include::attributes.txt[]

// Attributes [.topic] [#getting-started] = Getting started with the {aws} CDK :info\_titleabbrev: Getting started :info\_abstract: Get started with the {aws} Cloud Development Kit ({aws} CDK) by installing and configuring the {aws} CDK Command Line Interface ({aws} CDK CLI). Then, use the CDK CLI to create your first CDK app, bootstrap your {aws} environment, and deploy your application. :keywords: {aws} CDK, {aws} Cloud Development Kit ({aws} CDK), {aws} services, infrastructure as code, IaC

== [abstract]

## Get started with the {aws} Cloud Development Kit ({aws} CDK) by installing and configuring the {aws} CDK Command Line Interface ({aws} CDK CLI). Then, use the CDK CLI to create your first CDK app, bootstrap your {aws} environment, and deploy your application.

// Content start

Get started with the {aws} Cloud Development Kit ({aws} CDK) by installing and configuring the {aws} CDK Command Line Interface ({aws} CDK CLI). Then, use the CDK CLI to create your first CDK app, bootstrap your {aws} environment, and deploy your application.

[#getting-started-prerequisites] == Prerequisites

Before getting started with the {aws} CDK, complete all prerequisites. These prerequisites are required for those that are new to {aws} or new to programming. For instructions, see xref:prerequisites[{aws} CDK prerequisites].

We recommend that you have a basic understanding of what the {aws} CDK is. For more information, see xref:home[What is the {aws} CDK?] and xref:core-concepts[Learn {aws} CDK core concepts].

[#getting-started-install] == Install the {aws} CDK CLI

Use the [.noloc]Node Package Manager to install the CDK CLI. We recommend that you install it globally using the following command:

== [source,bash,subs=“verbatim,attributes”]

## $ npm install -g aws-cdk

To install a specific version of the CDK CLI, use the following command structure:

== [source,bash,subs=“verbatim,attributes”]

## $ npm install -g aws-cdk@X.YY.Z

If you want to use multiple versions of the {aws} CDK, consider installing a matching version of the CDK CLI in individual CDK projects. To do this, remove the -g option from the npm install command. Then, use npx aws-cdk to invoke the CDK CLI. This will run a local version if it exists. Otherwise, the globally installed version will be used.

[#getting-started-install-troubleshoot] *Troubleshoot a CDK CLI installation*:: + If you get a permission error, and have administrator access on your system, run the following: + [source,bash,subs=“verbatim,attributes”] — $ sudo npm install -g aws-cdk — + If you receive an error message, try uninstalling the CDK CLI by running the following: + [source,bash,subs=“verbatim,attributes”] — $ npm uninstall -g aws-cdk — + Then, repeat steps to reinstall the CDK CLI.

[#getting-started-install-verify] == Verify a successful CDK CLI installation

Run the following command to verify a successful installation. The {aws} CDK CLI should output the version number:

== [source,bash,subs=“verbatim,attributes”]

## $ cdk –version

[#getting-started-configure] == Configure the {aws} CDK CLI

After installing the CDK CLI, you can start using it to develop applications on your local machine. To interact with {aws}, such as deploying applications, you must have security credentials configured on your local machine with permissions to perform any actions that you initiate.

To configure security credentials on your local machine, you use the {aws} CLI. How you configure security credentials depends on how you manage users. For instructions, see https://docs.aws.amazon.com/cli/latest/userguide/cli-chap-authentication.html[Authentication and access credentials] in the *{aws} Command Line Interface User Guide*.

The CDK CLI will automatically use the security credentials that you configure with the {aws} CLI. For example, if you are an IAM Identity Center user, you can use the aws configure sso command to configure security credentials. If you are an IAM user, you can use the aws configure command. The {aws} CLI will guide you through configuring security credentials on your local machine and save the necessary information in your config and credentials files. Then, when you use the CDK CLI, such as deploying an application with cdk deploy, the CDK CLI will use your configured security credentials.

Just like the {aws} CLI, the CDK CLI will use your default profile by default. You can specify a profile using the CDK CLI xref:ref-cli-cmd-options-profile[--profile] option. For more information on using security credentials with the CDK CLI, see xref:configure-access[Configure security credentials for the {aws} CDK CLI].

[#getting-started-tools] == (Optional) Install additional {aws} CDK tools

The https://aws.amazon.com/visualstudiocode/[{aws} Toolkit for Visual Studio Code] is an open source plug-in for [.noloc]Visual Studio Code that helps you create, debug, and deploy applications on {aws}. The toolkit provides an integrated experience for developing {aws} CDK applications. It includes the {aws} CDK Explorer feature to list your {aws} CDK projects and browse the various components of the CDK application. For instructions, see the following:

* https://docs.aws.amazon.com/toolkit-for-vscode/latest/userguide/setup-toolkit.html[Installing the {aws} Toolkit for Visual Studio Code].
* https://docs.aws.amazon.com/toolkit-for-vscode/latest/userguide/cdk-explorer.html[{aws} CDK for VS Code].

[#getting-started-app] == Create your first CDK app

You’re now ready to get started with using the {aws} CDK by creating your first CDK app. For instructions, see xref:hello-world[Tutorial: Create your first {aws} CDK app].

include::hello-world.adoc[leveloffset=+1]