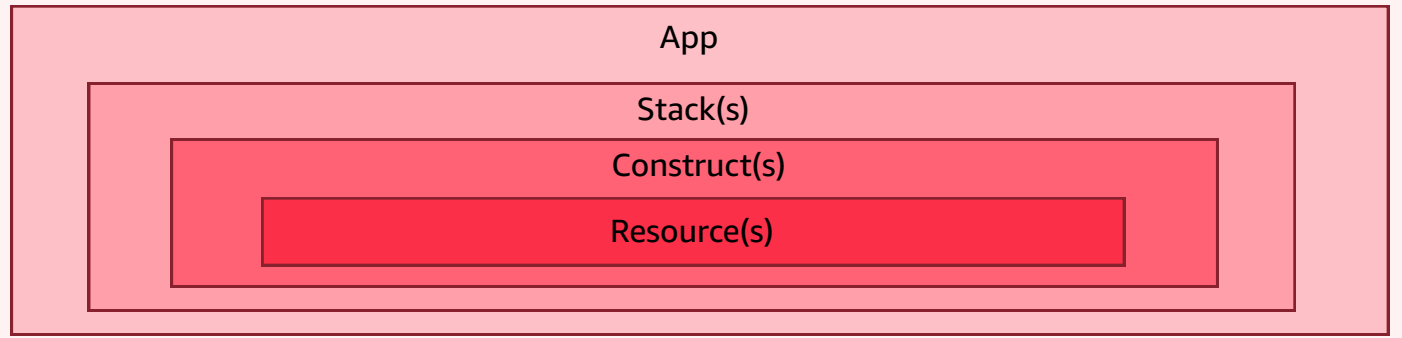## CDK Apps

apps represent a set of **stacks** deployed across multiple environments. apps can be componentized using **constructs** which contain **resources**.

App

Stack(s)

Construct(s)

Resource(s)

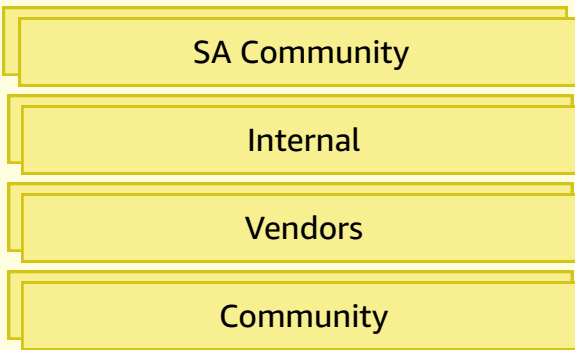## L3: Open ecosystem of purpose-built construct libraries

the **solution architect** community can publish constructs which represent **best practices** and common use cases

companies can publish internal construct libraries to reuse best practices

vendors such as *twillio* can publish constructs backed up by **custom resources** or **transforms**

community members can publish constructs

SA Community

Internal

Vendors

Community

Construct Catalog

an open index of construct libraries with links to language-specific **repositories** and rich metadata to help developers to make wise choises when using constructs

AWS CDK
Cloud Development Kit

L2: aws-cdk-<service>

aws-cdk-ec2

aws-cdk-serverless

aws-cdk-s3

aws-cdk-dynamodb

aws-cdk-ecs

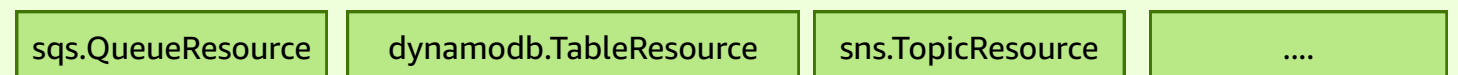aws-cdk-cloudwatch

aws-cdk-lambda

aws-cdk-codebuild

...

the **aws construct libraries** are a rich class library of constructs and object models designed to abstract and simplify common tasks for using aws services in the cdk.

resource types, **property** shapes and **attribute** types generated from the cloudformation resource model

L1: aws-cdk-resources

CloudFormation Resource Model

code generation

sqs.QueueResource

dynamodb.TableResource
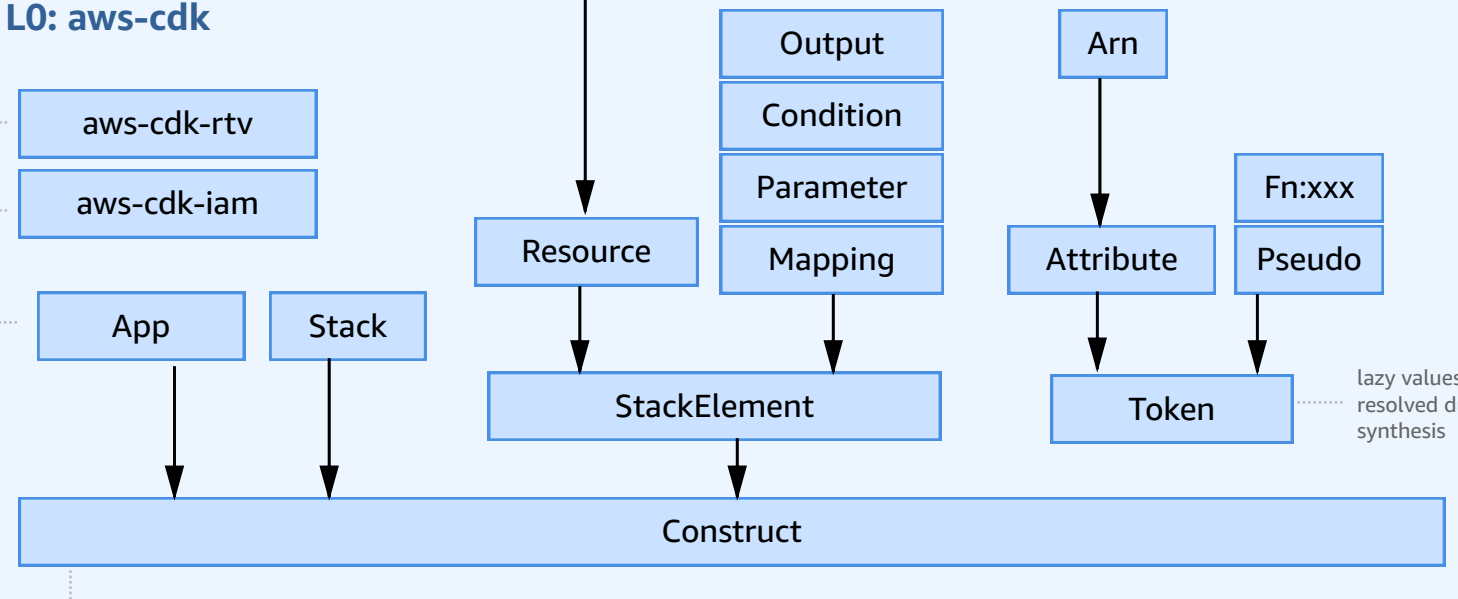
sns.TopicResource

....

L0: aws-cdk

library for advertising values from CDK apps ro runtime code

library for working with IAM policies and documents

CDK **apps** contain multiple **stacks**, which can be deployed independently

aws-cdk-rtv

aws-cdk-iam

App

Stack

Output

Condition

Parameter

Mapping

Resource

Arn
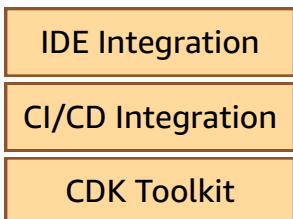
Fn:xxx

Attribute

Pseudo

StackElement

Token

lazy values resolved during synthesis

enables full infrastructure development workflow from within popular IDEs

seamless integration with ci/cd systems such as CodePipelines and TravisCI

interacts with **cloud executables** to enable development and production deployment use-cases

IDE Integration

CI/CD Integration

CDK Toolkit

Construct

construct is the basic building block of the CDK component model. constructs form a tree rooted by a Stack