



Prototyping and Cloud Engineering



Financial Services Industry

OPA on AWS

Customizing your platform: Adding Environment Providers

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Orchestrate Platform and Applications

OPA – Orchestrate Platform and Applications

Foundations to build Integrated IDP with AWS



Source Code



Designed for Enterprise



Templates



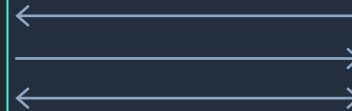
Examples



Backstage Plugins



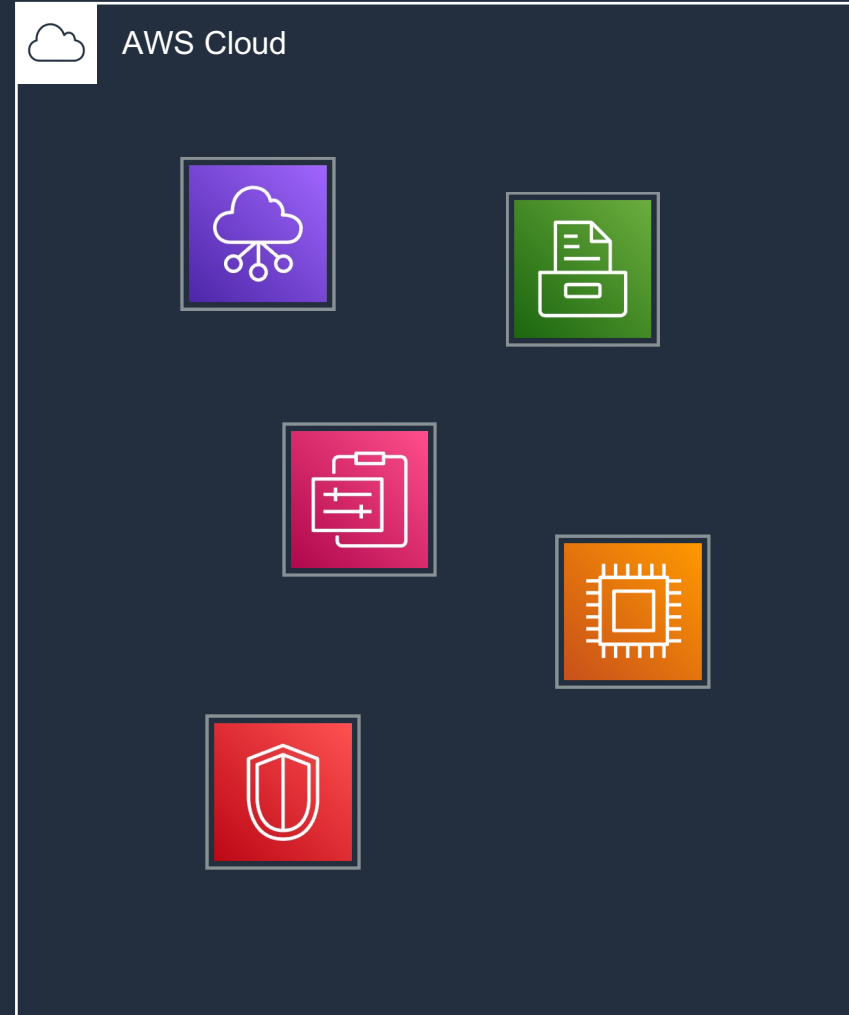
Security Best Practices



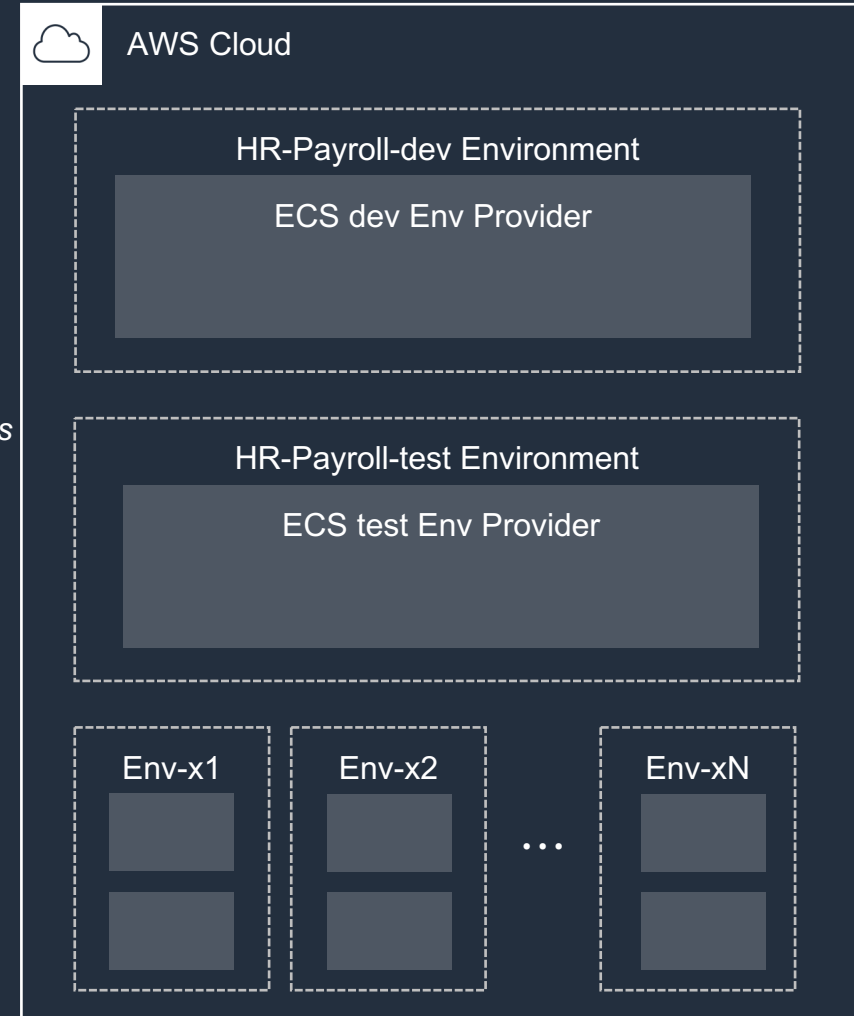
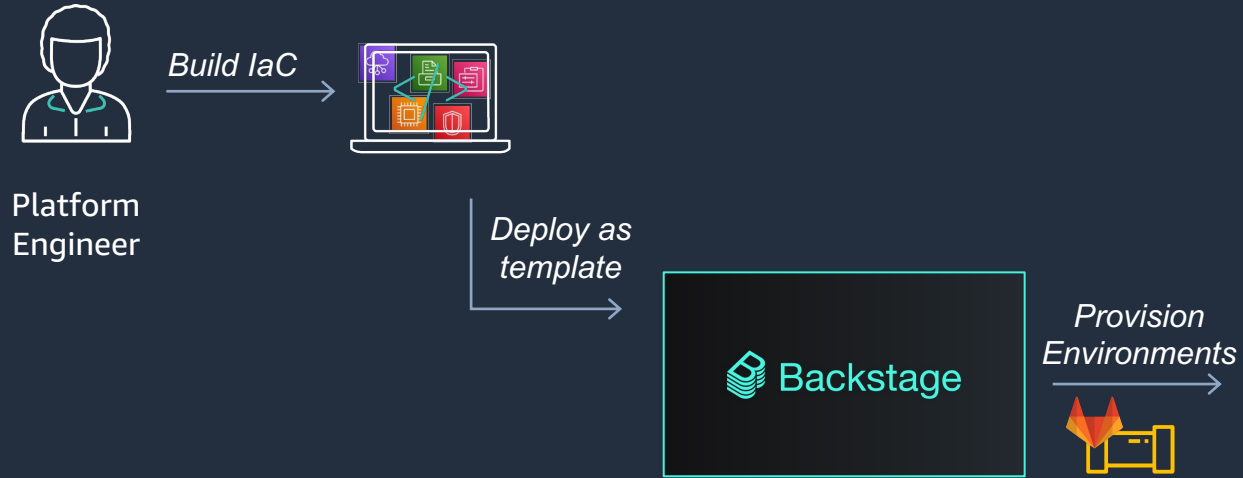
Application Deployment



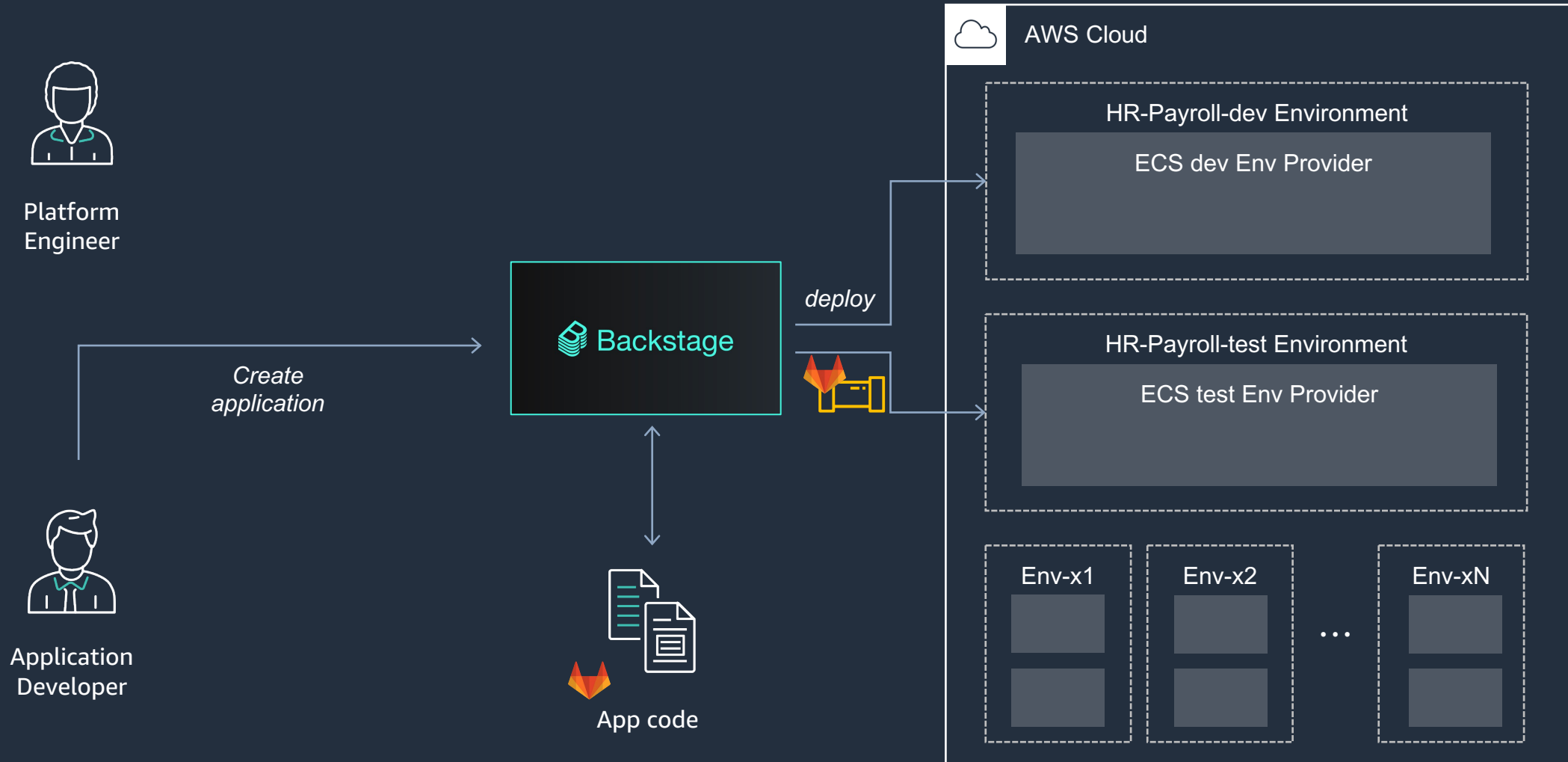
Platform
Engineer



Application Deployment



Application Deployment



Environment Provider Overview

Env Provider



AWS account



Provisioning
Role

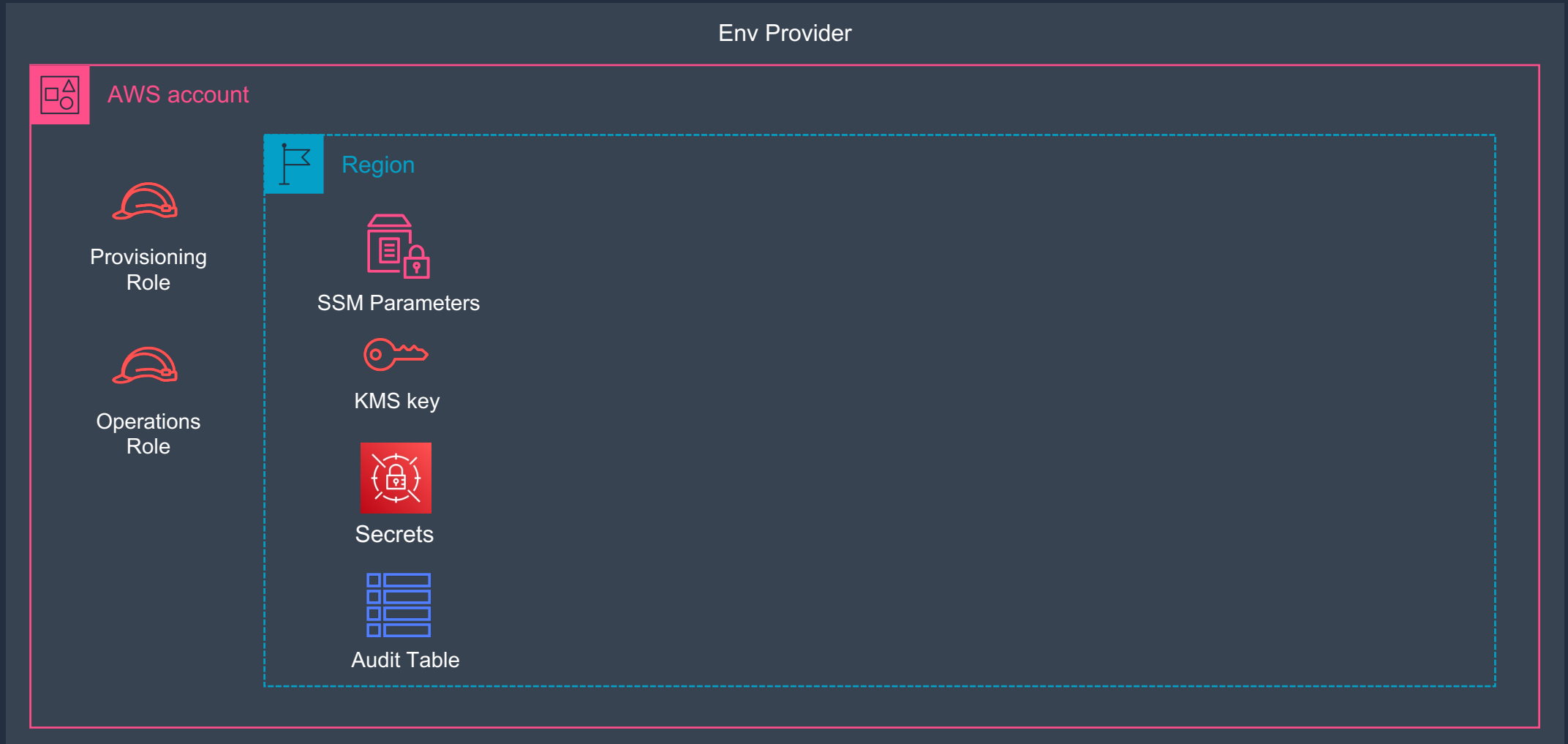
- provisions new application resources or modifies existing resources



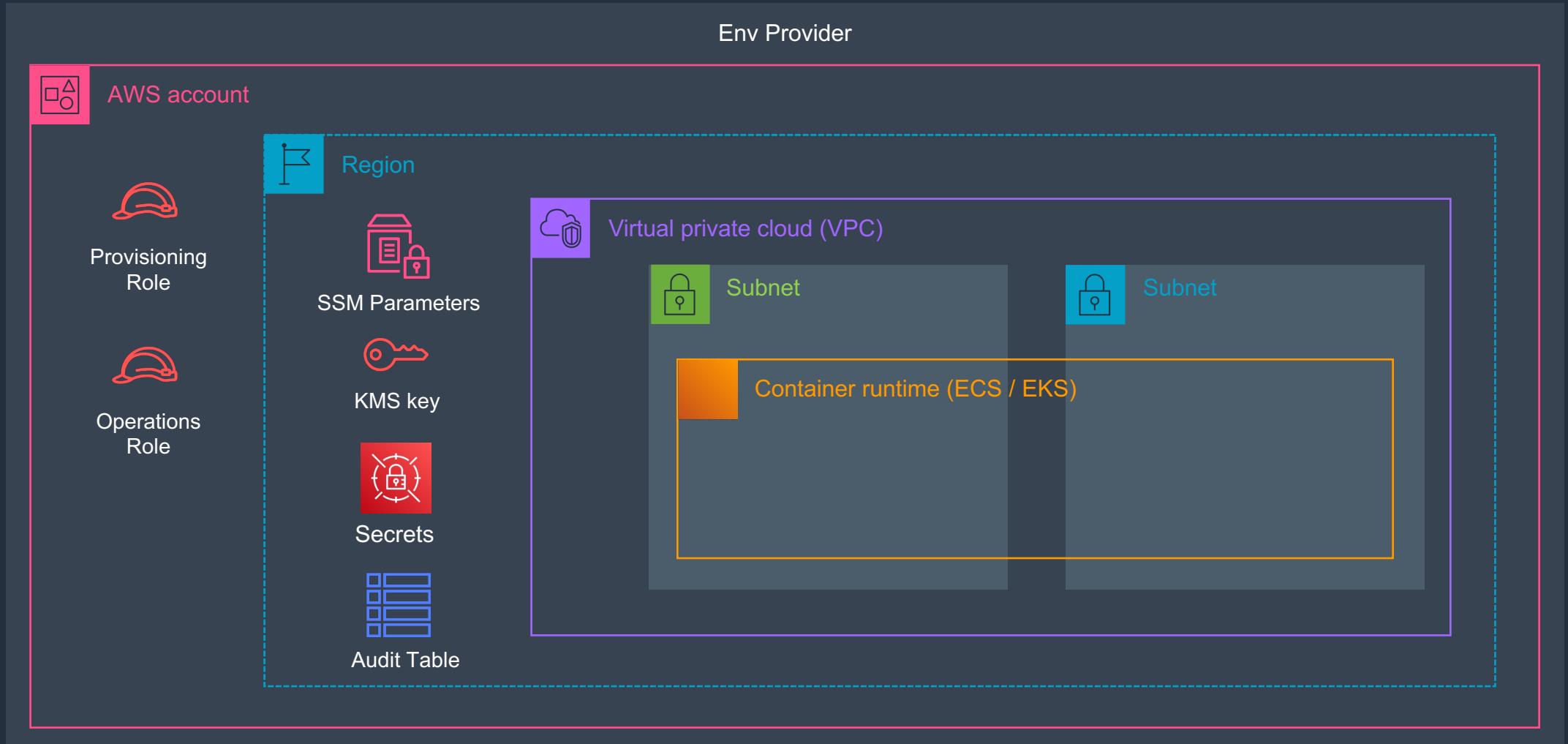
Operations
Role

- invokes actions against application resources

Environment Provider Overview



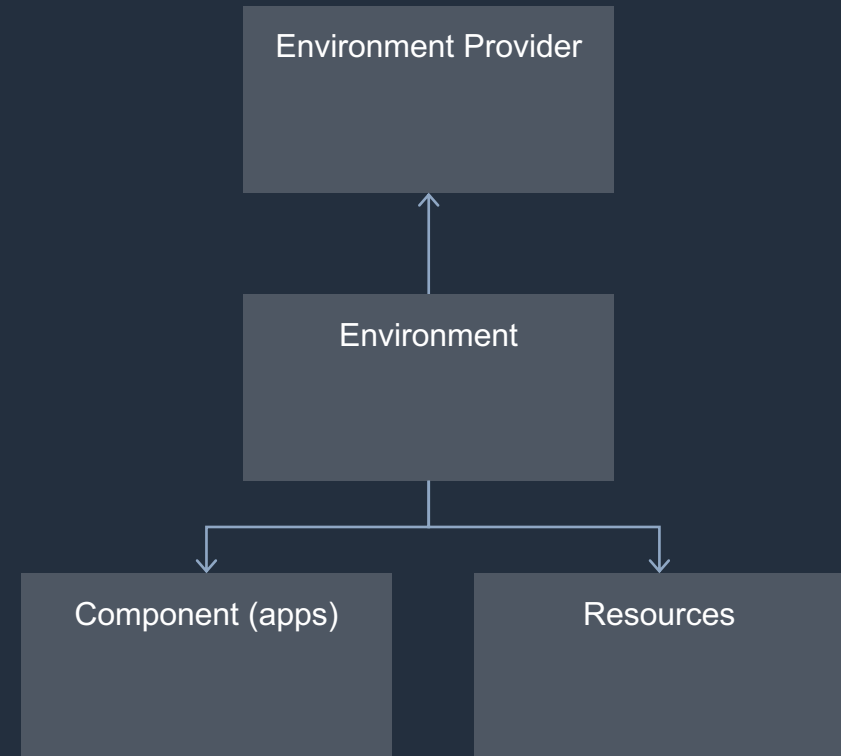
Environment Provider Overview



Backstage entities

New entity kinds:

- Environment Provider
- Environment



<https://backstage.io/docs/features/software-catalog/system-model>

Software catalog: Environment Providers

The screenshot displays the AWS Software Catalog interface for creating a new component. The left sidebar contains navigation options: Home, AWS, APIs, Docs, Create... (highlighted with a mouse cursor), Tech Radar, and Settings. The main content area is titled "Create a New Component" and includes a search bar, a "Register Existing Component" button, and a "Support" link. Below the search bar, there are filters for "Personal" (0 starred) and "AWS" (3 items). The "Available Templates" section shows three templates:

- aws-environment-provider**: AWS ECS Environment Provider. Description: Configure an AWS ECS environment provider. Owner: admins. Tags: aws, environment-provider, ecs. A "Choose" button is visible.
- aws-environment**: AWS Environment. Description: Configure an AWS environment. Owner: admins. Tags: aws, aws-environment, environment. A "Choose" button is visible.
- aws-environment-provider**: AWS Serverless Environment Provider. Description: Configure an AWS Serverless environment provider.

Git repo for Environment Provider templates

```
aws-ecs-environment-provider
├── content
│   ├── .backstage
│   │   └── catalog-info.yaml
│   ├── .gitlab-ci.yml
│   └── stack-parameters.properties
└── template.yaml
```



```
apiVersion: aws.backstage.io/v1alpha
kind: AWSEnvironmentProvider
metadata:
  name: hr-prl-dev
  prefix: hrp
  description: Dev env for payroll apps
  tags:
    - aws-environment-provider
    - ecs
  env-type: ecs
  aws-account: "111111111111"
  aws-region: us-east-1
  environment_role: "arn:aws:iam:111111111111:..."
  vpc: /hrp/hr-prl-dev/vpc
  cluster-name: /hrp/hr-prl-dev/ecs-cluster
  operation-role: /hrp/hr-prl-dev/ops-role
  provisioning-role: /hrp/hr-prl-dev/prov-role
  audit-table: /hrp/hr-prl-dev/audit
  stack-name: ECS-ENV-hr-prl-dev-stack
spec:
  type: environment-provider
  lifecycle: experimental
  owner: group:default/dev-ops
```

Git repo for Environment Provider templates

```
aws-ecs-environment-provider
├── content
│   ├── .backstage
│   │   └── catalog-info.yaml
│   ├── .gitlab-ci.yml
│   └── stack-parameters.properties
└── template.yaml
```

```
image: node:18
variables:
  AWS_ACCOUNT: "111111111111"
  AWS_DEFAULT_REGION: "us-east-1"
  ROLE_ARN: "arn:aws:iam:111111111111:..."
  OPA_PLATFORM_REGION: "us-east-1"

stages:
  - build

include:
  - project: 'opa-admin/backstage-reference'
    ref: main
    file:
      - 'common/cicd/.gitlab-ci-aws-ecs.yml'
```

Git repo for Environment Provider templates

```
aws-ecs-environment-provider
├── content
│   ├── .backstage
│   │   └── catalog-info.yaml
│   ├── .gitlab-ci.yml
│   └── stack-parameters.properties
└── template.yaml
```

```
PREFIX=${{ values.prefix }}
ENV_NAME=${{ values.name }}
AWS_ACCOUNT_ID=${{ values.aws_account }}
AWS_DEFAULT_REGION=${{ values.aws_region }}
PLATFORM_ROLE_ARN=${{ values.platform_role }}
PIPELINE_ROLE_ARN=${{ values.pipeline_role }}
PROVISIONING_ROLE_ARN=${{ values.env_role }}
ENV_CIDR=${{ values.cidr }}
```

Git repo for Environment Provider templates

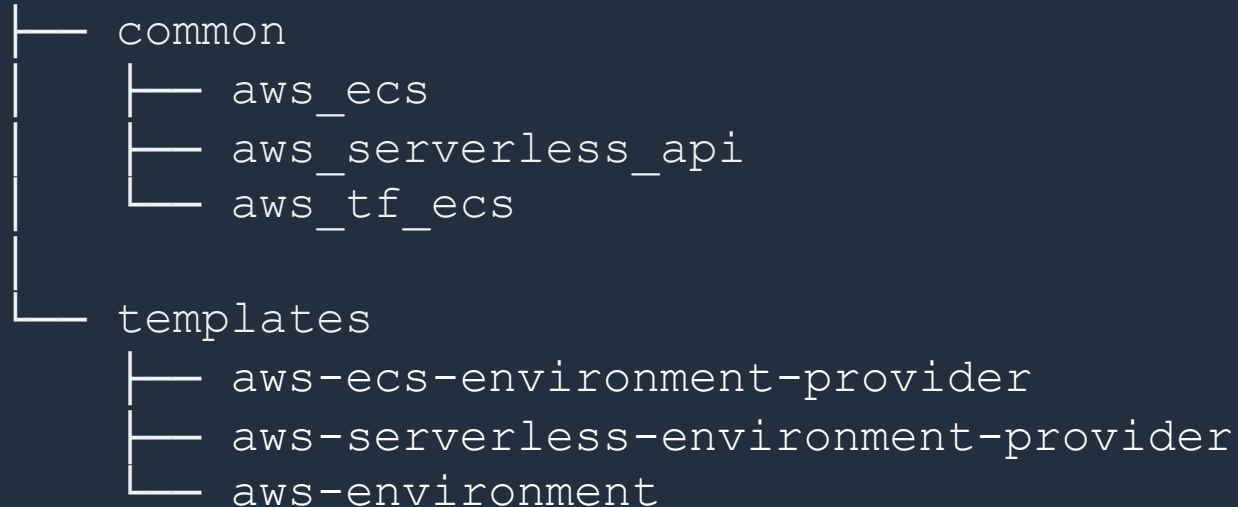
```
aws-ecs-environment-provider
├── content
│   ├── .backstage
│   │   └── catalog-info.yaml
│   ├── .gitlab-ci.yml
│   └── stack-parameters.properties
└── template.yaml
```

```
apiVersion: scaffolder.backstage.io/v1beta3
kind: Template
metadata:
  name: aws-ecs-environment-provider
  title: AWS ECS Environment Provider
  description: An AWS ECS environment provider
  tags:
    - environment-provider
    - ecs
spec:
  owner: group:admins
  type: aws-environment-provider
  parameters:
    - title: Fill in env provider details
  ...
```

<https://backstage.io/docs/features/software-templates/>

Git repo for Environment Provider templates

backstage-reference



} Infrastructure as code examples under the `common` folder

} Environment and Environment Provider template examples under the `templates` folder

<https://github.com/aws-labs/app-development-for-backstage-io-on-aws>



FOR FINANCIAL
SERVICES

Thank you!



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