https://github.com/npm/npm/issues>
!
! npm ERR! Please include the following file with any support request:
! npm ERR! C:\\Users\\Admin\\AppData\\Local\\sfdx\\plugins\\npm-debug.log
```

To address this issue, run these commands from your terminal or Windows command prompt, replacing `username:pwd` with your web proxy username and password. If your proxy doesn't require these values, omit them. Also replace `proxy.company.com:8080` with the URL and port of your company proxy.

```
npm config set https-proxy https://username:pwd@proxy.company.com:8080
npm config set proxy https://username:pwd@proxy.company.com:8080
npm config set sslVerify false
npm config set strict-ssl false
```

Then set the `HTTP_PROXY` environment variable to the full URL of the proxy. For example, on UNIX:

```
export HTTP_PROXY=https://username:pwd@proxy.company.com:8080
```

CHAPTER 7 Update the CLI Binary and Plug-In

The CLI consists of the CLI binary along with the Salesforce DX plug-in. We sometimes update both the CLI binary and the Salesforce DX plug-in, but other times we update just the plug-in.

To explicitly update the CLI binary and the Salesforce DX plug-in, run:

```
sfdx update
```

By default, the CLI periodically checks for and installs updates. To disable auto-update, set the `SFDX_AUTOUPDATE_DISABLE` environment variable to `true`.

```
export SFDX_AUTOUPDATE_DISABLE=true
```


CHAPTER 8 Uninstall the CLI Binary or Plug-In

Uninstalling the CLI removes it entirely from your computer.

macOS or Linux

Enter all these commands in a terminal:

```
sudo rm -rf /usr/local/sfdx
sudo rm -rf /usr/local/lib/sfdx
sudo rm -rf /usr/local/bin/sfdx
rm -rf ~/.local/share/sfdx ~/.config/sfdx ~/.cache/sfdx
```

Windows

1. Select **Start > Control Panel > Programs > Programs and Features**.
2. Select **SFDX CLI**, and click **Uninstall**.
3. Inside your home directory, delete the `.config\sfdx` directory.

If the CLI is still installed, delete the `%LOCALAPPDATA%\sfdx` directory in Program Files.

Uninstall the `salesforcedx` Plug-In

Enter this command from a terminal or Windows command prompt:

```
sfdx plugins:uninstall salesforcedx
```

CHAPTER 9 Sample Source in GitHub

While you're exploring Salesforce DX, look at some sample repos we've provided on GitHub to help you understand the concepts.

- `sfdx-simple`—A sample with two Visualforce pages, a controller, and Apex tests.
- `sfdx-dreamhouse`—A more complex sample app with multiple Apex classes, configuration items, Lightning components, Visualforce components, and custom objects. The `sfdx-dreamhouse` sample is a standalone application.
- `sfdx-travisci`—A continuous integration (CI) sample that shows how to use Salesforce DX with Travis CI. Travis CI is a cloud-based continuous integration (CI) service for building and testing software projects hosted on GitHub.

SEE ALSO:

[sfdx-simple GitHub Sample](#)

[sfdx-dreamhouse GitHub Sample](#)

[sfdx-travisci GitHub Sample](#)

CHAPTER 10 Next Steps

Read on to learn what to do after you've installed the Salesforce DX CLI.

For a hands-on exploration of how the Salesforce DX components work together using the DreamHouse sample, see the [sfdx-dreamhouse Readme](#).

To learn more about how to use Salesforce DX, see the *Salesforce DX Developer Guide*.

For the complete list of CLI commands and how to use them, see the *Salesforce DX Command Reference*.

SEE ALSO:

[sfdx-dreamhouse GitHub Sample Readme](#)

[Salesforce CLI Command Reference \(Beta\)](#)

[Salesforce DX Developer Guide \(Beta\)](#)