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// Attributes

[.topic] [#configure-access] = Configure security credentials for the {aws} CDK CLI :info\_titleabbrev: Configure security credentials :keywords: {aws}, {aws} CDK, {aws} CDK CLI, Programmatic access, Security credentials, IAM, IAM Identity Center

== [abstract]

## When you use the {aws} Cloud Development Kit ({aws} CDK) to develop applications in your local environment, you will primarily use the {aws} CDK CLI to interact with {aws} to deploy and manage your CDK stacks. To use the CDK CLI, you must configure security credentials.

// Content start

When you use the {aws} Cloud Development Kit ({aws} CDK) to develop applications in your local environment, you will primarily use the {aws} CDK Command Line Interface ({aws} CDK CLI) to interact with {aws}. For example, you can use the CDK CLI to deploy your application or to delete your resources from your {aws} environment.

To use the CDK CLI to interact with {aws}, you must configure security credentials on your local machine. This lets {aws} know who you are and what permissions you have.

To learn more about security credentials, see https://docs.aws.amazon.com/IAM/latest/UserGuide/security-creds.html[{aws} security credentials] in the *IAM User Guide*.

[#configure-access-prerequisites,] == Prerequisites

Configuring security credentials is part of the *getting started* process. Complete all prerequisites and previous steps at xref:getting-started[Getting started with the {aws} CDK].

[#configure-access-how] == How to configure security credentials

How you configure security credentials depends on how you or your organization manages users. Whether you use {aws} Identity and Access Management (IAM) or {aws} IAM Identity Center, we recommend that you use the {aws} Command Line Interface ({aws} CLI) to configure and manage security credentials for the CDK CLI. This includes using {aws} CLI commands like aws configure to configure security credentials on your local machine. However, you can use alternative methods such as manually updating your config and credentials files, or setting environment variables.

For guidance on configuring security credentials using the {aws} CLI, along with information on configuration and credential precedence when using different methods, 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 adheres to the same configuration and credential precedence of the {aws} CLI. The --profile command line option takes precedence over environment variables. If you have both the AWS\_PROFILE and CDK\_DEFAULT\_PROFILE environment variables configured, the AWS\_PROFILE environment variable takes precedence.

If you configure multiple profiles, you can use the CDK CLI xref:ref-cli-cmd-options-profile[--profile] option with any command to specify the profile from your credentials and config files to use for authentication. If you don’t provide --profile, the default profile will be used.

If you prefer to quickly configure basic settings, including security credentials, see https://docs.aws.amazon.com/cli/latest/userguide/getting-started-quickstart.html[Set up the {aws} CLI] in the *{aws} Command Line Interface User Guide*.

Once you’ve configured security credentials on your local machine, you can use the CDK CLI to interact with {aws}.

[#configure-access-sso] == Configure and manage security credentials for IAM Identity Center users

IAM Identity Center users can authenticate with IAM Identity Center or manually by using short-term credentials.

[#configure-access-sso-auto] *Authenticate with IAM Identity Center to generate short-term credentials*:: + You can configure the {aws} CLI to authenticate with IAM Identity Center. This is the recommended approach of configuring security credentials for IAM Identity Center users. IAM Identity Center users can use the {aws} CLI aws configure sso wizard to configure an IAM Identity Center profile and sso-session, which gets stored in the config file on your local machine. For instructions, see https://docs.aws.amazon.com/cli/latest/userguide/cli-configure-sso.html[Configure the {aws} CLI to use {aws} IAM Identity Center] in the *{aws} Command Line Interface User Guide*. + Next, you can use the {aws} CLI aws sso login command to request refreshed credentials. You can also use this command to switch profiles. For instructions, see https://docs.aws.amazon.com/cli/latest/userguide/sso-using-profile.html[Use an IAM Identity Center named profile] in the *{aws} Command Line Interface User Guide*. + Once authenticated, you can use the CDK CLI to interact with {aws} for the duration of your session. For an example, see xref:configure-access-sso-example-cli[Example: Authenticate with IAM Identity Center automatic token refresh for use with the {aws} CDK CLI].

[#configure-access-sso-manual] *Manually configure short-term credentials*:: + As an alternative to using the {aws} CLI and authenticating with IAM Identity Center, IAM Identity Center users can obtain short-term credentials from the {aws} Management Console and manually configure the credentials and config files on their local machine. Once configured, you can use the CDK CLI to interact with {aws} until your credentials expire. For instructions, see https://docs.aws.amazon.com/cli/latest/userguide/cli-authentication-short-term.html[Authenticate with short-term credentials] in the *{aws} Command Line Interface User Guide*.

[#configure-access-iam] == Configure and manage security credentials for IAM users

IAM users can use an IAM role or IAM user credentials with the CDK CLI.

[#configure-access-iam-role] *Use an IAM role to configure short-term credentials*:: + IAM users can assume IAM roles to gain additional (or different) permissions. For IAM users, this is the recommended approach since it provides short-term credentials. + First, the IAM role and user’s permission to assume the role must be configured. This is typically performed by an administrator using the {aws} Management Console or {aws} CLI. Then, the IAM user can use the {aws} CLI to assume the role and configure short-term credentials on their local machine. For instructions, see https://docs.aws.amazon.com/cli/latest/userguide/cli-configure-role.html[Use an IAM role in the {aws} CLI] in the *{aws} Command Line Interface User Guide*.

[#configure-access-iam-user] *Use IAM user credentials*:: + [WARNING] ====

To avoid security risks, we don’t recommend using IAM user credentials since they provide long-term access. If you must use long-term credentials, we recommend that you link:https://docs.aws.amazon.com/IAM/latest/UserGuide/best-practices.html#rotate-credentials[update access keys] as an IAM security best practice.

==== + IAM users can obtain access keys from the {aws} Management Console. You can then use the {aws} CLI to configure long-term credentials on your local machine. For instructions, see https://docs.aws.amazon.com/cli/latest/userguide/cli-authentication-user.html[Authenticate with IAM user credentials] in the *{aws} Command Line Interface User Guide*.

[#configure-access-info,] == Additional information

To learn about the different ways that you can sign in to {aws}, depending on the type of user you are, see https://docs.aws.amazon.com/signin/latest/userguide/what-is-sign-in.html[What is {aws} Sign-In?] in the *{aws} Sign-In User Guide*.

For reference information when using {aws} SDKs and tools, including the {aws} CLI, see the https://docs.aws.amazon.com/sdkref/latest/guide/overview.html[{aws} SDKs and Tools Reference Guide].

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