include::attributes.txt[]

// Attributes [.topic] [#prerequisites] = {aws} CDK prerequisites :info\_titleabbrev: Prerequisites :keywords: {aws} CDK, Prerequisites, {aws} account, IAM, IAM Identity Center

== [abstract]

## Complete prerequisites before getting started with the {aws} Cloud Development Kit ({aws} CDK).

// Content start

Complete all prerequisites before getting started with the {aws} Cloud Development Kit ({aws} CDK).

[#prerequisites-account] == Set up your {aws} account

If you or your organization are new to {aws}, you must set up your {aws} account. This includes signing up for an {aws} account, securing your root user, determining your method of managing users, and creating an administrative user. To manage users, you can use {aws} Identity and Access Management (IAM) or {aws} IAM Identity Center. We recommend that you use IAM Identity Center. For more information, see the following:

* https://docs.aws.amazon.com/IAM/latest/UserGuide/introduction.html[What is IAM?] in the *IAM User Guide*.
* https://docs.aws.amazon.com/singlesignon/latest/userguide/what-is.html[What is IAM Identity Center?] in the *{aws} IAM Identity Center User Guide*.

After setting up an {aws} account, you should have an administrative user and the ability to create and manage additional users using IAM or IAM Identity Center.

Before moving forward, we recommend that you take time to learn the recommended best practices in {aws} Identity and Access Management. For more information, see https://docs.aws.amazon.com/IAM/latest/UserGuide/IAMBestPracticesAndUseCases.html[Security best practices and use cases in {aws} Identity and Access Management] in the *IAM User Guide*.

[#prerequisites-cli] == Install and configure the {aws} CLI

When you develop {aws} CDK applications on your local machine, you will use the {aws} Cloud Development Kit ({aws} CDK) Command Line Interface (CLI) to interact with {aws}, such as deploying applications to provision your {aws} resources. To interact with {aws} outside of the {aws} Management Console, you must configure security credentials on your local machine. To do this, we recommend that you install and use the {aws} Command Line Interface ({aws} CLI).

For instructions on installing the {aws} CLI, see https://docs.aws.amazon.com/cli/latest/userguide/getting-started-install.html[Install or update to the latest version of the {aws} CLI] in the *{aws} Command Line Interface User Guide*.

How you configure security credentials will depend on how you or your organization manages 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*.

After installing and configuring the {aws} CLI, you should have the following:

* The {aws} CLI installed on your local machine.
* Credentials configured in a config on your local machine using the {aws} CLI.

[#prerequisites-node] == Install [.noloc]Node.js and programming language prerequisites

All {aws} CDK developers, regardless of the supported programming language that you will use, require https://nodejs.org/en/download/[Node.js] 22.x or later. All supported programming languages use the same backend, which runs on [.noloc]Node.js. We recommend a version in link:https://nodejs.org/en/about/releases/[active long-term support].

For more information on supported Node.js versions, see xref:node-versions[Supported Node versions].

Other programming language prerequisites depend on the language that you will use to develop {aws} CDK applications:

==== [role=“tablist”] TypeScript::

* TypeScript 3.8 or later (npm -g install typescript)

JavaScript::

* No additional requirements

Python::

* Python 3.7 or later including pip and virtualenv

Java::

* Java Development Kit (JDK) 8 (a.k.a. 1.8) or later
* Apache Maven 3.5 or later
* Java IDE recommended (we use [.noloc]`Eclipse`` in some examples in this guide). IDE must be able to import Maven projects. Check to make sure that your project is set to use Java 1.8. Set the JAVA\_HOME environment variable to the path where you have installed the JDK.

C#:: .NET Core 3.1 or later, or .NET 6.0 or later. + Visual Studio 2019 (any edition) or Visual Studio Code recommended.

Go:: Go 1.1.8 or later.

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[NOTE] .Third-party language deprecation ====

Each language version is only supported until it is [.noloc]EOL (End Of Life) and is subject to change with prior notice.

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[#prerequisites-next] == Next steps

To get started with the {aws} CDK, see xref:getting-started[Getting started with the {aws} CDK].