:doctype: book

include::attributes.txt[]

// Attributes [.topic] [#ref-cli-cmd-drift] = cdk drift :keywords: {aws} CDK, {aws} CDK CLI, CDK Toolkit CLI, cdk drift

== [abstract]

## Detect and report drift in deployed {aws} CloudFormation stacks that are defined in your CDK app.

// Content start

Detect configuration drift for resources that you define, manage, and deploy using the {aws} Cloud Development Kit ({aws} CDK). Drift occurs when a stack’s actual configuration differs from its expected configuration, which happens when resources are modified outside of {aws} CloudFormation.

This command identifies resources that have been modified (for example, through the {aws} Console or {aws} CLI) by comparing their current state against their expected configuration. These modifications can cause unexpected behavior in your infrastructure.

During drift detection, the CDK CLI will output progress indicators and results, showing:

* Resources that have drifted from their expected configuration.
* The total number of resources with drift.
* A summary indicating whether drift was detected in the stack.

= [IMPORTANT]

The cdk drift and cdk diff commands work differently:

* cdk drift calls CloudFormation’s drift detection operation to compare the actual state of resources in {aws} (“reality”) against their expected configuration in CloudFormation. Not all {aws} resources support drift detection. For a list of supported resources, see link:https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/resource-import-supported-resources.html[Resource type support] in the *{aws} CloudFormation User Guide*.
* cdk diff compares the CloudFormation template synthesized from your local CDK code against the template of the deployed CloudFormation stack.

= Use cdk drift when you need to verify if resources have been modified outside of CloudFormation (for example, through the {aws} Console or {aws} CLI). Use cdk diff when you want to preview how your local code changes would affect your infrastructure before deployment.

[#ref-cli-cmd-drift-usage] == Usage

== [source,none,subs=“verbatim,attributes”]

$ cdk drift ++++++++++++—-++++++++++++

[#ref-cli-cmd-drift-args] == Arguments

[#ref-cli-cmd-drift-args-stack-name] *Stack name*:: The name of the stack that you want to check for drift. The stack must be previously deployed to CloudFormation to perform drift detection. + *Type*: String + *Required*: No + If no stack is specified, drift detection will be performed on all stacks defined in your CDK app.

[#ref-cli-cmd-drift-options] == Options

For a list of global options that work with all CDK CLI commands, see xref:ref-cli-cmd-options[Global options].

[#ref-cli-cmd-drift-options-fail] --fail <BOOLEAN>:: Return with exit code 1 if drift is detected. + *Default value*: false

[#ref-cli-cmd-drift-options-help] --help, -h <BOOLEAN>:: Show command reference information for the cdk drift command.

[#ref-cli-cmd-drift-examples] == Examples

[#ref-cli-cmd-drift-examples-stack] === Check drift for a specific stack

== [source,none,subs=“verbatim,attributes”]

## $ cdk drift MyStackName

The command will output results similar to:

== [source,none,subs=“verbatim,attributes”]

Stack MyStackName Modified Resources [~] AWS::Lambda::Function MyFunction MyLambdaFunc1234ABCD └─ [~] /Description ├─ [-] My original hello world Lambda function └─ [+] My drifted hello world Lambda function

1 resource has drifted from their expected configuration

== ✨ Number of resources with drift: 1

[#ref-cli-cmd-drift-examples-deleted] === Check drift when resources have been deleted

The following example shows what the output looks like when resources have been both modified and deleted:

== [source,none,subs=“verbatim,attributes”]

Stack MyStackName Modified Resources [~] AWS::Lambda::Function MyFunction MyLambdaFunc1234ABCD └─ [~] /Description ├─ [-] My original hello world Lambda function └─ [+] My drifted hello world Lambda function Deleted Resources [-] AWS::CloudWatch::Alarm MyAlarm MyCWAlarmABCD1234

2 resources have drifted from their expected configuration

== ✨ Number of resources with drift: 2

[#ref-cli-cmd-drift-examples-fail] === Check drift with exit code

To have the command return a non-zero exit code if drift is detected:

== [source,none,subs=“verbatim,attributes”]

## $ cdk drift MyStackName –fail

This is useful in CI/CD pipelines to automatically detect and respond to infrastructure drift.