



AWS Proton Hands on Workshop

AWS Proton Core Lab

Nripendra Shrestha

2022/05/16

Amazon Web Services Japan G.K.

AWS Proton Hands-on Workshop

Sr.	Module	Level	予定
1	AWS Proton 概要及びHands on Labについて説明	200	5月13日(金) 15:00 - 16:00
2	Workshop準備 (AWS Account, Cloud9, GitHub Account)	200	(AWS側で準備)
3	AWS Proton Core Lab (Proton, ECS)	300	5月16日(月) 10:00 - 12:00
4	Observability and Networking (AppMesh, X-ray, Prometheus) [Stretch Goal]	300	5月16日(月) 資料提供・自由実施
5	予備/振り返り及びNext StepsについてDiscussion	200	5月17日(火) 14:00 - 15:00
6	Observability and Networking (Grafana) [Skip]	300	資料提供・自由実施
7	Multi-account Deployment [Skip]	300	資料提供・自由実施
8	Using Terraform for Deployment [Skip]	300	資料提供・自由実施

資料 : <https://github.com/snripen/protonlab-artifacts>

環境とアクセス方法

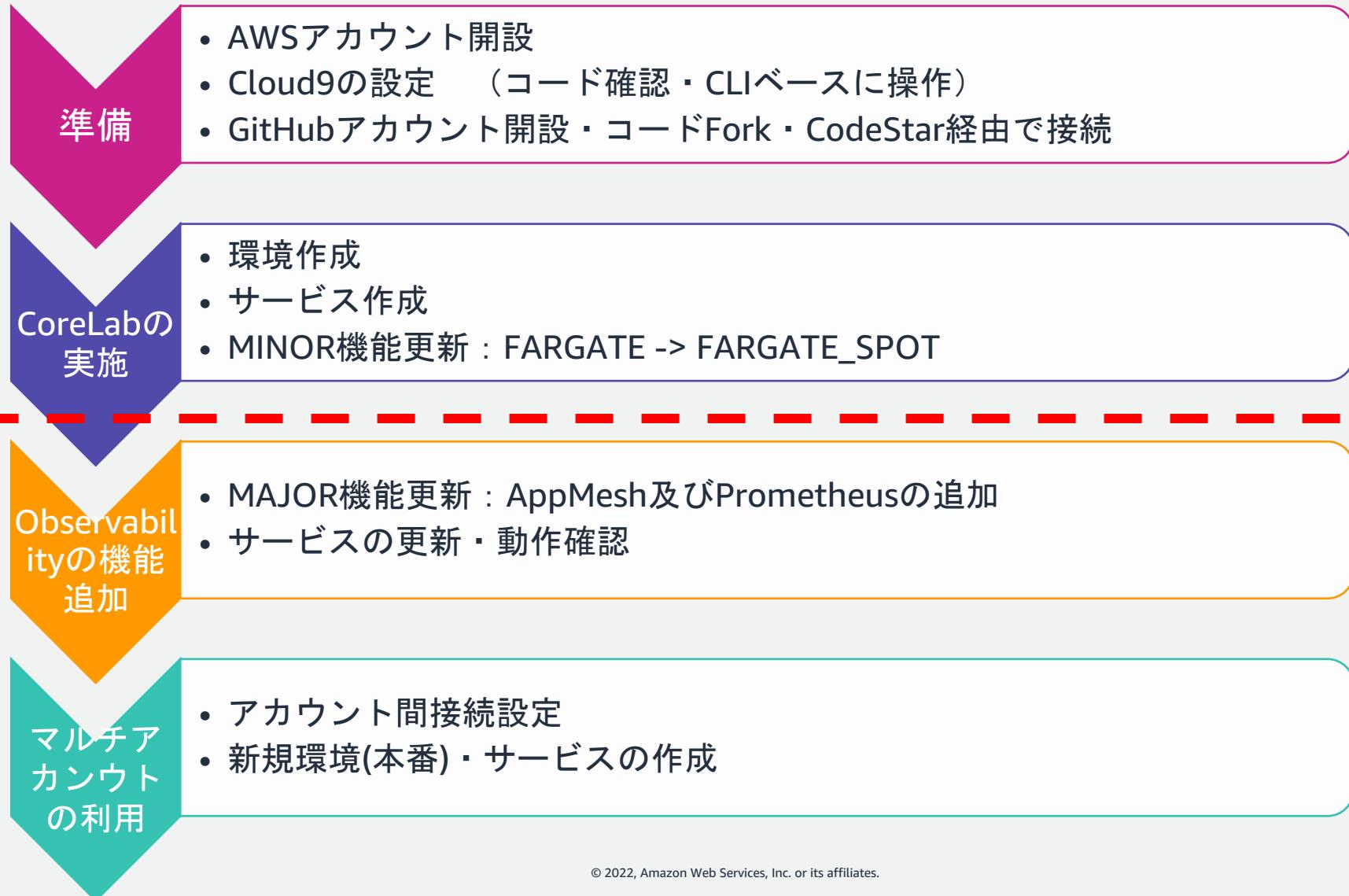
<https://proton05.awsapps.com/start/>

<https://proton06.awsapps.com/start/>

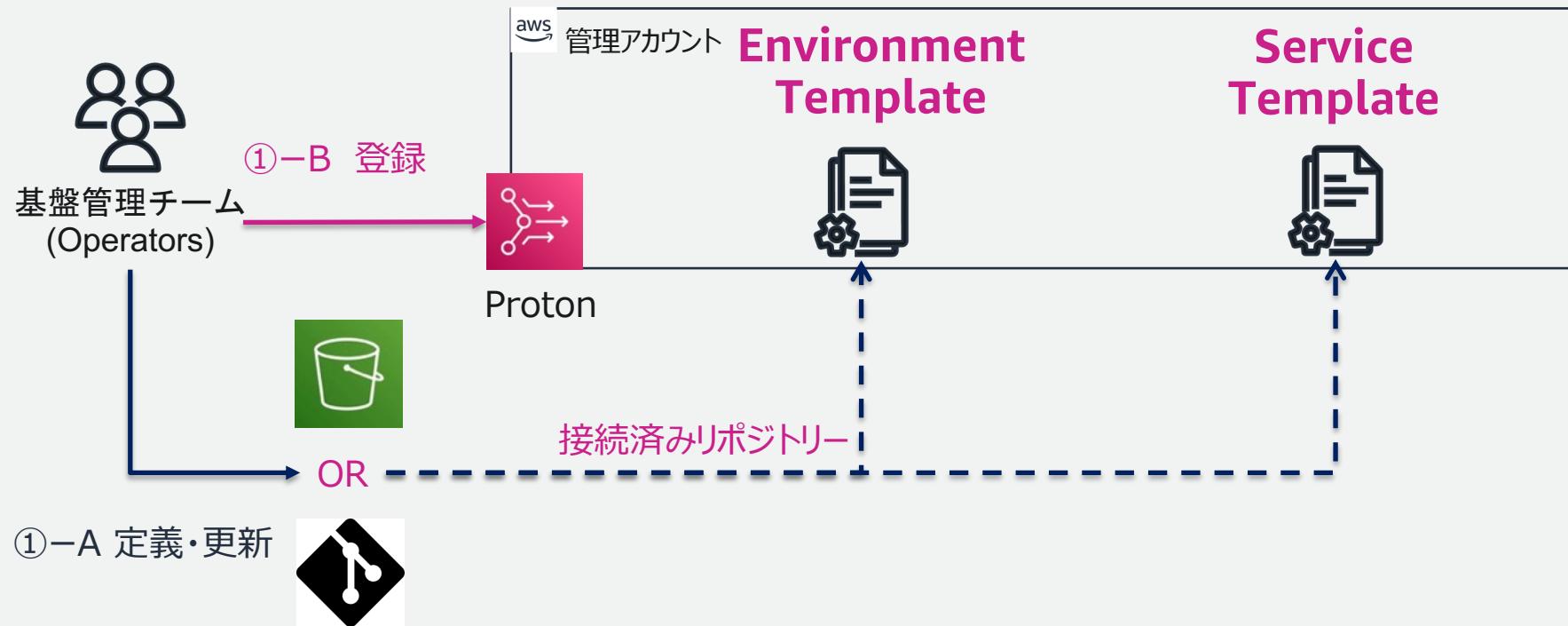
<https://github.com/login>

Sr.	User ID	ユーザ	Login URL	Git hub Account/Password/Token
1	nomura-user01	金谷さん	https://proton05.awsapps.com/start/	
2	nomura-user02	中島さん	https://proton05.awsapps.com/start/	
3	nomura-user03	Liさん	https://proton05.awsapps.com/start/	
4	nomura-user04	Linさん	https://proton05.awsapps.com/start/	
5	nomura-user05	酒井さん	https://proton05.awsapps.com/start/	FlagされAWSから アクセス不可能の ために再設定
6	nomura-user06	中拂さん	https://proton06.awsapps.com/start/	
7	nomura-user07	山崎さん	https://proton06.awsapps.com/start/	
8	nomura-user08	山田さん	https://proton06.awsapps.com/start/	

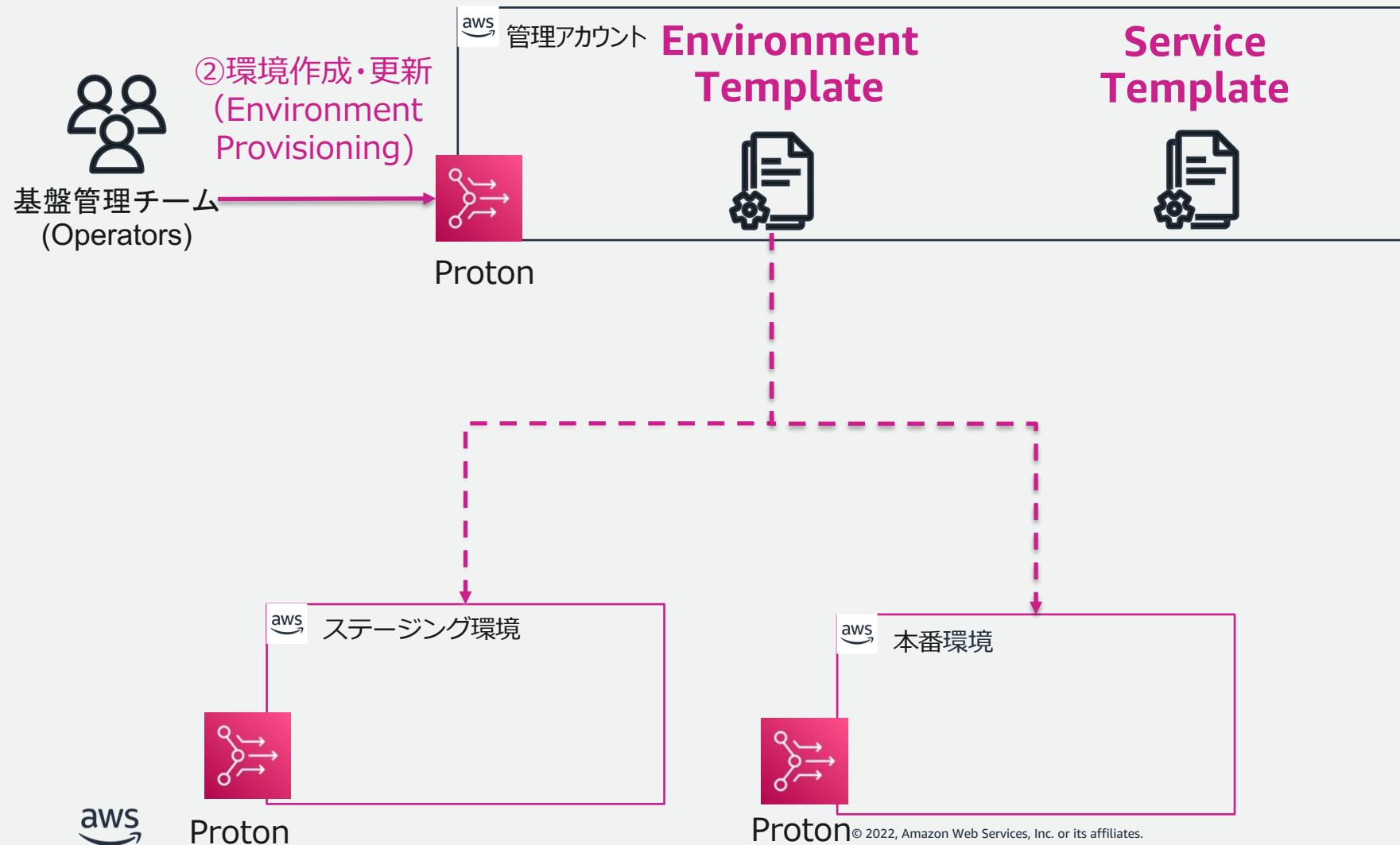
Hands on Labの流れ



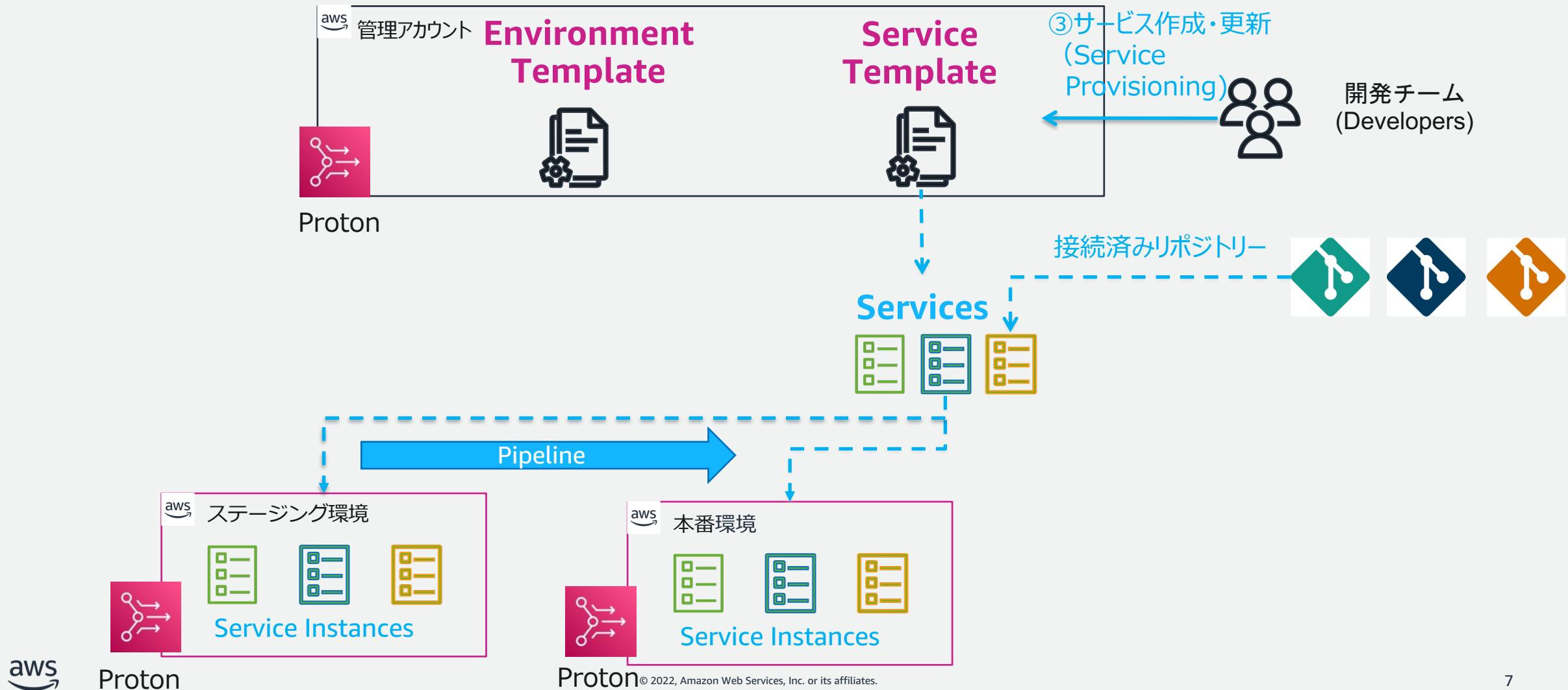
作業のイメージ



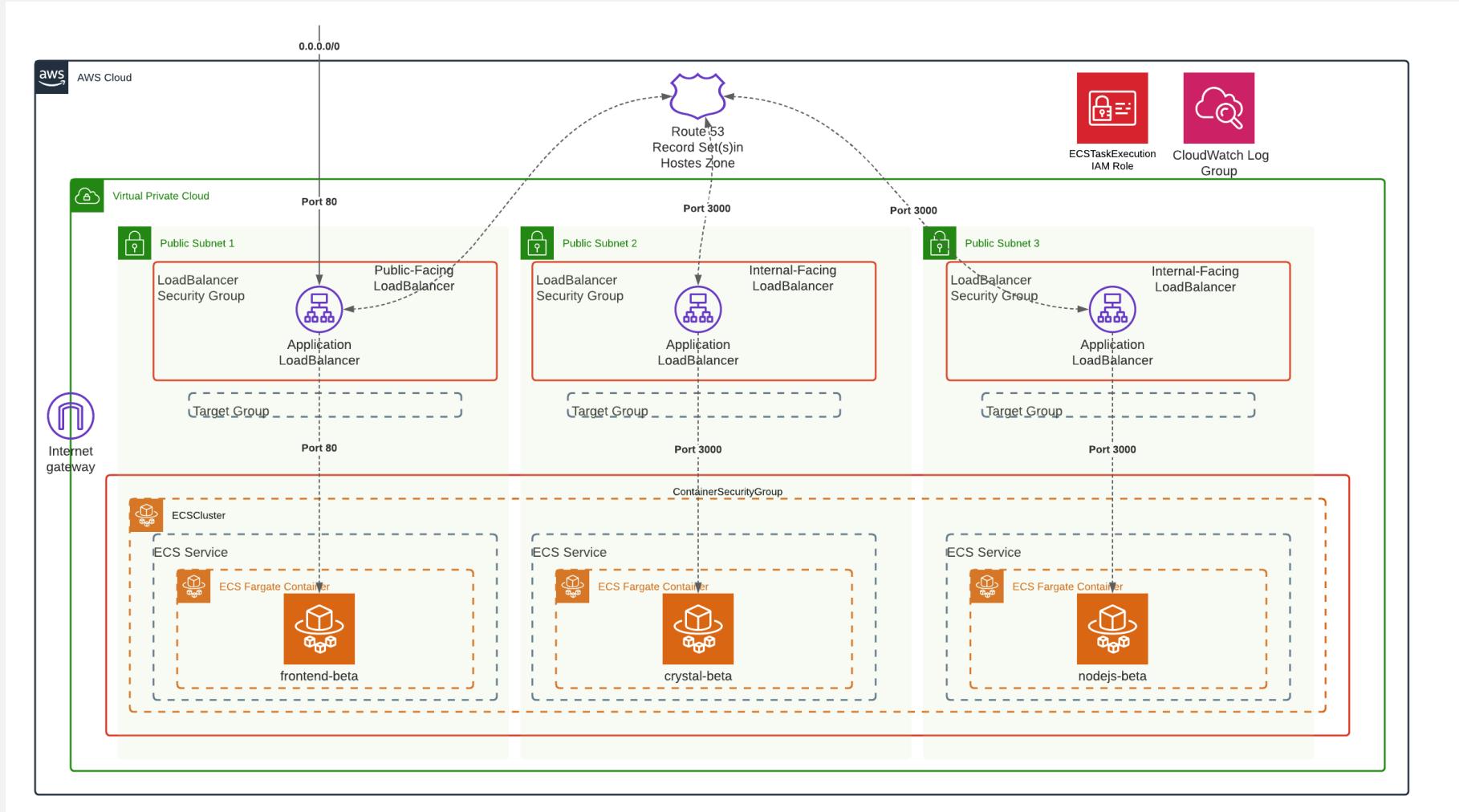
作業のイメージ



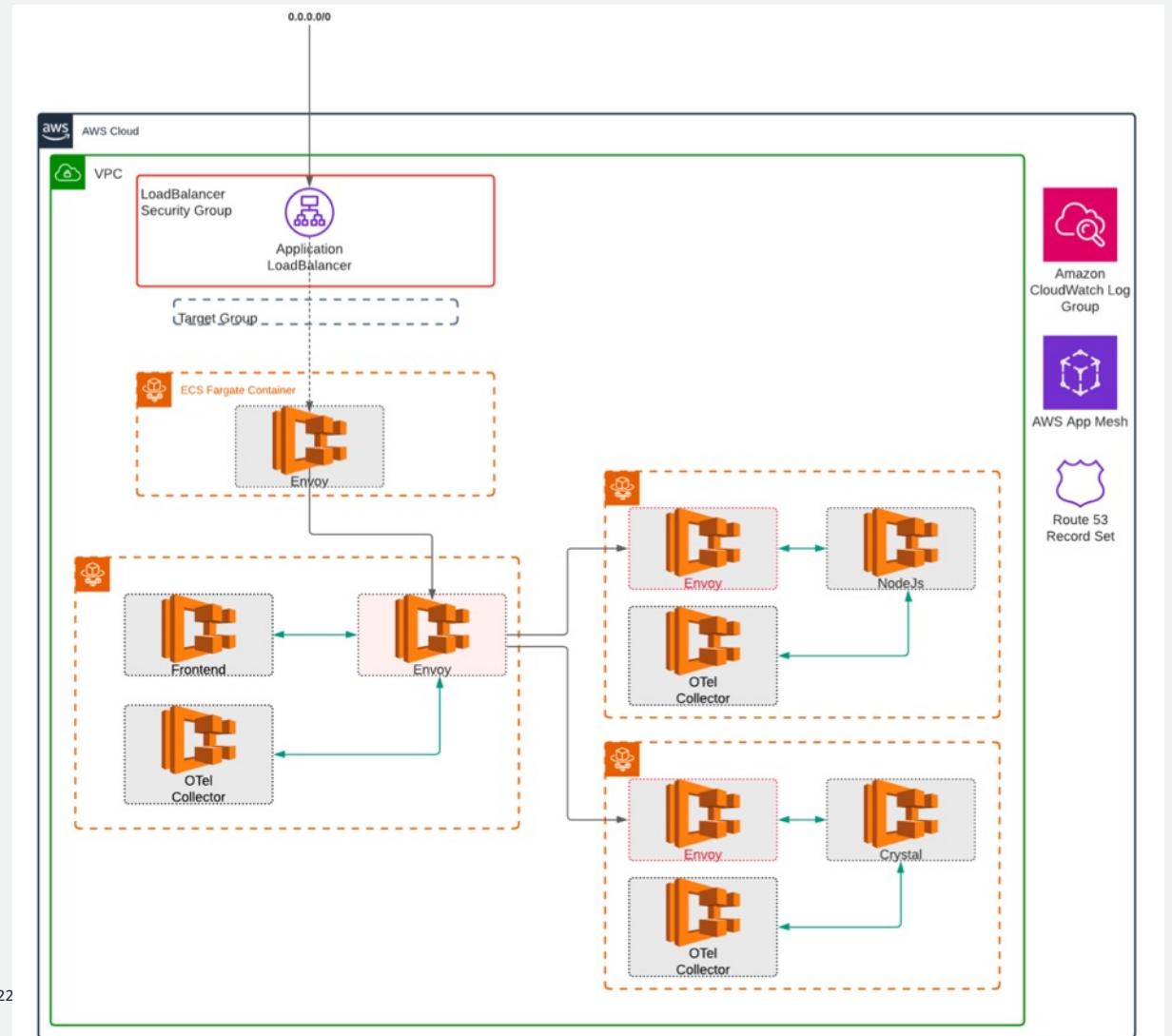
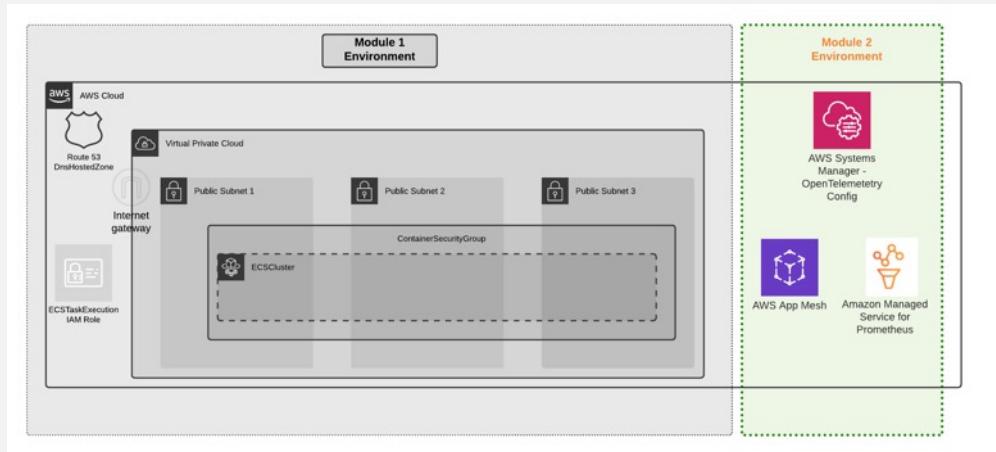
作業のイメージ



Core Workshop(Module1) Target Architecture



Standard Observability (Module2) Target Architecture



Conventionの説明

- 基本CLI操作でHands On実施
- 緑背景のBox内のコマンドをCloud9のTerminalへ入力して操作
 - 明記指定がないかぎり、全てのコマンドは **~/environment** フォルダから実行
 - 緑のコマンドは別途コマンド集ファイルでも提供
- コマンドの中身の重要な部分は画像で記載
- コマンドの実行結果はCLI及びGUIで確認

#3.1.4.2

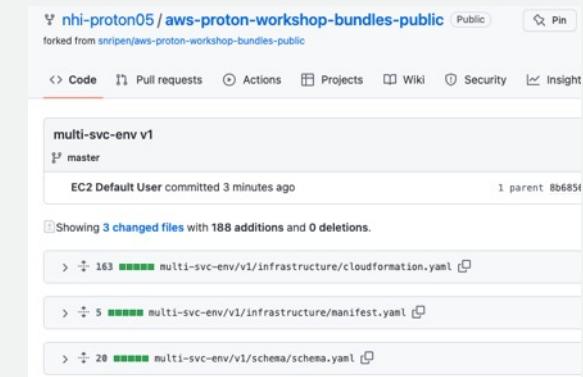
```
cd ~/environment/aws-proton-workshop-bundles/
sh ~/environment/commands/commitV1EnvTemplate
```

```

1  # Add all changes to the staging area
2  git add *
3  # Capture a snapshot of the currently staged changes
4  git commit -m "multi-svc-env v1"
5  # Navigate to the master branch
6  git checkout -b master
7  # Integrate the changes in branch module-1-environment into master
8  git merge module-1-environment
9  # Transfer commits from the local repository to the remote repository
10 git push -u origin master
```

```

3 files changed, 188 insertions(+)
Switched to a new branch 'master'
Already up to date.
Enumerating objects: 17, done.
Counting objects: 100% (15/15), done.
Delta compression using up to 2 threads
Compressing objects: 100% (6/6), done.
Writing objects: 100% (9/9), 2.38 KiB | 270.00 KiB/s, done.
Total 9 (delta 0), reused 0 (delta 0), pack-reused 0
remote: This repository moved. Please use the new location:
remote: https://github.com/nhi-proton05/aws-proton-workshop-bundles-public.git
remote:
remote: Create a pull request for 'master' on GitHub by visiting:
remote: https://github.com/nhi-proton05/aws-proton-workshop-bundles-public/pull/new/master
remote:
To https://github.com/nhi-proton05/aws-proton-workshop-bundles.git
 * [new branch]  master -> master
Branch 'master' set up to track remote branch 'master' from 'origin'.
```



Part2 : Lab環境の初期設定・確認

2.1 AWS Account の確認

Loginの確認 (Tokyo Region)

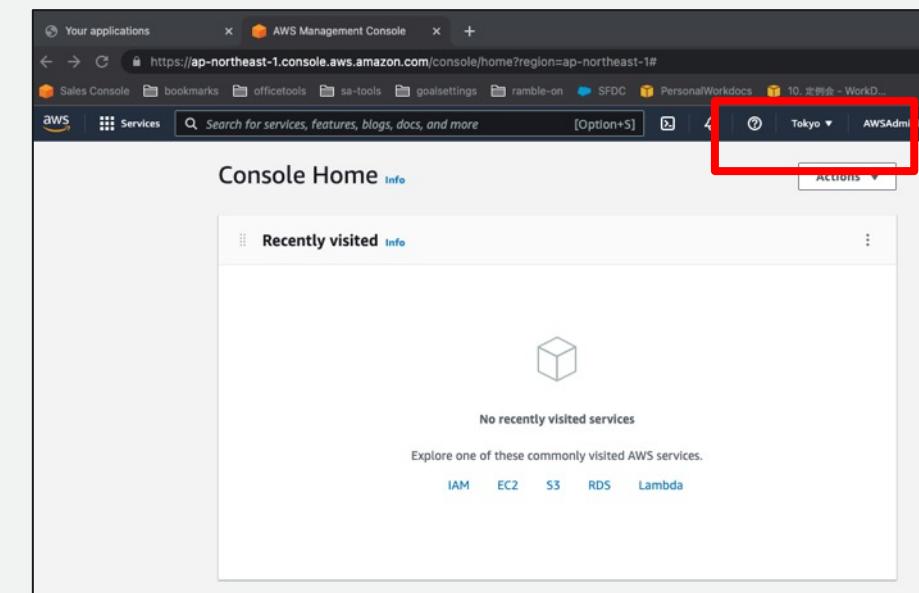
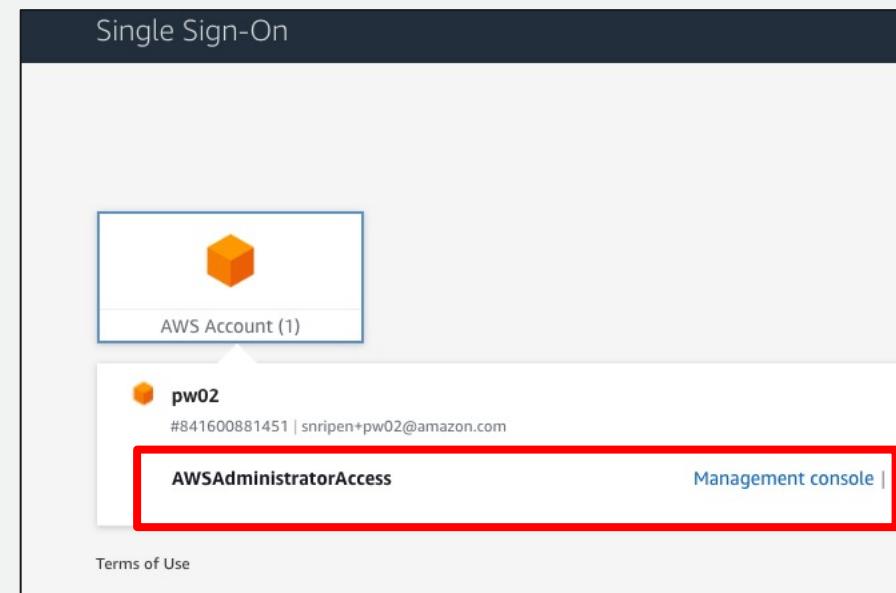
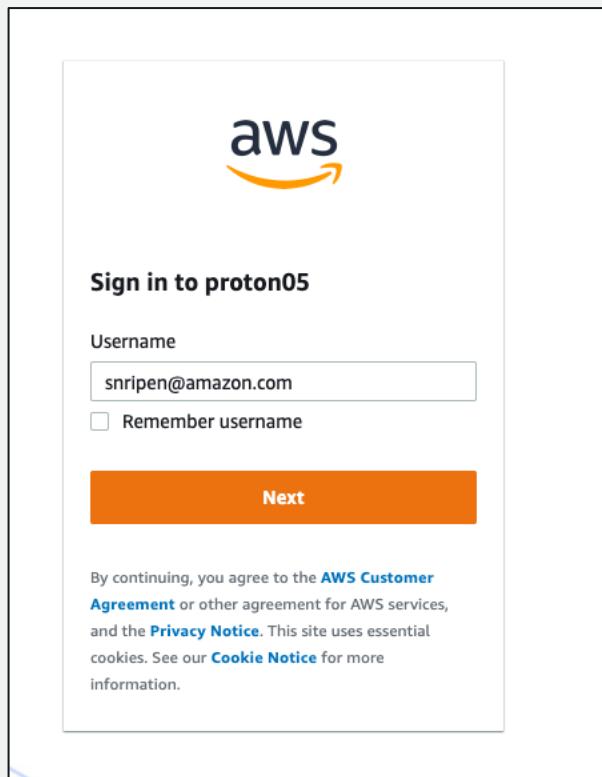
<https://proton05.awsapps.com/start>

↳ nomura-user01~nomura-user05

<https://proton06.awsapps.com/start>

↳ nomura-user06~nomura-user10

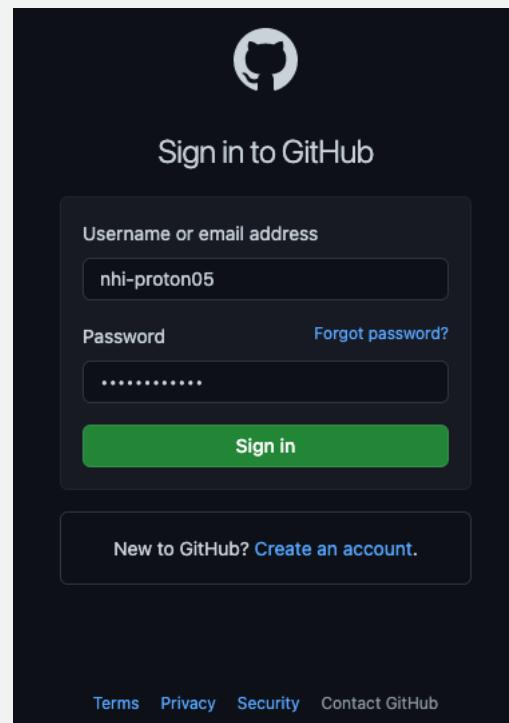
東京/Tokyo (ap-northeast-1)



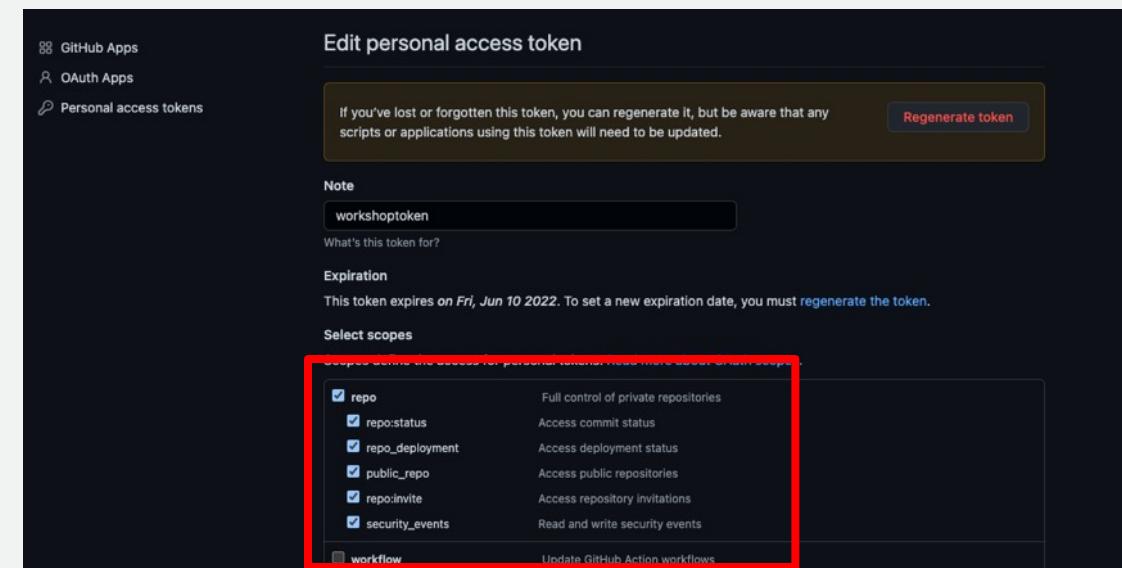
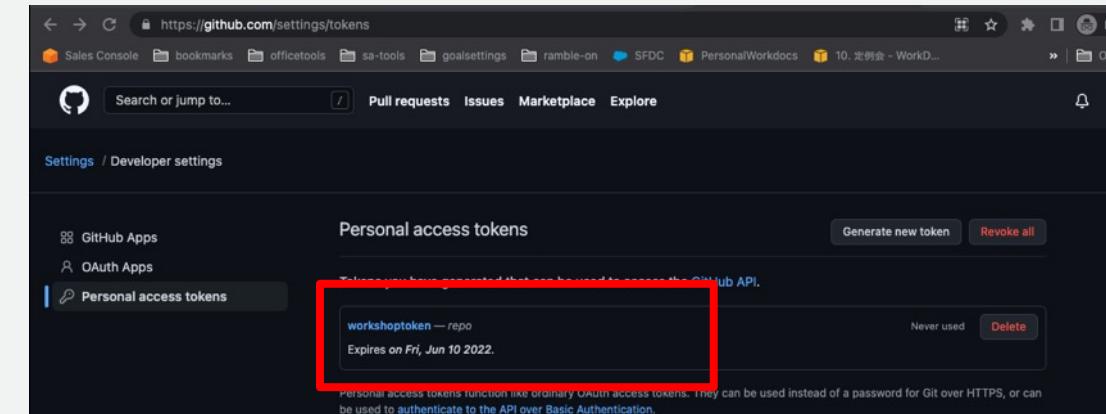
2.2.1 GitHub Account の確認

Login, Repository 及び Token と Scopes の確認

<https://github.com/login>



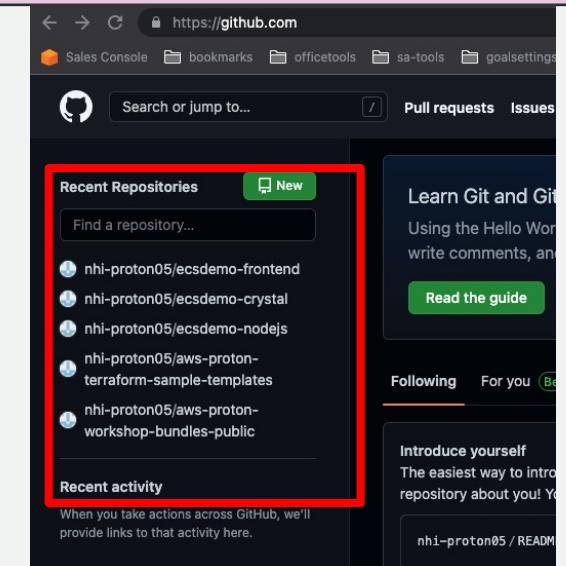
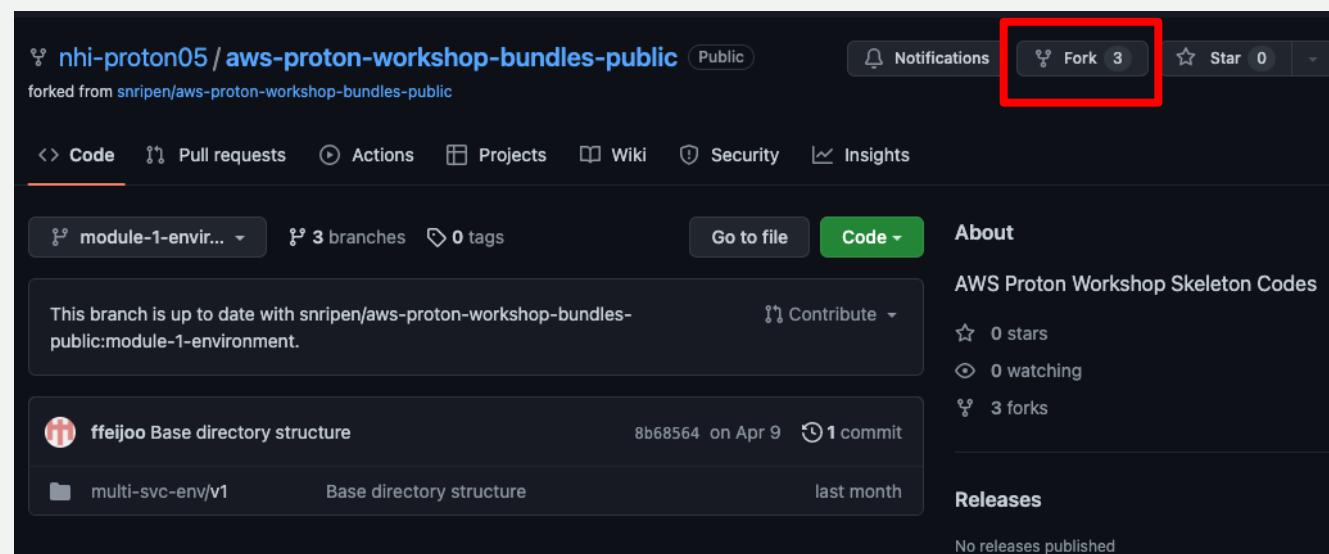
<https://github.com/settings/tokens>



2.2.2 Fork codes

Access the url below and fork the repository

Sr.	Repository	Purpose
1	https://github.com/snripen/aws-proton-workshop-bundles-public	AWSProton IaC Skeletal Code
2	https://github.com/aws-containers/ecsdemo-frontend	Frontend Code
3	https://github.com/aws-containers/ecsdemo-crystal	Backend Code
4	https://github.com/aws-containers/ecsdemo-nodejs	Backend Code
5	https://github.com/aws-samples/aws-proton-terraform-sample-templates	Terraform IaC Skeletal Code



2.3.1 Cloud 9の初期設定

Cloud9にIDEの確認

<https://ap-northeast-1.console.aws.amazon.com/cloud9/home?region=ap-northeast-1>

① IAM上 protonworkshop-admin の作成

[https://console.aws.amazon.com/iam/home#/roles\\$new?step=review&commonUseCase=EC2%2BEC2&selectedUseCase=EC2&policies=arn:aws:iam::aws:policy%2FAdministratorAccess](https://console.aws.amazon.com/iam/home#/roles$new?step=review&commonUseCase=EC2%2BEC2&selectedUseCase=EC2&policies=arn:aws:iam::aws:policy%2FAdministratorAccess)

Create role

Review

Provide the required information below and review this role before you create it.

Role name*

Role description

Trusted entities

Policies

Permissions boundary

No tags were added.



② Cloud9 EC2 IAMロールを protonworkshop-adminへ更新

<https://console.aws.amazon.com/ec2/v2/home?#Instances>tag:Name=aws-cloud9-protonworkshop;sort=desc:launchTime>

Instances (1/1) [Info](#)

Name: aws-cloud9-ec2workshop-eb56b5c035b14ca9903b168f481554d1

Actions ▾ [Connect](#) [Instance state ▾](#) [Actions ▾](#) [Launch instances](#)

aws-cloud9-e... I-062cdf9ada89a8734 Running Initializing No alarms +

Modify IAM role

EC2 > Instances > i-053f1760927e7fb0b > Modify IAM role

Modify IAM role [Info](#)

Attach an IAM role to your instance.

Instance ID

IAM role

Select an IAM role to attach to your instance or create a new role if you haven't created any. The role you select replaces any roles that are currently attached to your instance.

Choose IAM role

protonworkshop-admin arnawsiam:127511872893:instance-profile/protonworkshop-admin

Instance will be removed. Are you sure you want to remove from the selected instance?

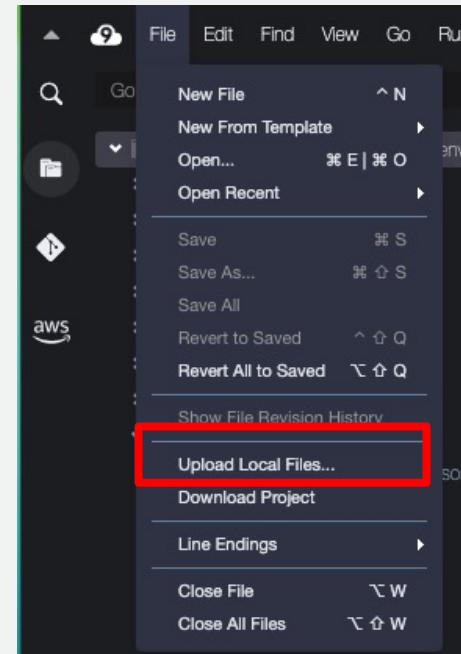
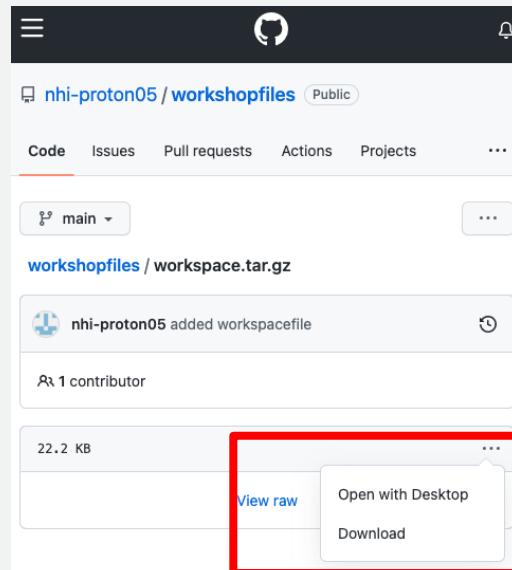
Cancel [Save](#)

2.3.2 Cloud 9の初期設定

IDEへ必要なファイルのアップロード

[https://github.com/snripen/protonlab-artifacts
/blob/main/workspace.tar.gz](https://github.com/snripen/protonlab-artifacts/blob/main/workspace.tar.gz)

<https://ap-northeast-1.console.aws.amazon.com/cloud9/home?region=ap-northeast-1>



Workshop利用ファイルの展開

#2.3.1
tar zxvf workspace.tar.gz

ツールのインストール

#2.3.2
ls commands/installTools
sh commands/installTools

提供ファイルの確認(内容は次のスライド)

#2.3.3
ls commands/verifyWorkshopFiles
sh commands/verifyWorkshopFiles

C9 CLI設定と確認

#2.3.4
sh commands/configureC9Credentials

Git及びGitHubの設定 (Tokenなど記述)

#2.3.5
ls commands/setupGit
sh commands/setupGit

Inventory of Lab files

```
AWSReservedSSO_AWSAdministratorAccess_3fcf6f7c
./commands
  ├── checkOutEnvTempSkeletonCode
  ├── checkOutServiceTempSkeletonCode
  ├── codeV1EnvCfn
  ├── codeV1ServiceInstanceInfra
  ├── codeV1ServicePipeline
  ├── codeV1ServiceSchema
  ├── commitV1EnvTemplate
  ├── commitV1ServiceTemplate
  ├── commitV1TemplateMinorChanges
  ├── configureC9Credentials
  ├── createEnvTemplate
  ├── createEnvV1
  ├── createProtonRepositoryLink
  ├── createServiceTemplate
  ├── initWorkshopConfig
  ├── installTools
  ├── patchEnvCfnMinor
  ├── patchServicesCfnMinor
  ├── publishV1EnvTemplate
  ├── publishV1ServiceTemplate
  ├── publishV1TemplateMinorChanges
  ├── setProtonAccountPermission
  ├── setServiceCompatibleEnv
  ├── setupGit
  ├── specifyEnvInput
  ├── syncEnvRepository2Proton
  ├── syncServiceRepository2Proton
  ├── updateEnvToV1.1
  ├── verifyProtonAdminRoleforC9
  └── verifyWorkshopFiles

  0 directories, 30 files
```

```
0 directories, 30 files
./helper-script
└── proton-workshop-helper

0 directories, 1 file
./iacfiles
└── main
    ├── lb-fargate-service
    │   └── v1
    │       ├── instance_infrastructure
    │       │   ├── cloudformation.yaml
    │       │   └── manifest.yaml
    │       ├── pipeline_infrastructure
    │       │   ├── cloudformation.yaml
    │       │   └── manifest.yaml
    │       └── schema
    │           └── schema.yaml
    └── multi-svc-env
        └── v1
            ├── infrastructure
            │   ├── cloudformation.yaml
            │   └── manifest.yaml
            └── schema
                └── schema.yaml

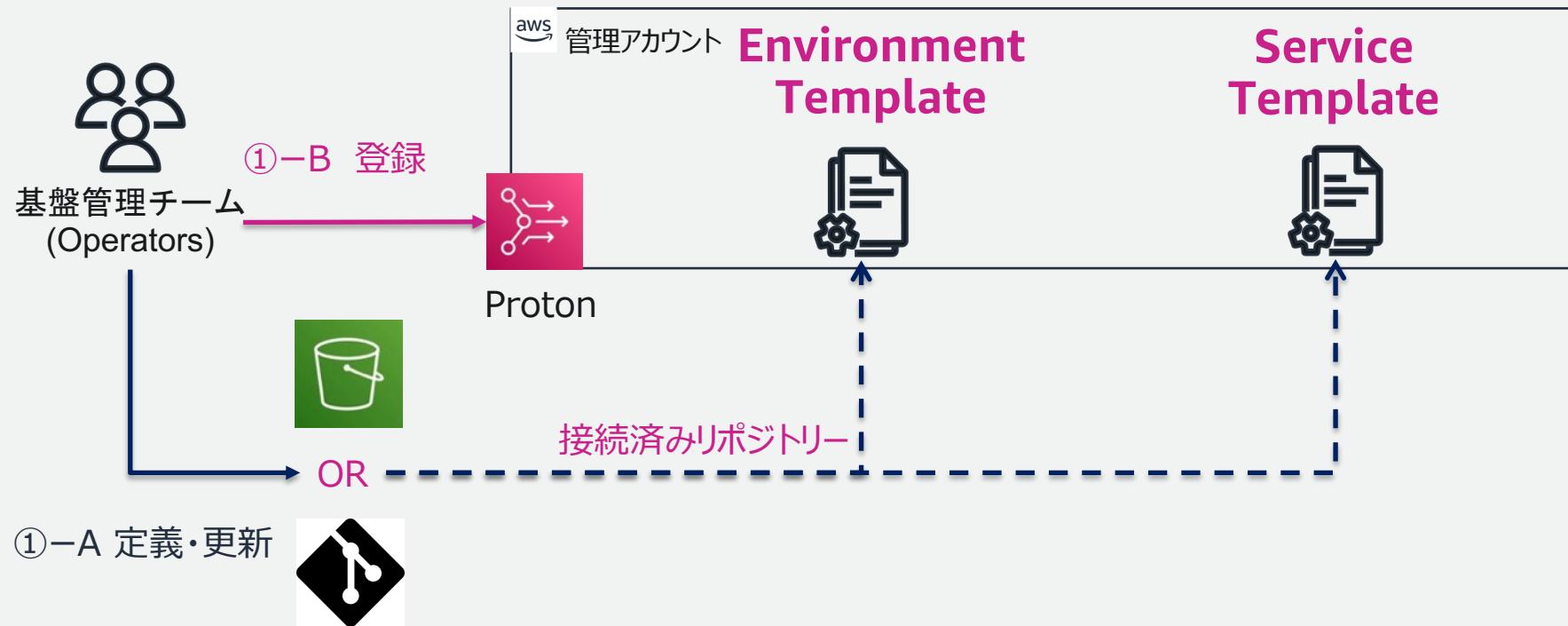
    16 directories, 14 files
    └── provided
        └── v1
            ├── infrastructure
            │   ├── cloudformation.yaml
            │   ├── instance_infrastructure
            │   │   ├── cloudformation.yaml
            │   │   └── manifest.yaml
            │   ├── pipeline_infrastructure
            │   │   ├── cloudformation.yaml
            │   │   └── manifest.yaml
            │   └── schema
            │       └── schema.yaml

    0 directories, 2 files
    ./policy
    └── proton-service-assume-policy.json
```

Part3 : Core Lab

Part3.1 : Create Environments

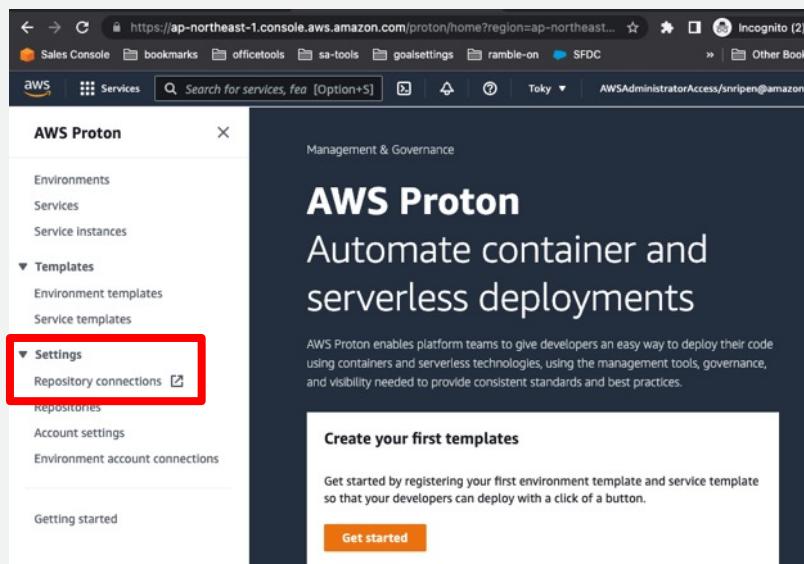
作業のイメージ



3.1.1 CodeStar connection

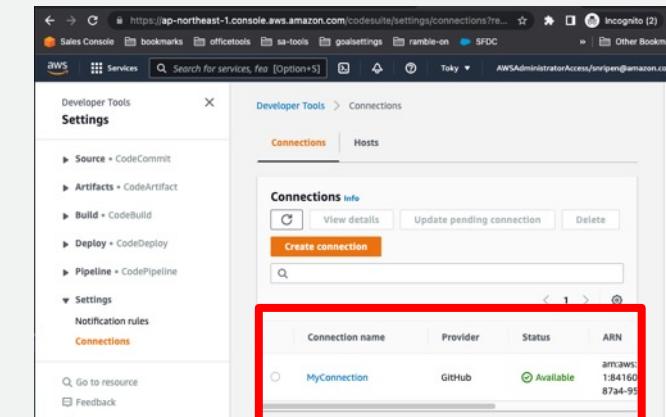
GitHubソースコードとの接続設定の確認

<https://ap-northeast-1.console.aws.amazon.com/proton/home?region=ap-northeast-1#/>



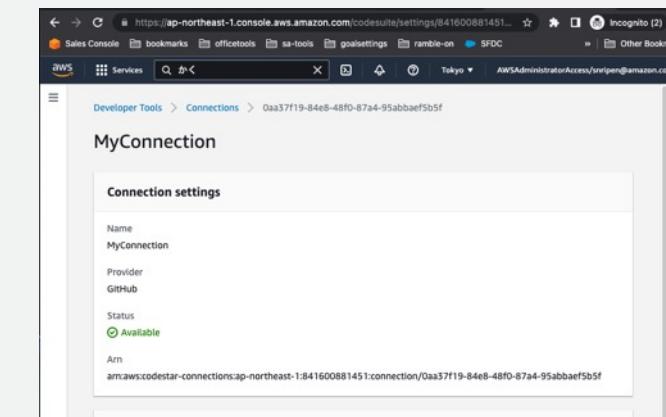
The screenshot shows the AWS Proton console interface. The left sidebar has a red box around the 'Settings' section, specifically the 'Repository connections' item. The main content area displays the AWS Proton logo and the tagline 'Automate container and serverless deployments'. Below this, there is a 'Create your first templates' section with a 'Get started' button.

<https://ap-northeast-1.console.aws.amazon.com/codesuite/settings/connections?region=ap-northeast-1>



The screenshot shows the 'Connections' settings page in the AWS Codesuite. A red box highlights the table where a connection named 'MyConnection' is listed. The table columns are 'Connection name', 'Provider', 'Status', and 'ARN'. The entry for 'MyConnection' shows 'GitHub' as the provider, 'Available' as the status, and a long ARN.

Connection name	Provider	Status	ARN
MyConnection	GitHub	Available	arn:aws:codestar-connections:ap-northeast-1:841600881451:connection/0aa37f19-84e8-48f0-87a4-95abbaef5b5f

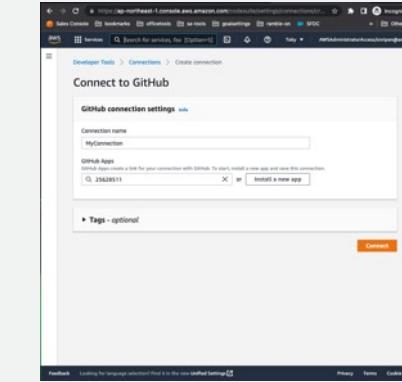
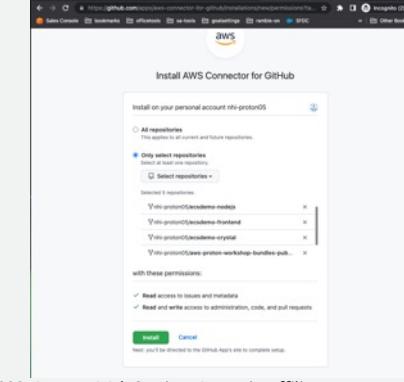
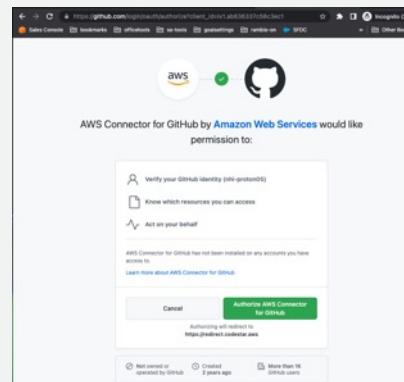
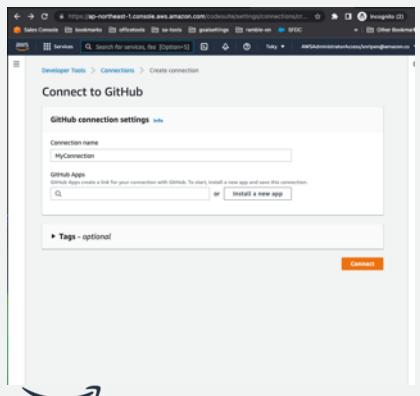
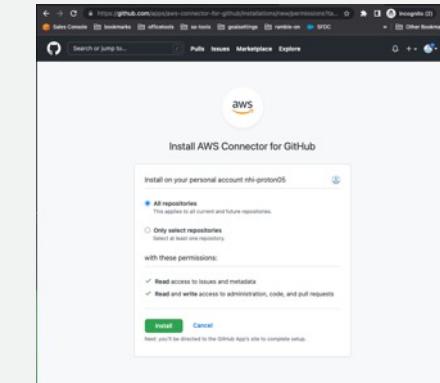
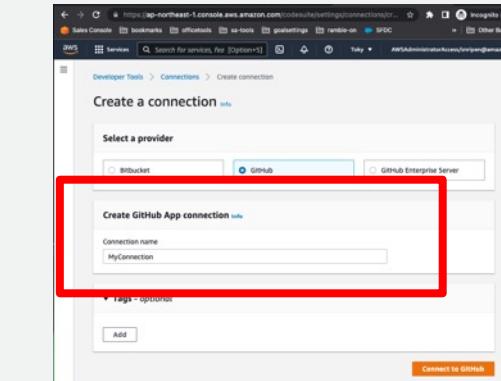
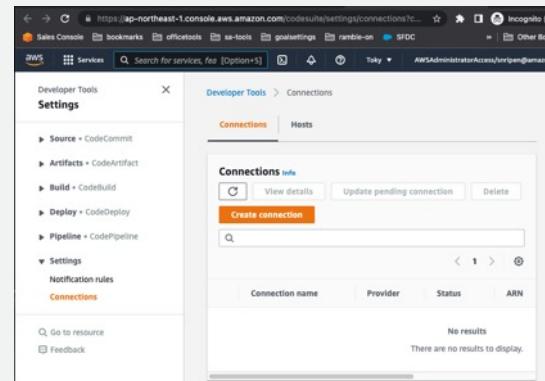
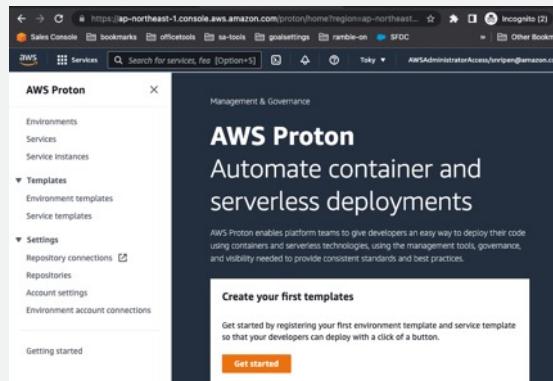


The screenshot shows the 'MyConnection' connection settings page. It displays the 'Connection settings' section with the following details: Name (MyConnection), Provider (GitHub), Status (Available), and ARN (arn:aws:codestar-connections:ap-northeast-1:841600881451:connection/0aa37f19-84e8-48f0-87a4-95abbaef5b5f).

3.1.1 Create a CodeStar connection (補足)

GitHubソースコードとの接続設定

<https://ap-northeast-1.console.aws.amazon.com/proton/home?region=ap-northeast-1#/>



3.1.2 Create Environment Template, Repository Link

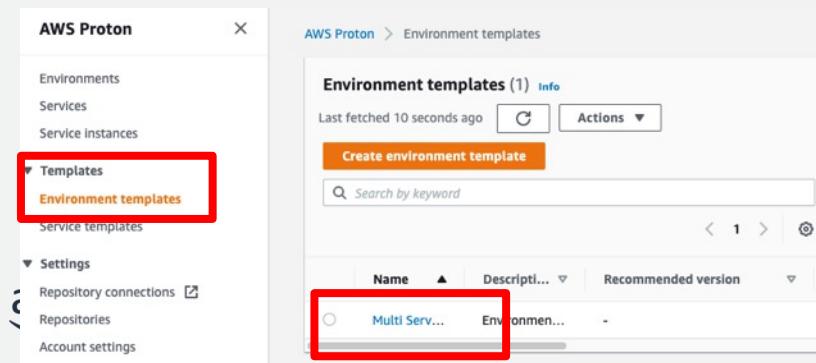
Create Environment Template

#3.1.2.1

sh commands/createEnvTemplate

```
1 aws proton create-environment-template \
2   --region ${AWS_REGION} \
3   --name "multi-svc-env" \
4   --display-name "Multi Service Environment" \
5   --description "Environment with VPC and public subnets"
```

```
AWSReservedSSO_AWSAdministratorAccess_82957608b23b12c3:~/environment $ sh commands/createEnvTemplate {
  "environmentTemplate": {
    "arn": "arn:aws:proton:ap-northeast-1:841600881451:environment-template/multi-svc-env",
    "createdAt": "2022-05-12T01:16:18.669000+00:00",
    "description": "Environment with VPC and public subnets",
    "displayName": "Multi Service Environment",
    "lastModifiedAt": "2022-05-12T01:16:18.669000+00:00",
    "name": "multi-svc-env"
  }
}
```



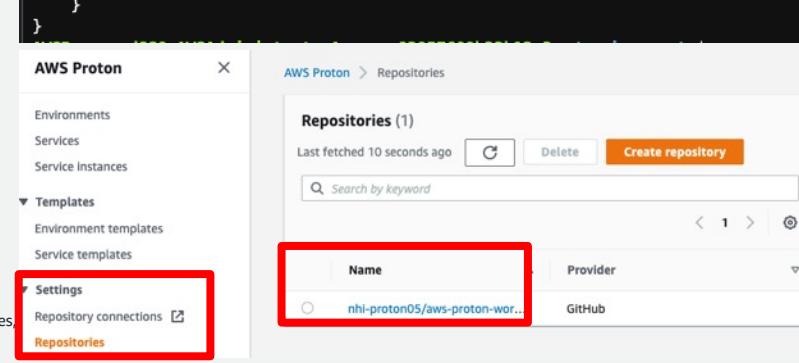
Create Proton Repository Link

#3.1.2.2

sh commands/createProtonRepositoryLink

```
1 CODESTAR_CONNECTION_ARN=$(aws codestar-connections list-connections \
2   --provider-type Github \
3   --region ${AWS_REGION} | \
4   jq -r '.Connections[] | select(.ConnectionName=="MyConnection")')
5 aws proton create-repository \
6   --region ${AWS_REGION} \
7   --connection-arm $CODESTAR_CONNECTION_ARN \
8   --name "${GITHUB_USERNAME}/aws-proton-workshop-bundles" \
9   --provider "GITHUB"
```

```
AWSReservedSSO_AWSAdministratorAccess_82957608b23b12c3:~/environment $ sh commands/createProtonRepositoryLink{
  "repository": {
    "arn": "arn:aws:proton:ap-northeast-1:841600881451:repository/github:nhi-proton05/aws-proton-workshop-bundles-public",
    "connectionArn": "arn:aws:codestar-connections:ap-northeast-1:841600881451:connection/0aa37f19-84e8-48f0-87a4-95abae5b5f",
    "name": "nhi-proton05/aws-proton-workshop-bundles-public",
    "provider": "GITHUB"
  }
}
```



3.1.2 Verify Environment skeleton code

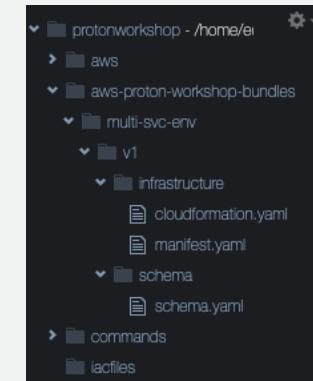
Check out Environment Template

#3.1.2.3 sh commands/checkOutEnvTempSkeletonCode

```
1 cd ~/environment
2 git clone https://github.com/${GITHUB_USERNAME}/aws-proton-workshop-bundle
3 cd aws-proton-workshop-bundles && git checkout module-1-environment
```

```
AWSReservedSSO_AWSAdministratorAccess_82957608b23b12c3:~/environment $ sh commands/checkOutEnvTempSkeletonCode
Cloning into 'aws-proton-workshop-bundles'...
remote: Enumerating objects: 15, done.
remote: Counting objects: 100% (15/15), done.
remote: Compressing objects: 100% (6/6), done.
remote: Total 15 (delta 1), reused 15 (delta 1), pack-reused 0
Receiving objects: 100% (15/15), done.
Resolving deltas: 100% (1/1), done.
Already on 'module-1-environment'
Your branch is up to date with 'origin/module-1-environment'.
```

Confirm the base directory structure
for AWS-Managed Provisioning



```
multi-svc-env/v1
  └── schema
    └── schema.yaml
  └── infrastructure
    └── manifest.yaml
    └── cloudformation.yaml
```

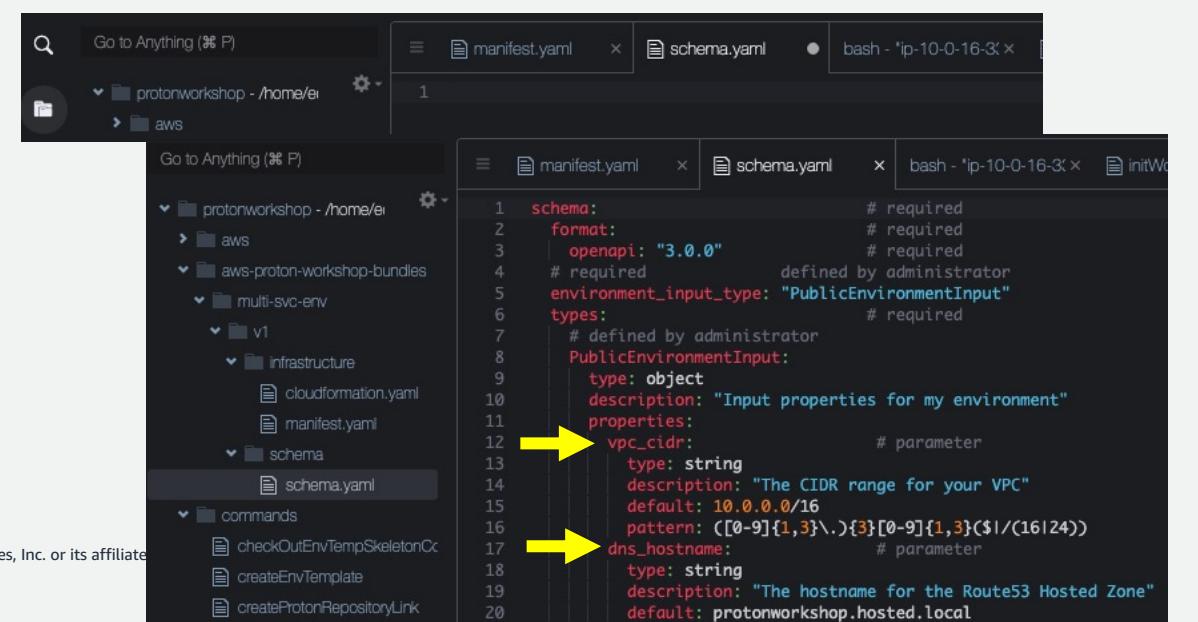
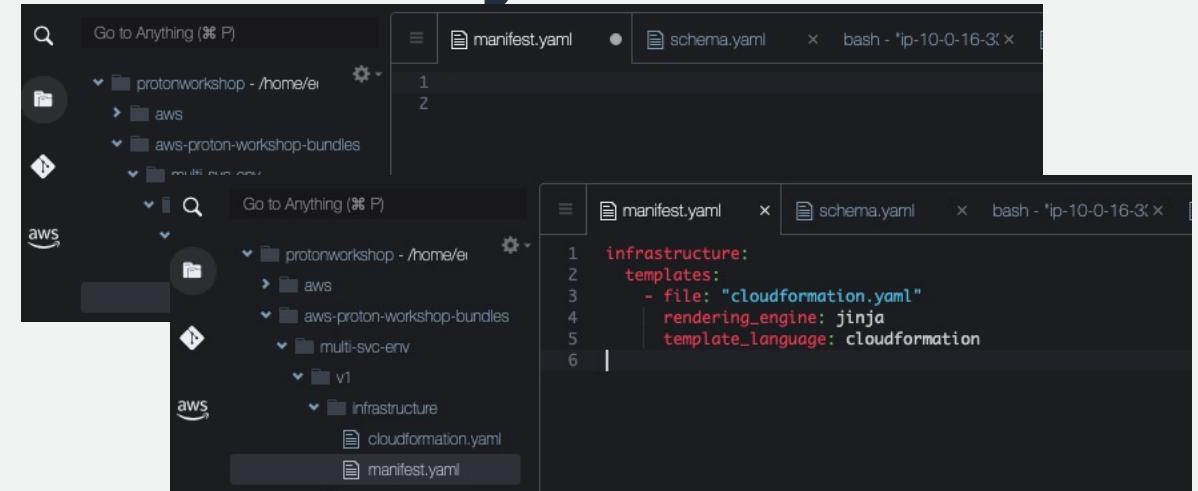
3.1.3 Define manifest.yaml and schema.yaml

Define manifest.yaml: ファイル構成情報

```
infrastructure:
  templates:
    - file: "cloudformation.yaml"
      rendering_engine: jinja
      template_language: cloudformation
```

Define schema.yaml: 入力パラメータ定義

```
schema:          # required
format:          # required
openapi: "3.0.0" # required
# required      defined by administrator
environment_input_type: "PublicEnvironmentInput"
types:           # required
# defined by administrator
PublicEnvironmentInput:
  type: object
  description: "Input properties for my environment"
  properties:
    vpc_cidr:      # parameter
    type: string
    description: "The CIDR range for your VPC"
    default: 10.0.0.0/16
    pattern: ([0-9]{1,3}.\{3}[0-9]{1,3}\$|/(16|24))
    dns_hostname: # parameter
    type: string
    description: "The hostname for the Route53 Hosted Zone"
    default: protonworkshop.hosted.local
```



3.1.4 Define environment infrastructure and commit

Code first env cloudformation.yaml

#3.1.4.1 sh commands/codeV1EnvCfn

```

1  AWSTemplateFormatVersion: '2010-09-09'
2  Transform: AWS::Serverless-2016-10-31
3  Description: Simple Lambda based HTTP service template
4
5  Mappings:
6    # The VPC and subnet configuration is passed in via the environment spec.
7  SubnetConfig:
8    VPC:
9      CIDR: '{{ environment.inputs.vpc_cidr}}'          # customization parameter
10  DNS:
11    Hostname: '{{ environment.inputs.dns_hostname}}' # customization parameter
12
13 Resources:

```

```

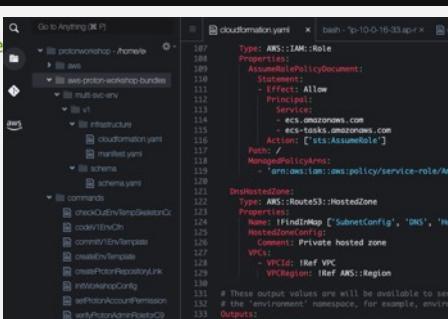
AWSReservedSSO_AWSAdministratorAccess_82957608b23b12c3:~/environment $ sh commands/codeV1EnvCfn
AWSReservedSSO_AWSAdministratorAccess_82957608b23b12c3:~/environment $ 

```

```

18  EnableDnsHostnames: true
19  CidrBlock: !FindInMap ['Subnet
20
21  PublicSubnetOne:
22    Type: AWS::EC2::Subnet
23    Properties:
24      AvailabilityZone:
25        Fn::Select:
26          - 0
aws

```



© 2022, Amazon Web Services, Inc. or its affiliates.

Commit first env template bundle

#3.1.4.2 cd ~/environment/aws-proton-workshop-bundles/ sh ~/environment/commands/commitV1EnvTemplate

```

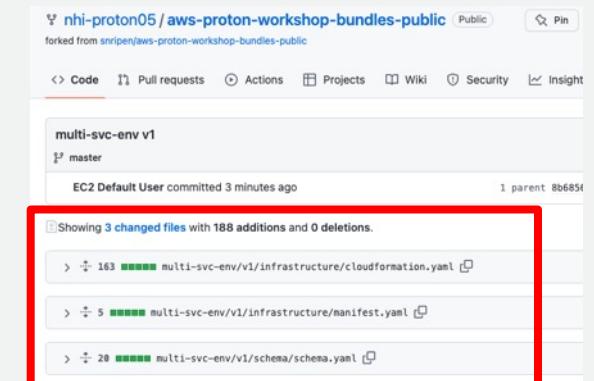
1  # Add all changes to the staging area
2  git add *
3  # Capture a snapshot of the currently staged changes
4  git commit -m "multi-svc-env v1"
5  # Navigate to the master branch
6  git checkout -b master
7  # Integrate the changes in branch module-1-environment into master
8  git merge module-1-environment
9  # Transfer commits from the local repository to the remote repository
10 git push -u origin master

```

```

3 files changed, 188 insertions(+)
Switched to a new branch 'master'.
Already up to date.
Enumerating objects: 17, done.
Counting objects: 100% (15/15), done.
Delta compression using up to 2 threads
Compressing objects: 100% (6/6), done.
Writing objects: 100% (9/9), 2.38 KiB / 270.00 KiB/s, done.
Total 9 (delta 0), reused 0 (delta 0), pack-reused 0
remote: This repository moved. Please use the new location:
remote: https://github.com/nhi-proton05/aws-proton-workshop-bundles-public.git
remote: Create a pull request for 'master' on GitHub by visiting:
remote: https://github.com/nhi-proton05/aws-proton-workshop-bundles-public/pull/new/master
remote:
To https://github.com/nhi-proton05/aws-proton-workshop-bundles.git
 * [new branch]  master -> master
Branch 'master' set up to track remote branch 'master' from 'origin'.

```



multi-svc-env v1
master
EC2 Default User committed 3 minutes ago
1 parent 8b685e
Showing 3 changed files with 188 additions and 0 deletions.
> 163 multi-svc-env/v1/infrastructure/cloudformation.yaml
> 5 multi-svc-env/v1/infrastructure/manifest.yaml
> 28 multi-svc-env/v1/schema/schema.yaml

3.1.5 Publish environment template

Sync Proton Template with repository

#3.1.5.1

sh commands/syncEnvRepository2Proton

```

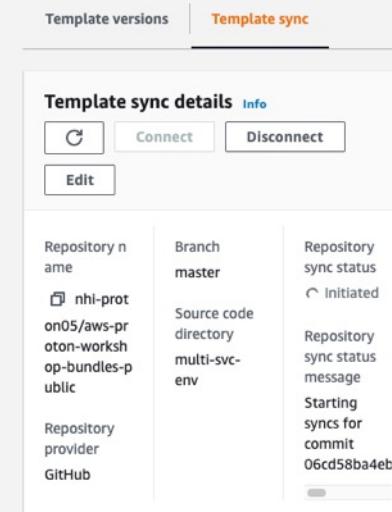
1 REPOSITORY_ARN=$(aws proton list-repositories | \
2     jq -r '.repositories[] | select(.name | endswith("aws-proton-workshop-")')
3 REPOSITORY_NAME=$(echo $REPOSITORY_ARN | cut -d':' -f7);
4 REPOSITORY_PROVIDER=$(echo $REPOSITORY_ARN | cut -d':' -f6 | tr a-z A-Z);
5 aws proton create-template-sync-config \
6     --region ${AWS_REGION} \
7     --repository-name $REPOSITORY_NAME \
8     --repository-provider ${REPOSITORY_PROVIDER#"REPOSITORY/"} \
9     --branch master \
10    --subdirectory "multi-svc-env" \
11    --template-name "multi-svc-env" \
12    --template-type "ENVIRONMENT"

```

```

AWSReservedSSO_AWSAdministratorAccess_82957608b23b12c3:~/environment
{
  "templateSyncConfig": {
    "branch": "master",
    "repositoryName": "nhi-proton05/aws-proton-workshop-bur",
    "repositoryProvider": "GITHUB",
    "subdirectory": "multi-svc-env",
    "templateName": "multi-svc-env",
    "templateType": "ENVIRONMENT"
  }
}

```



Publish first version of env template

#3.1.5.2

sh commands/publishV1EnvTemplate

```

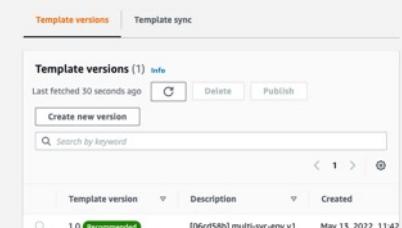
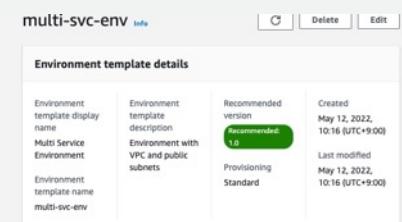
1 aws proton update-environment-template-version \
2     --region ${AWS_REGION} \
3     --template-name "multi-svc-env" \
4     --major-version "1" \
5     --minor-version "0" \
6     --status "PUBLISHED"

```

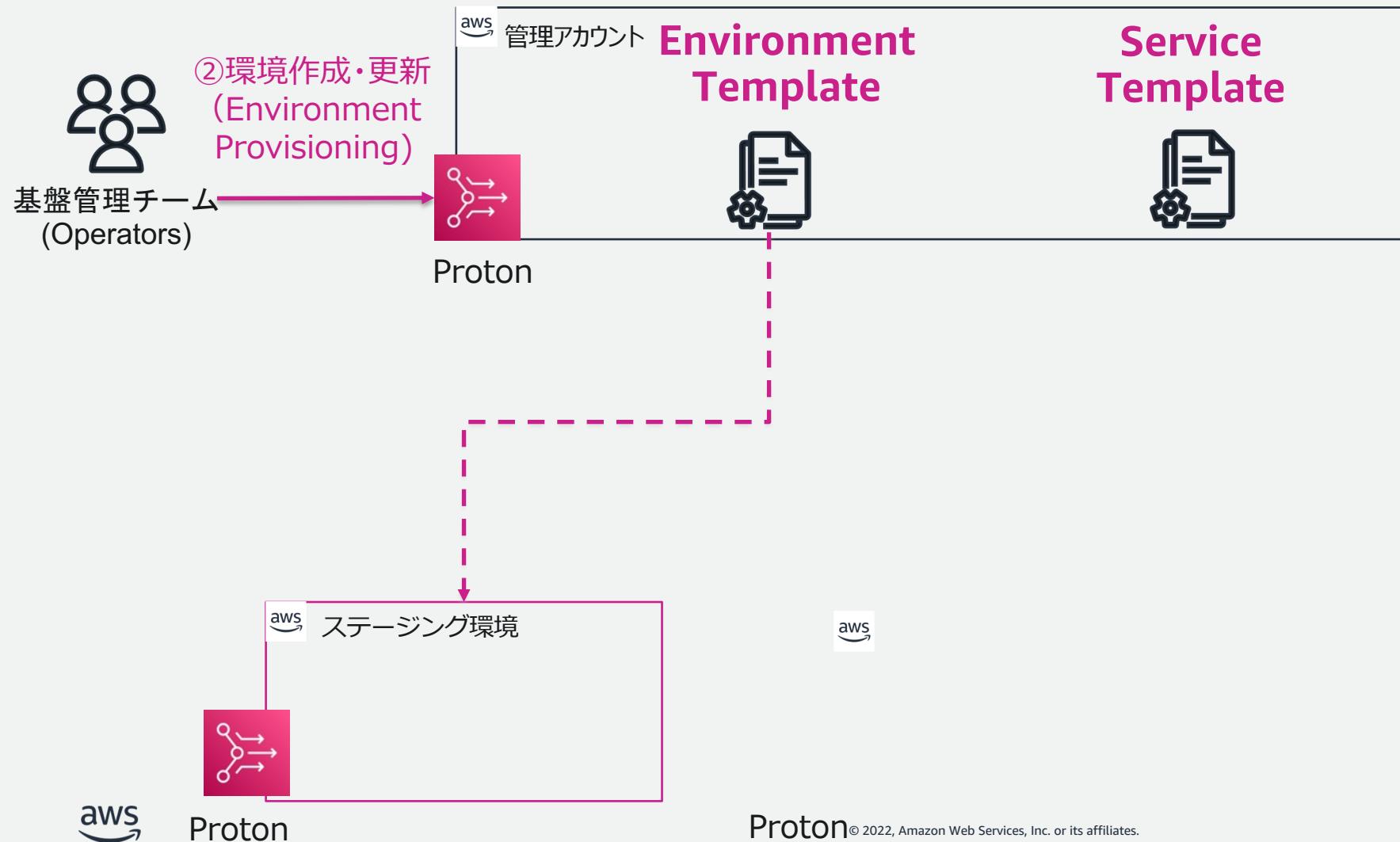
```

AWSReservedSSO_AWSAdministratorAccess_82957608b23b12c3:~/environment $ sh commands/publishV1EnvTemplate
{
  "environmentTemplateVersion": {
    "arn": "arn:aws:proton:ap-northeast-1:84160000145i:environment-template/multi-svc-env:1.0",
    "createdAt": "2022-05-13T02:42:30.486000+00:00",
    "description": "[06cd58b] multi-svc-env v1",
    "lastModifiedAt": "2022-05-13T02:47:09.330000+00:00",
    "majorVersion": "1",
    "minorVersion": "0",
    "recommendedVersion": "0",
    "schema": "schema_v1"
  }
}

```



作業のイメージ



3.1.6 Create the environment

Specify input for env creation (schema.yaml)

```
#3.1.6.1
SPEC=$(cat <<-EOF
proton: EnvironmentSpec
spec:
  vpc_cidr: 10.0.0.0/16
  dns_hostname: protonworkshop.beta.local
EOF
);
echo $SPEC
```

```
AWSReservedSSO_AWSAdministratorAccess_82957608b23b12c3:~/environment $ SPEC=$(cat <<-EOF
proton: EnvironmentSpec
spec:
  vpc_cidr: 10.0.0.0/16
  dns_hostname: protonworkshop.beta.local
EOF
);AWSReservedSSO_AWSAdministratorAccess_82957608b23b12c3:~/environment $ echo $SPEC
proton: EnvironmentSpec spec: vpc_cidr: 10.0.0.0/16 dns_hostname: protonworkshop.beta.local
AWSReservedSSO_AWSAdministratorAccess_82957608b23b12c3:~/environment $
```

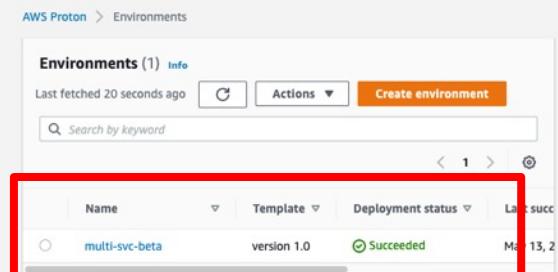


Create Environment Major Version V1

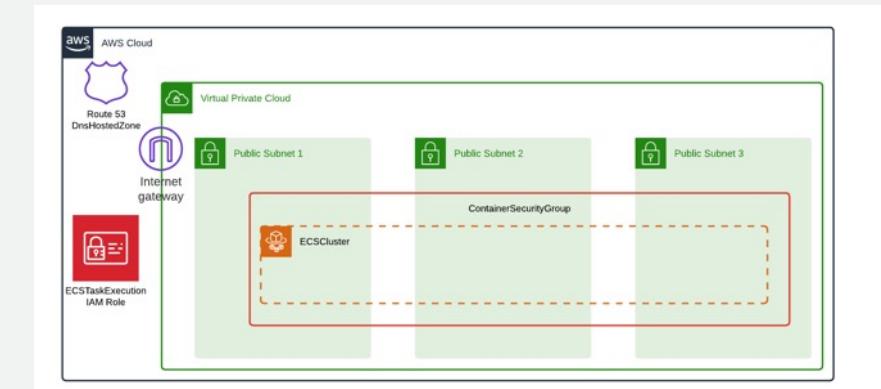
#3.1.6.2

```
aws proton create-environment \
--region ${AWS_REGION} \
--name "multi-svc-beta" \
--template-name "multi-svc-env" \
--template-major-version 1 \
--proton-service-role-arn
arn:aws:iam::${AWS_ACCOUNT_ID}:role/ProtonServiceRole \
--spec "$SPEC"
```

```
AWSReservedSSO_AWSAdministratorAccess_82957608b23b12c3:~/environment $ aws proton create-environment \
--region ${AWS_REGION} \
--name "multi-svc-beta" \
--template-name "multi-svc-env" \
--template-major-version 1 \
--proton-service-role-arn arn:aws:iam::${AWS_ACCOUNT_ID}:role/ProtonServiceRole \
--spec "$SPEC"
{
  "environment": {
    "arn": "arn:aws:proton:ap-northeast-1:841600881451:environment/multi-svc-beta"
  },
  "createdAt": "2022-05-13T04:00:09.480000+00:00",
  "deploymentStatus": "IN_PROGRESS",
  "lastDeploymentAttemptedAt": "2022-05-13T04:00:09.480000+00:00",
  "name": "multi-svc-beta",
  "protonServiceRoleArn": "arn:aws:iam::841600881451:role/ProtonServiceRole",
  "templateName": "multi-svc-env"
}
```



Check Cloudformation



Part3.2 : Create Services

3.2.1 Create Service Template, skeleton codeの確認

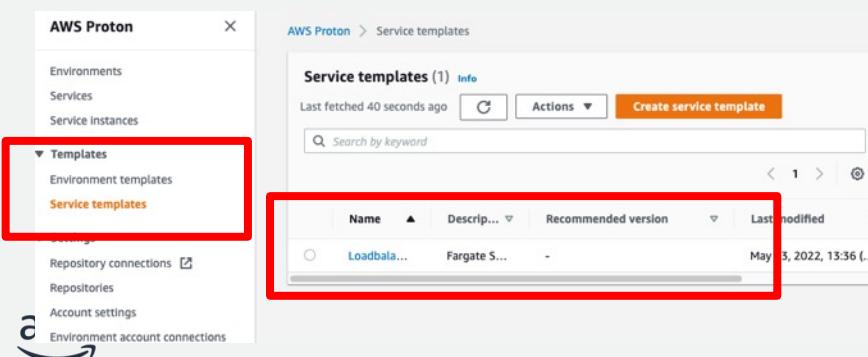
Create Service Template

#3.2.1.1

sh commands/createServiceTemplate

```
1 aws proton create-service-template \
2   --region ${AWS_REGION} \
3   --name "lb-fargate-service" \
4   --display-name "LoadbalancedFargateService" \
5   --description "Fargate Service with an Application Load Balancer"
```

```
AWSReservedSSO_AWSAdministratorAccess_82957608b23b12c3:~/environment $ sh commands/createServiceTemplate
{
  "serviceTemplate": {
    "arn": "arn:aws:proton:ap-northeast-1:841600881451:service-template/lb-fargate-service",
    "createdAt": "2022-05-13T04:36:58.861000+00:00",
    "description": "Fargate Service with an Application Load Balancer",
    "displayName": "LoadbalancedFargateService",
    "lastModifiedAt": "2022-05-13T04:36:58.861000+00:00",
    "name": "lb-fargate-service"
  }
}
```



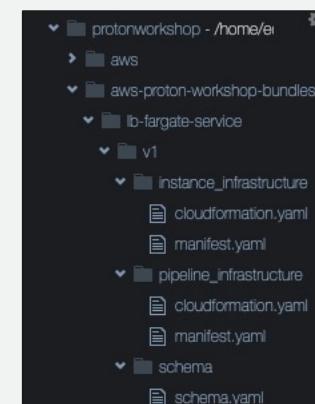
Check out Service Template Skeleton Code

#3.2.1.2

sh commands/checkOutServiceTempSkeletonCode

```
1 git checkout module-1-service
```

```
AWSReservedSSO_AWSAdministratorAccess_82957608b23b12c3:~/environment $ sh commands/checkOutServiceTempSkeletonCode
Branch 'module-1-service' set up to track remote branch 'module-1-service' from 'origin'.
Switched to a new branch 'module-1-service'
```



```
lb-fargate-service/v1
├── schema
│   ├── schema.yaml
├── instance_infrastructure
│   ├── cloudformation.yaml
│   └── manifest.yaml
├── pipeline_infrastructure
│   ├── cloudformation.yaml
│   └── manifest.yaml
└── schema
    └── schema.yaml
```

3.2.2 Define the service schema

Code and Explore Service Schema

#3.2.2.1

sh commands/codeV1ServiceSchema

- Open API schema model (line3)
- service_input_type (line 4)
- pipeline_input_type (line 5)
- Types to conform with Open API schema model (line7, 45)

```

1  schema:
2    format:
3      openapi: "3.0.0"
4    service_input_type: "LoadBalancedServiceInput"
5    pipeline_input_type: "PipelineInputs"
6
7  types:
8    LoadBalancedServiceInput:
9      type: object
10     description: "Input properties for a loadbalanced Fargate service"
11     properties:
12       port: []
13       desired_count: []
14       task_size: []
15     scope:
16       type: string
17       description: "If the service will be public or private"
18       enum: ["public", "private"]
19       default: "private"
20     image:
21       type: string
22       description: "The name/url of the container image"
23       default: "public.ecr.aws/z9d2n7e1/nginx:1.19.5"
24       minLength: 1
25       maxLength: 200
26     env_vars:
27       type: string
28       description: "The Docker environment variables to use"
29       default: "ENV_NAME_1=ENV_VALUE_1;ENV_NAME_2=ENV_VALUE_2"
30       minLength: 1
31       maxLength: 200
32   PipelineInputs:
33     type: object
34     description: "Pipeline input properties"
35     properties:
36       dockerfile:
37         type: string
38         description: "The location of the Dockerfile to build"
39         default: "Dockerfile"
40         minLength: 1
41         maxLength: 100
42       unit_test_command:
43         type: string
44         description: "The command to run to unit test the application code"
45         default: "echo 'add your unit test command here!''"
46         minLength: 1
47         maxLength: 200
48
49
50
51
52
53
54
55
56
57
58
59
60
61

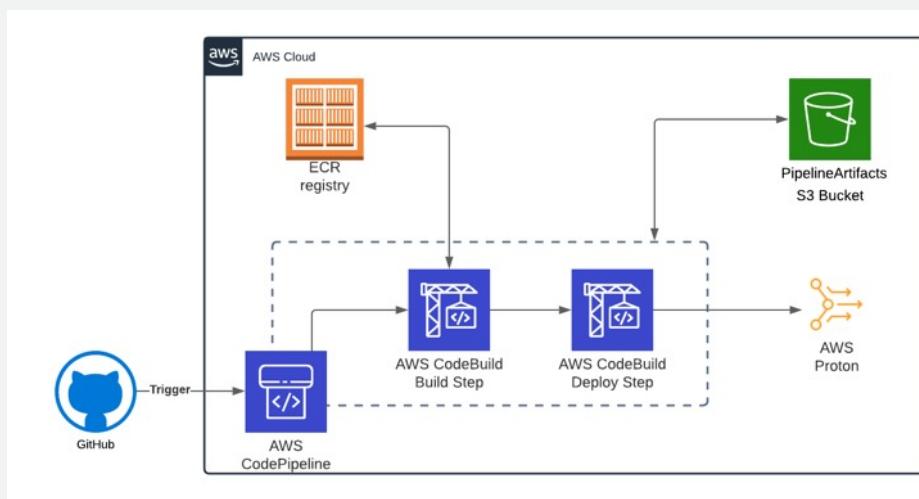
```

3.2.3 Define the service pipeline infrastructure

Code and Explore service pipeline

#3.2.3

sh commands/codeV1ServicePipeline



1. Source step -> CodeStar Connection (Line 546)

2. Input dockerfile (line 51)

3. `aws pipeline_input_type` (line 62)

```

1  Resources:
2    ECRepo:
3      Type: AWS::ECR::Repository
4      Properties:
5        DeletionPolicy: Retain
6      BuildProject:
7        Type: AWS::CodeBuild::Project
8        Properties:
9          Artifacts:
10            Type: CODEPIPELINE
11          Environment:
12            ServiceRole:
13          Source:
14            BuildSpec:
15              Fn::Join:
16                ""
17                - >
18                {
19                  "version": "0.2",
20                  "phases": {
21                    "install": {
22                      "runtime-versions": {
23                        "docker": 18
24                      },
25                      "commands": [
26                        "pip install --upgrade --user awscli",
27                        "echo f6bd156c743b170b3c94eddc7c4479763356bd543af5d391122f4af852460 > yq_linux_amd64",
28                        "wget https://github.com/mikefarah/yq/releases/download/3.4.0/yq_linux_amd64",
29                        "shasum -c yq_linux_amd64.sha",
30                        "mv yq_linux_amd64 /usr/bin/yq",
31                        "chmod +x /usr/bin/yq"
32                      ]
33                    },
34                    "pre_build": {
35                      "commands": [
36                        "cd $CODEBUILD_SRC_DIR",
37                        "$aws ecr get-login --no-include-email --region $AWS_DEFAULT_REGION",
38                        "${{ pipeline.inputs.unit_test_command }}",
39                      ]
40                    },
41                    "build": {
42                      "commands": [
43                        "IMAGE_REPO_NAME=$repo_name",
44                        "IMAGE_TAG=$CODEBUILD_BUILD_NUMBER",
45                        "IMAGE_ID=
46                      - Ref: AWS::AccountId
47                      - > .dkr.ecr.$AWS_DEFAULT_REGION.amazonaws.com/$IMAGE_REPO_NAME:$IMAGE_TAG",
48                        "docker build -t $IMAGE_REPO_NAME:$IMAGE_TAG -f {{ pipeline.inputs.dockerfile }} .",
49                        "docker tag $IMAGE_REPO_NAME:$IMAGE_TAG $IMAGE_ID",
50                        "docker push $IMAGE_ID"
51                      ],
52                      "post_build": {
53                        "commands": [
54                          "aws proton --endpoint-url https://proton.$AWS_DEFAULT_REGION.amazonaws.com --region
55                          "yq w service.yaml 'instances[*].spec.image' '$IMAGE_ID' > rendered_service.yaml",
56                          "cat rendered_service.yaml"
57                        ]
58                      }
59                    }
60                  }
61                }
62                "aws pipeline_input_type": {
63                  "Fn::GetAtt:
64                    - PipelineBuildCodePipelineActionRole
65                    - Arn
66                  RunOrder: 1
67                  Name: Build [%- for service_instance in service_instances %]
68                }
69                - Actions:
70                  - ActionTypeId:
71                    Category: Build
72                    Owner: AWS
73                    Provider: CodeBuild
74                    Version: "1"
75                  Configuration:
76                    ProjectName:
77                      Ref: BuildProject
78                    InputArtifacts:
79                      - Name: Artifact_Source_Checkout
80                    Name: Build
81                    OutputArtifacts:
82                      - Name: BuildOutput
83                    RoleArn:
84                      Fn::GetAtt:
85                        - PipelineDeployCodePipelineActionRole
86                        - Arn
87                    RunOrder: 1
88                    Name: Deploy [%- for service_instance in service_instances %]
89                  - Actions:
90                    - ActionTypeId:
91                      Category: Build
92                      Owner: AWS
93                      Provider: CodeBuild
94                      Version: "1"
95                    Configuration:
96                      ProjectName:
97                        Ref: Deploy{{loop.index}}Project
98                      InputArtifacts:
99                        - Name: BuildOutput
100                      Name: Deploy
101                      RoleArn:
102                        Fn::GetAtt:
103                          - PipelineDeployCodePipelineActionRole
104                          - Arn
105                      RunOrder: 1
106                      Name: 'Deploy{{service_instance.name}}'
107                      Outputs:
108                        PipelineEndpoint:
109                          Description: The URL to access the pipeline
110                          Value: !Sub "https://${AWS::Region}.console.aws.amazon.com/codesuite/codep
111

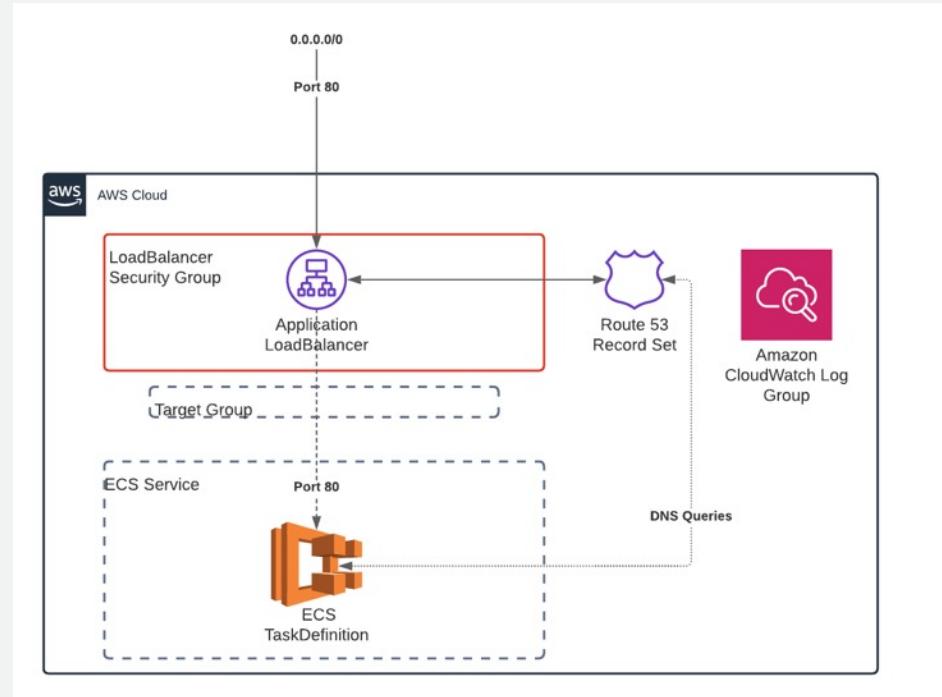
```

3.2.4 Define the service instance infrastructure

Code and Explore service instance Cfn

#3.2.4.1

sh commands/codeV1ServiceInstanceInfra



```

1 AWSTemplateFormatVersion: '2010-09-09'
2 Description: Deploy a service on AWS Fargate, hosted in a public subnet, and accessible via a load balancer.
3 Mappings:
4   TaskSize: !Ref TaskSize
5 Resources:
6   # A log group for storing the stdout logs from this service's containers
7   LogGroup: !Ref LogGroup
8
9   # The task definition. This is a simple metadata description of what
10  # container to run, and what resource requirements it has.
11  TaskDefinition:
12    Type: AWS::ECS::TaskDefinition
13    Properties:
14
15      # The service_instance.inputs. The service is a resource which allows you to run multiple
16      # copies of a type of task, and gather up their logs and metrics, as well
17      # as monitor the number of running tasks and replace any that have crashed
18      Service:
19        Type: AWS::ECS::Service
20        DependsOn: LoadBalancerRule
21        Properties:
22
23          # A target group. This is used for keeping track of all the tasks, and
24          # what IP addresses / port numbers they have. You can query it yourself,
25          # to use the addresses yourself, but most often this target group is just
26          # connected to an application load balancer, or network load balancer, so
27          # it can automatically distribute traffic across all the targets.
28          TargetGroup:
29            Type: AWS::ElasticLoadBalancingV2::TargetGroup
30            Properties:
31
32            # Create a rule on the load balancer for routing traffic to the target group
33            LoadBalancerRule:
34              Type: AWS::ElasticLoadBalancingV2::ListenerRule
35              Properties:
36
37              # The security group for the target group
38              EcsSecurityGroupIngressFromALB: !Ref EcsSecurityGroupIngressFromALB
39
40              # Load balancer, hosted in public subnets that is accessible
41              # to the public or internally depending on the scope. It is
42              # intended to route traffic to one or more public/private
43              # facing services.
44              LoadBalancerSG: !Ref LoadBalancerSG
45
46              # If 'public' == service_instance.inputs.scope
47              # set scheme = 'internet-facing'
48              # set port = '80'
49              # else
50              # set scheme = 'internal'
51              # set port = service_instance.inputs.port
52              # endif
53              LoadBalancer: !Ref LoadBalancer
54
55              LoadBalancerListener:
56
57                RecordSet:
58                  Type: AWS::Route53::RecordSet
59                  DependsOn:
60                    - LoadBalancer
61                  Properties:
62
63
64 Outputs:
65   ServiceEndpoint:
66     Description: The URL to access the service
67     Value: !Sub "http://${LoadBalancer.DNSName}"

```

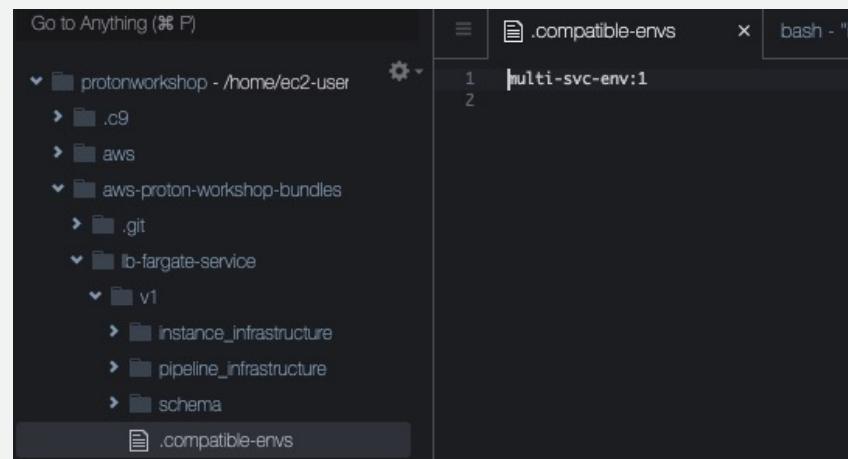
3.2.4 Define the service instance infrastructure

Set/update compatible environments

#3.2.4.2

sh commands/setServiceCompatibleEnv

```
echo "multi-svc-env:1" > lb-fargate-service/v1/.compatible-envs
```



Hidden fileのためにCloud9表示設定修正

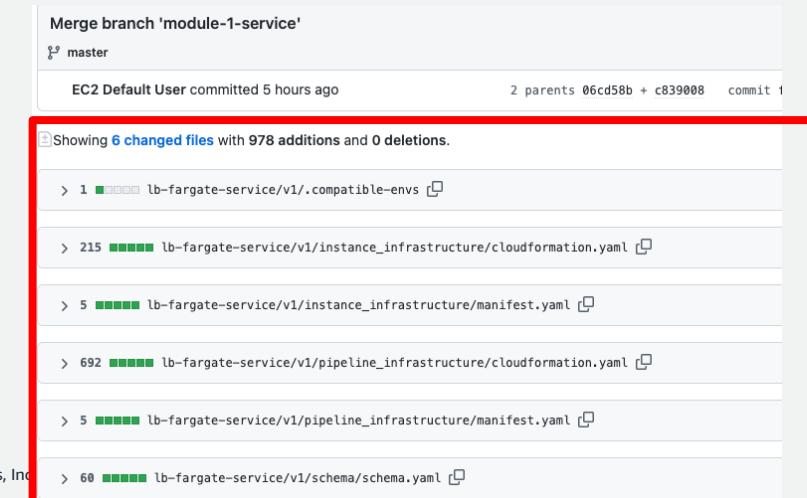


Commit/Merge service updates to GitHub

#3.2.4.3

sh commands/commitV1ServiceTemplate

```
# Add all changes to the staging area
git add *
# Capture a snapshot of the currently staged changes
git commit -m "lb-fargate-service v1"
# Navigate to the master branch
git checkout master
# Integrate the changes in branch module-1-service into master
git merge module-1-service --allow-unrelated-histories
# Transfer commits from the local repository to the remote repository
git push -u origin master
```



3.2.5 Publish the service template

Sync Proton Service Template with repository

#3.2.5.1

sh commands/syncServiceRepository2Proton

```

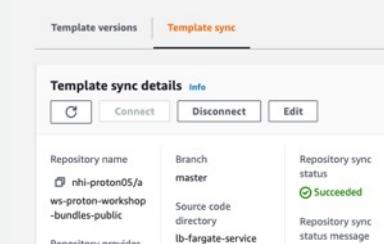
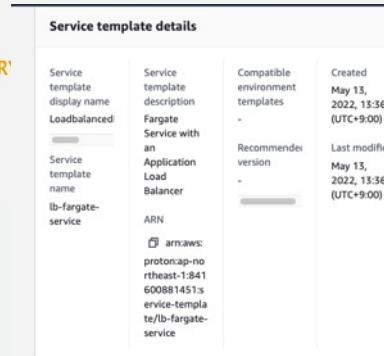
1  REPOSITORY_ARN=$(aws proton list-repositories | \
2      jq -r '.repositories[] | select(.name | endswith("aws-proton-workshop-bundles-public"))')
3  REPOSITORY_NAME=$(echo $REPOSITORY_ARN | cut -d':' -f7);
4  REPOSITORY_PROVIDER=$(echo $REPOSITORY_ARN | cut -d':' -f6 | tr a-z A-Z);
5  aws proton create-template-sync-config \
6      --region ${AWS_REGION} \
7      --repository-name $REPOSITORY_NAME \
8      --repository-provider ${REPOSITORY_PROVIDER}"REPOSITORY_PROVIDER"
9  --branch master \
10 --subdirectory "lb-fargate-service" \
11 --template-name "lb-fargate-service" \
12 --template-type "SERVICE"

```

```

AWSReservedSSO_AWSAdministratorAccess_82957608b23b12c3:~/environment $ sh commands/syncServiceRepository2Proton
{
  "templateSyncConfig": {
    "branch": "master",
    "repositoryName": "nhi-proton05/aws-proton-workshop-bundles-public",
    "repositoryProvider": "GITHUB",
    "subdirectory": "lb-fargate-service",
    "templateName": "lb-fargate-service",
    "templateType": "SERVICE"
  }
}
AWSReservedSSO_AWSAdministratorAccess_82957608b23b12c3:~/environment $

```



Publish service template

#3.2.5.2

sh commands/publishV1ServiceTemplate

```

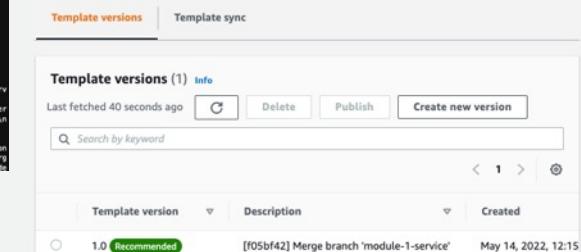
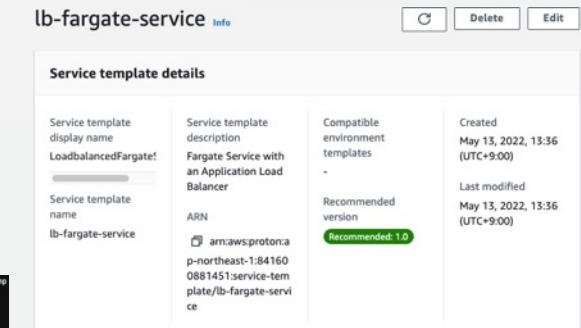
1  aws proton update-service-template-version \
2      --region ${AWS_REGION} \
3      --template-name "lb-fargate-service" \
4      --major-version "1" \
5      --minor-version "0" \
6      --status "PUBLISHED"

```

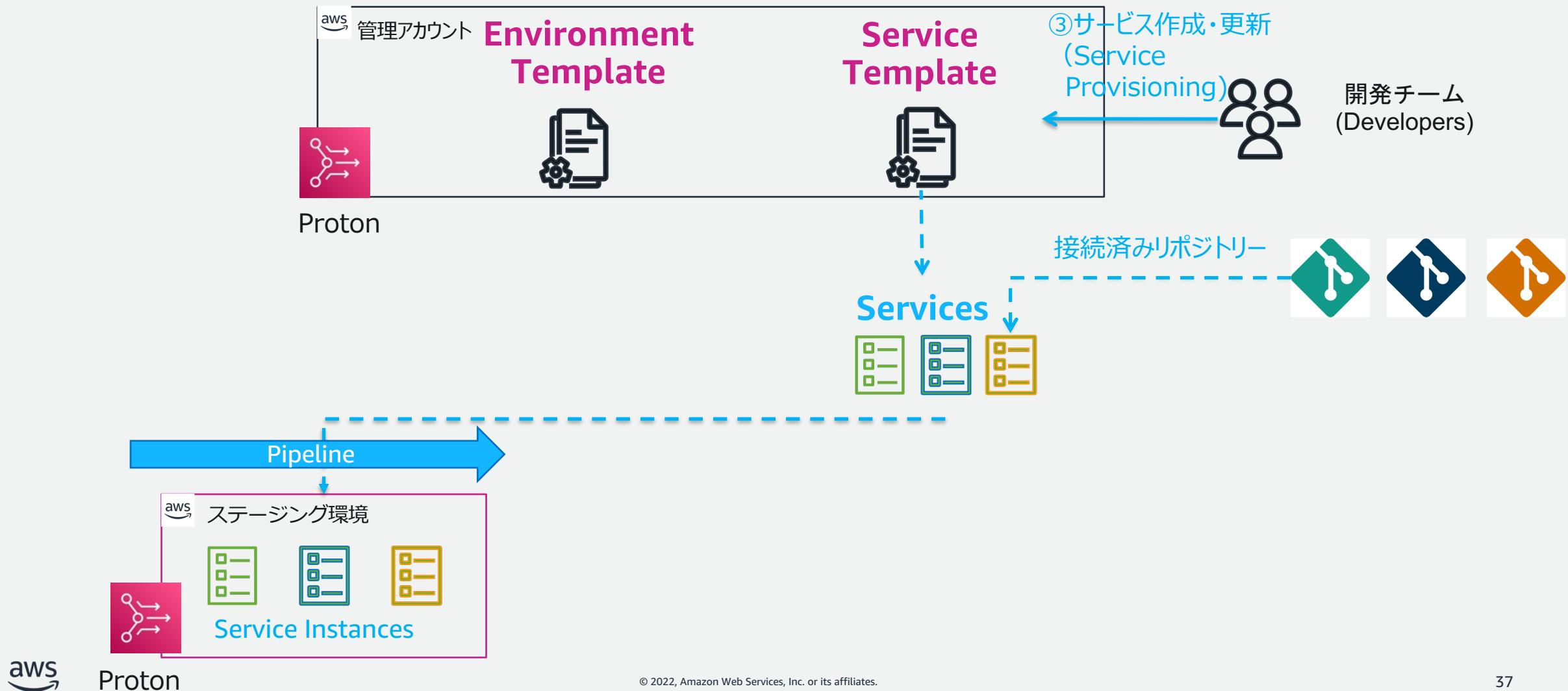
```

AWSReservedSSO_AWSAdministratorAccess_82957608b23b12c3:~/environment $ sh commands/publishV1ServiceTemplate
{
  "serviceTemplateVersion": {
    "arn": "arn:aws:proton:ap-northeast-1:841600001451:service-template/lb-fargate-service:1.0",
    "compatibleEnvironmentTemplates": [
      "multi-svc-env"
    ],
    "majorVersion": "1",
    "templateName": "lb-fargate-service"
  },
  "createdAt": "2022-05-15T03:15:46.092000+00:00",
  "description": "f05bf42 Merge branch 'module-1-service'",
  "lastModifiedAt": "2022-05-14T08:29:12.833000+00:00",
  "recommendedMinorVersion": "0",
  "templateSync": {
    "input": {
      "description": "Input properties for a Loadbalanced Fargate service",
      "properties": [
        {
          "name": "port",
          "type": "number"
        },
        {
          "name": "taskSize",
          "type": "number"
        }
      ],
      "type": "object"
    }
  }
}

```



作業のイメージ



3.2.6.1 Create the services

Environmentと同様、ServicesSpecを活用

Helper Script利用

```

1 aws proton create-service \
2   --region ${AWS_REGION} \
3   --name "frontend-beta" \
4   --template-major-version 1 \
5   --template-name lb-fargate-service \
6   --spec "proton: ServiceSpec
7     instances:
8       - name: 'frontend-beta'
9         environment: 'multi-svc-beta'
10        spec:
11          port: 3000
12          desired_count: 3
13          task_size: medium
14          scope: public
15          image: public.ecr.aws/z9d2n7e1/nginx:1.19.5
16          env_vars: >
17            CRYSTAL_URL=http://crystal.protonworkshop.hosted.local:3000/crystal;
18            NODEJS_URL=http://nodejs.protonworkshop.hosted.local:3000" \
19   --repository-connection-arn "<your_repository_connection_arn>" \
20   --repository-id "<your_github_username>/ecsdemo-frontend" \
21   --branch-name main

```

```

AWSReservedSSO_AWSAdministratorAccess_82957608b23b12c3:~/environment $ sh -c "~/environment/helper-script/proton-workshop-helper cr
rvice_name frontend"

Enter your service instance name:
frontend-beta

Please select your template from the following options:
1) lb-fargate-service | 1.0

Pick a template: 1

Please select your environment from the following options:
1) multi-svc-env | multi-svc-beta

Pick an environment: 1

Creating service instance frontend-beta on environment multi-svc-beta

Please complete the following properties for your service instance:
Enter a value for port [80]: 3000
Enter a value for desired_count [1]: 3
Enter a value for task_size [x-small]: medium
Enter a value for scope [private]: public
Enter a value for image [public.ecr.aws/z9d2n7e1/nginx:1.19.5]:
Enter a value for env_vars [ENV_NAME_1=ENV_VALUE_1;ENV_NAME_2=ENV_VALUE_2]: CRYSTAL_URL=http://crystal.protonworkshop.beta.local:3000;NODEJS_URL=http://nodejs.protonworkshop.beta.local:3000
Generated spec is:
proton: ServiceSpec
instances:
  - name: "frontend-beta"
    environment: "multi-svc-beta"
    spec:
      port: 3000
      desired_count: 3
      task_size: medium
      scope: public
      image: public.ecr.aws/z9d2n7e1/nginx:1.19.5
      env_vars: CRYSTAL_URL=http://crystal.protonworkshop.beta.local:3000;NODEJS_URL=http://nodejs.protonworkshop.beta.local:3000
Do you want to continue? [Y/N] Y
{
  "service": {
    "arn": "arn:aws:proton:ap-northeast-1:841600881451:service/frontend",
    "branchName": "main",
    "createdAt": "2022-05-14T05:04:40.401000+00:00",
    "lastModifiedAt": "2022-05-14T05:04:40.401000+00:00",
    "name": "frontend",
    "repositoryConnectionArn": "arn:aws:codestar-connections:ap-northeast-1:841600881451:connection/0aa37f19-84e8-48f0-87a4-95a
",
    "repositoryId": "nhi-proton05/ecsdemo-frontend",
    "status": "CREATE_IN_PROGRESS",
    "templateName": "lb-fargate-service"
  }
}

```

3.2.6.2 Create the services

#3.2.6.1

```
sh -c "~/environment/helper-script/proton-workshop-helper create --service_name frontend"
```

Input	Value
Service Instance Name	frontend-beta
Template Name	lb-fargate-service
Environment Name	multi-svc-beta
Port	3000
Desired Count	3
Task Size	medium
Scope	public
Image	
Environment Variables	CRYSTAL_URL=http://crystal.protonworkshop.beta.local:3000/crystal NODEJS_URL=http://nodejs.protonworkshop.beta.local:3000
aws	

#3.2.6.2

```
sh -c "~/environment/helper-script/proton-workshop-helper create --service_name crystal"
```

Input	Value
Service Instance Name	crystal-beta
Template Name	lb-fargate-service
Environment Name	multi-svc-beta
Port	3000
Desired Count	3
Task Size	medium
Scope	private
Image	
Environment Variables	

#3.2.6.3

```
sh -c "~/environment/helper-script/proton-workshop-helper create --service_name nodejs"
```

Input	Value
Service Instance Name	nodejs-beta
Template Name	lb-fargate-service
Environment Name	multi-svc-beta
Port	3000
Desired Count	3
Task Size	medium
Scope	private
Image	
Environment Variables	

3.2.6.3 Create the services

Confirm services/service instances

AWS Proton Services

Services (3) Info

Search by keyword

Name	Status	Service template
nodejs	Create in pro...	LoadbalancedFargateService v.1.0
crystal	Create in pro...	LoadbalancedFargateService v.1.0
frontend	Active	LoadbalancedFargateService v.1.0

AWS Proton Service instances

Service instances (3) Info

Search by keyword

Name	Service na...	Template name	Template version	Deployment stat...	Last
nodejs-beta	nodejs	lb-fargate-service	-	In progress	May
crystal-beta	crystal	lb-fargate-service	-	In progress	May
frontend-...	frontend	lb-fargate-service	1.0 (Recommended)	Succeeded	May

AWS Proton Service instances

Service instance name: frontend-beta

Environment: multi-svc-beta

Deployment status: Succeeded

Created: May 14, 2022, 14:04 (UTC+9:00)

Deployment status message: Last successful deployment May 14, 2022, 14:17 (UTC+9:00)

ARN: arn:aws:proton:ap-northeast-1:841600881451:service/frontend-service-instance/foreground-beta

Template: lb-fargate-service

Template version: 1.0 (Recommended)

Outputs (1)

Key	Value
ServiceEndpoint	http://AWSPr-LoadB-1N1WGAKBSWBH-1626134937.ap-northeast-1.elb.amazonaws.com

Confirm CodePipeline staus

<https://ap-northeast-1.console.aws.amazon.com/codesuite/codepipeline/pipelines>

Developer Tools > CodePipeline > Pipelines

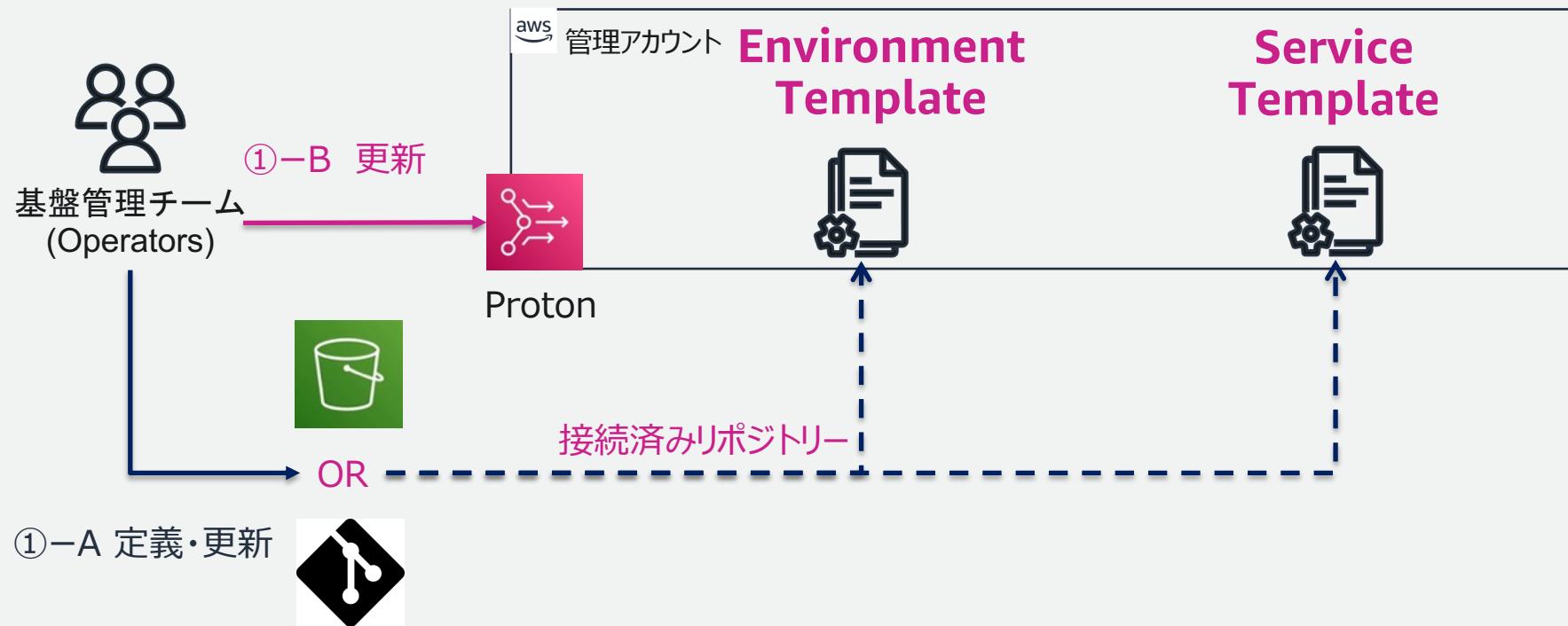
Pipelines

Name	Most recent execution	Latest source revisions	Last executed
AWSProton-nodejs-cloudformati...	Succeeded	Checkout - fba34b90 Merge pull request #4 from tsahiduek/add-helm-deploy	Just now
AWSProton-crystal-cloudformati...	Succeeded	Checkout - b6db623d Merge pull request #4 from tsahiduek/add-helm-deploy	2 minutes ago
AWSProton-frontend-cloudformati...	Succeeded	Checkout - e3559e49 Merge pull request #4 from tsahiduek/add-helm-deploy	11 minutes ago



Part3.3 : Minor version update

作業のイメージ



3.3.1 Update templates

Patch the `cloudformation.yaml` files:
(environment and services)

```
# ECS Resources
ECSCluster:
  Type: AWS::ECS::Cluster
  Properties:
    CapacityProviders:
      - FARGATE_SPOT
    DefaultCapacityProviderStrategy:
      - CapacityProvider: FARGATE_SPOT
      Weight: 1
```

```
Type: AWS::ECS::Service
DependsOn: LoadBalancerRule
Properties:
  ServiceName: '{{service.name}}_{{service_instance.name}}_spot
  Cluster: '{{environment.outputs.ClusterName}}'
  CapacityProviderStrategy:
    - CapacityProvider: FARGATE_SPOT
    Weight: 1
```

#3.3.1.1

```
cd ~/environment/aws-proton-workshop-bundles/
sh ~/environment/commands/patchEnvCfnMinor
```

```
1 git checkout -b module-1-update-minor
2 wget -O environment-update-minor.patch "http://
3 git apply environment-update-minor.patch
```

```
AWSReservedSSO_AWSAdministratorAccess_82957608b23b12c3:~/environment $ sh commands/patchEnvCfnMinor
Switched to a new branch 'module-1-update-minor'
environment-update-minor.patch:12: trailing whitespace.
  DefaultCapacityProviderStrategy:
warning: 1 line adds whitespace errors.
```

#3.3.1.2

```
cd ~/environment/aws-proton-workshop-bundles/
sh ~/environment/commands/patchServicesCfnMinor
```

```
1 wget -O service-update-minor.patch "https://
2 git apply service-update-minor.patch
```

Check Cloud9 git view to confirm
modification



3.3.2 Commit and publish changes to templates

Push changes to repository

#3.3.2.1

```
cd ~/environment
```

```
sh commands/commitV1TemplateMinorChanges
```

```
1 # Add all changes to the staging area
2 git add *.yaml
3 # Capture a snapshot of the currently staged changes
4 git commit -m "multi-svc-env & lb-fargate-service v1.1"
5 # Navigate to the master branch
6 git checkout master
7 # Integrate the changes in branch module-1-update-minor into master
8 git merge module-1-update-minor
9 # Transfer commits from the local repository to the remote repository
10 git push -u origin master
```

Switched to branch 'master'
Your branch is up to date with 'origin/master'.
Updating f05bf42..11e8b0d
Fast-forward

```
lb-fargate-service/v1/instance_infrastructure/cloudformation.yaml | 6 ++++++
multi-svc-env/v1/instance_infrastructure/cloudformation.yaml | 6 ++++++
2 files changed, 10 insertions(+), 2 deletions(-)
```

Enumerating objects: 18, done.

Counting objects: 100% (18/18), done.

Delta compression using up to 2 threads

Compressing objects: 100% (8/8), done.

Writing objects: 100% (10/10), 2.30 KiB |

Total 10 (delta 0), reused 0 (delta 0), pack 0

remote: Resolving deltas: 100% (2/2), comp

remote: This repository moved. Please use

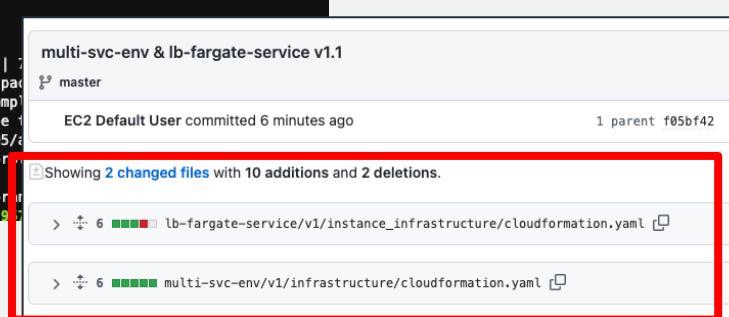
remote: https://github.com/nhi-proton05/a

To https://github.com/nhi-proton05/aws-pr

f05bf42..11e8b0d master -> master

Branch 'master' set up to track remote br

AWSReservedSSO AWSAdministratorAccess 829



© 2022, Amazon Web Services, Inc. or its affiliates.

Publish changes to templates (user sets version)

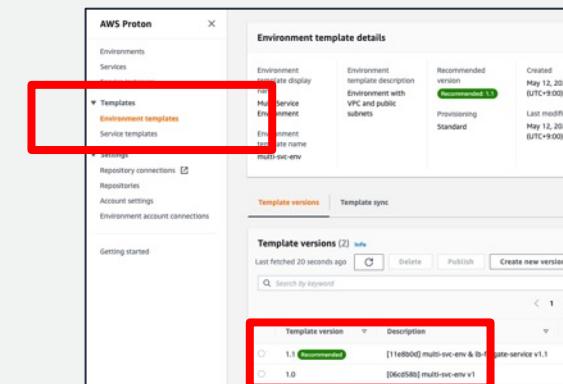
#3.3.2.2

```
cd ~/environment
```

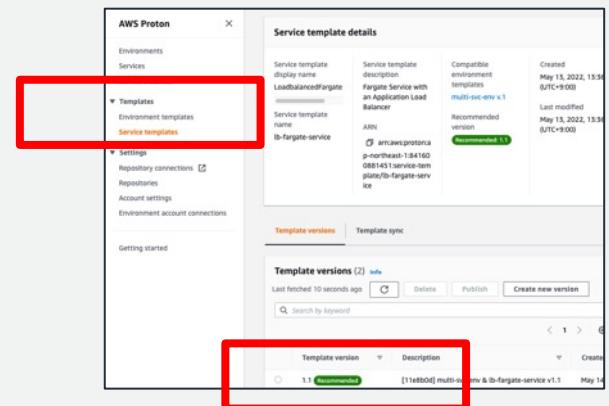
```
sh commands/publishV1TemplateMinorChanges
```

Check Proton Before and After

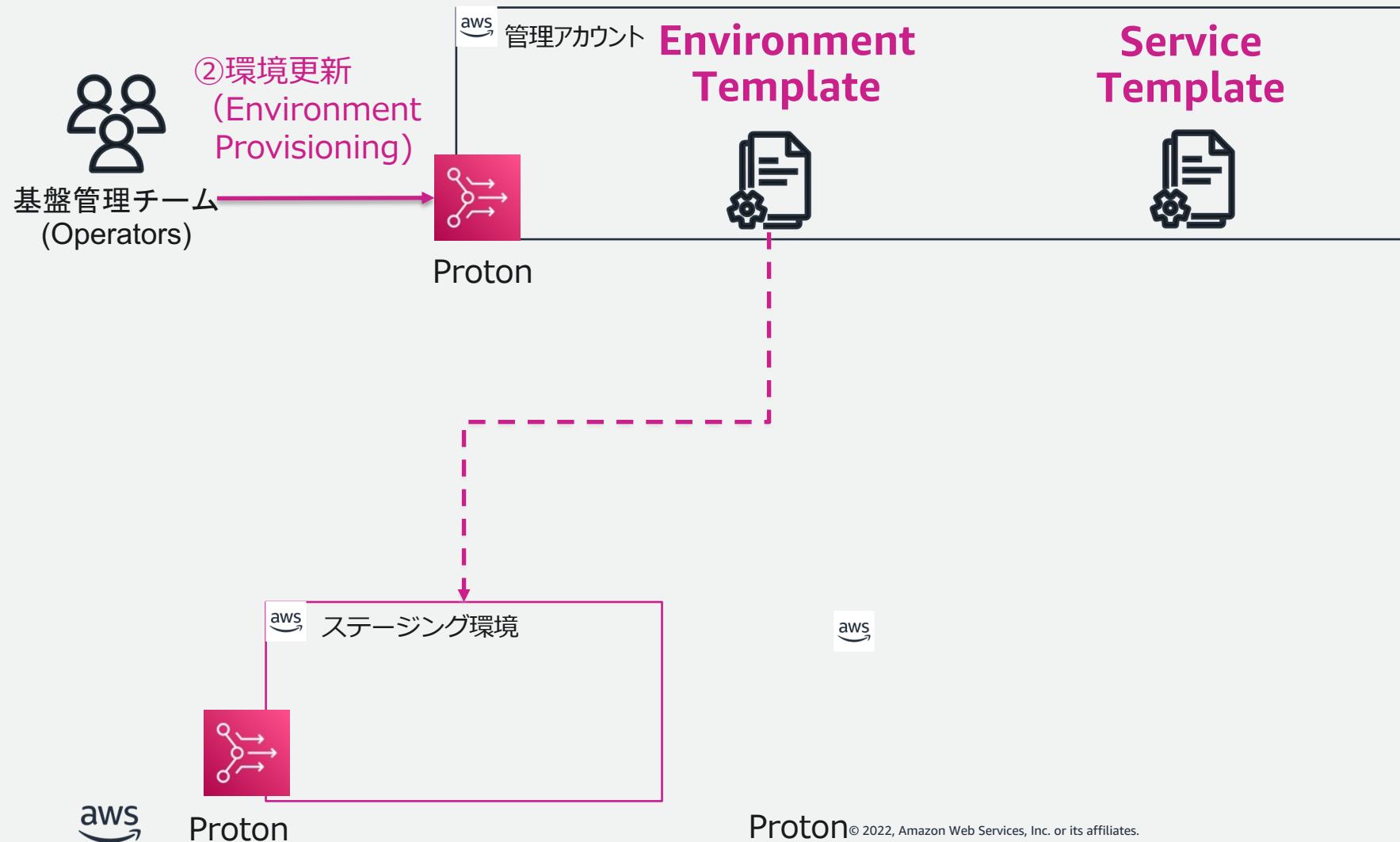
```
1 MAJOR_VERSION=$(aws proton list-service-template-versions \
2 --template-name "multi-svc-env" --region=${AWS_REGION} | \
3 jq -r '.templateVersions[] | select(.status=="DRAFT") | .majorVersion' | tail -1 \
4 ); \
5 aws proton update-environment-template-version \
6 --region ${AWS_REGION} \
7 --major-version "$MAJOR_VERSION" \
8 --minor-version "1" \
9 --status "PUBLISHED"
```



```
1 MAJOR_VERSION=$(aws proton list-service-template-versions --template-name "lb-fargate-service" \
2 --region=${AWS_REGION} | \
3 jq -r '.templateVersions[] | select(.status=="DRAFT") | .majorVersion' | tail -1 \
4 ); \
5 aws proton update-service-template-version \
6 --region ${AWS_REGION} \
7 --major-version "$MAJOR_VERSION" \
8 --minor-version "1" \
9 --status "PUBLISHED"
```



作業のイメージ



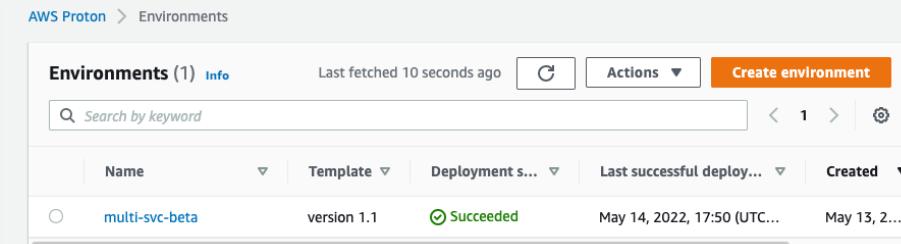
3.3.3.1 Update the environment

Update the environment

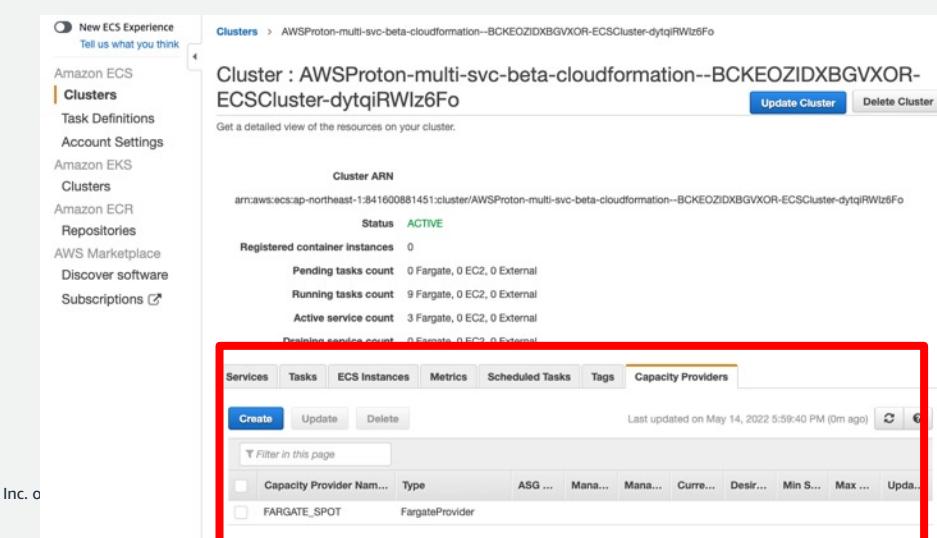
#3.3.3.1
 cd ~/environment
 sh commands/updateEnvToV1.1

```
1  SPEC=$(aws proton get-environment \
2      --region ${AWS_REGION} \
3      --name "multi-svc-beta" | \
4      jq -r '.environment.spec'
5  ); \
6  aws proton update-environment \
7      --region ${AWS_REGION} \
8      --deployment-type "MINOR_VERSION" \
9      --name "multi-svc-beta" \
10     --spec "$SPEC"
```

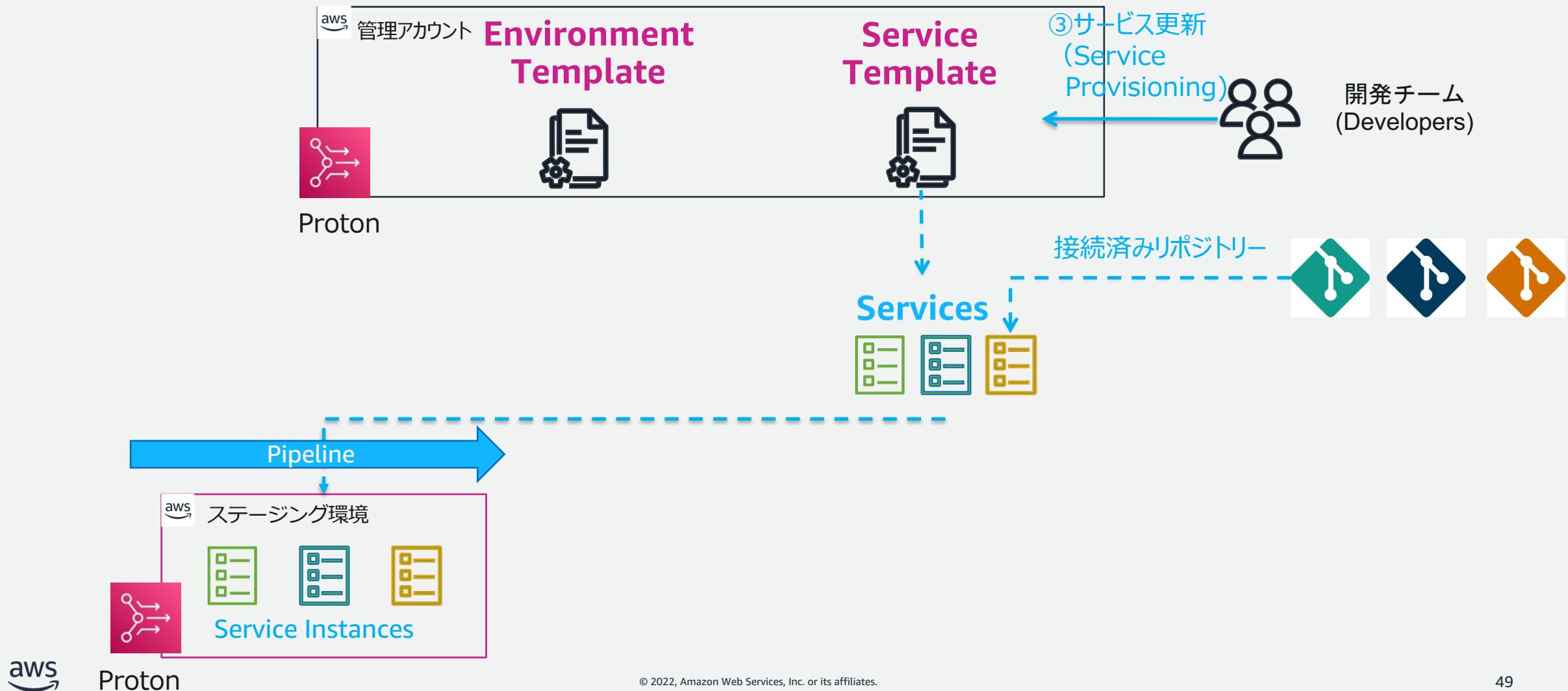
```
AWSReservedSSO_AWSAdministratorAccess_82957608b23b12c3:~/environment $ sh commands/updateEnvToV1.1
{
  "environment": {
    "arn": "arn:aws:proton:ap-northeast-1:841600881451:environment/multi-svc-beta",
    "createdAt": "2022-05-13T04:00:09.480000+00:00",
    "deploymentStatus": "IN_PROGRESS",
    "lastDeploymentAttemptedAt": "2022-05-14T08:50:04.585000+00:00",
    "lastDeploymentSucceededAt": "2022-05-13T04:00:09.480000+00:00",
    "name": "multi-svc-beta",
    "protonServiceRoleArn": "arn:aws:iam::841600881451:role/ProtonServiceRole",
    "templateMajorVersion": "1",
    "templateMinorVersion": "0",
    "templateName": "multi-svc-env"
  }
}
```



<https://ap-northeast-1.console.aws.amazon.com/ecs/home?region=ap-northeast-1#/clusters>



作業のイメージ



3.3.3.2 Update the services

3.3.3.2.1

```
sh -c "~/environment/helper-script/proton-workshop-
helper update --service_name frontend --
deployment_type MINOR_VERSION"
```

#3.3.3.2.2

```
sh -c "~/environment/helper-script/proton-workshop-
helper update --service_name crystal --deployment_type
MINOR_VERSION"
```

3.3.3.2.3

```
sh -c "~/environment/helper-script/proton-workshop-
helper update --service_name nodejs --deployment_type
MINOR_VERSION"
```



```
AWSReservedSSO_AWSAdministratorAccess_82957608b23b12c3:~/environment $ sh -c "~/environment/helper-script/proton-workshop-
helper update --service_name frontend --deployment_type MINOR_VERSION"

Please select the instance you want to update from the following options:
1) frontend-beta

Pick an instance: 1

Please update the following properties for your service instance:
Enter a value for port [3000]:
Enter a value for desired_count [3]:
Enter a value for task_size [medium]:
Enter a value for scope [public]:
Enter a value for image [841600881451.dkr.ecr.ap-northeast-1.amazonaws.com/awsproton-frontend-cloudformation-tqscmylwanipb
oz-ecrrepo-7fwqmeotkjfx:1]:
Enter a value for env_vars [CRYSTAL_URL=http://crystal.protonworkshop.beta.local:3000/crystal;NODEJS_URL=http://nodejs.pro
tonworkshop.beta.local:3000]:

Updated spec is:
proton: ServiceSpec
  instances:
    - name: "frontend-beta"
      environment: "multi-svc-beta"
      spec:
        port: "${Proton::CURRENT_VAL}"
        desired_count: "${Proton::CURRENT_VAL}"
        task_size: "${Proton::CURRENT_VAL}"
        scope: "${Proton::CURRENT_VAL}"
        image: "${Proton::CURRENT_VAL}"
        env_vars: "${Proton::CURRENT_VAL}"

Do you want to continue? [Y/N] Y
{
  "serviceInstance": {
    "arn": "arn:aws:proton:ap-northeast-1:841600881451:service/frontend/service-instance/frontend-beta",
    "createdAt": "2022-05-14T05:04:48.401000+00:00",
    "deploymentStatus": "IN_PROGRESS",
    "environmentName": "multi-svc-beta",
    "lastDeploymentAttemptedAt": "2022-05-14T09:25:39.022000+00:00",
    "lastDeploymentSucceededAt": "2022-05-14T05:17:02.595000+00:00",
    "name": "frontend-beta",
    "serviceName": "frontend",
    "templateMajorVersion": "1",
    "templateMinorVersion": "0",
    "templateName": "lb-fargate-service"
  }
}
```

<https://ap-northeast-1.console.aws.amazon.com/proton/home?region=ap-northeast-1#/service-instances>

AWS Proton > Service Instances

Service instances (3) Info					Last fetched 30 seconds ago	C	Create service
Name	Service name	Template na...	Template versi...	Deployment status	Last	Actions	
crystal-beta	crystal	lb-fargate-service	1.0	In progress	2022-05-14T05:17:02.595000+00:00	Edit	
nodejs-beta	nodejs	lb-fargate-service	1.0	In progress	2022-05-14T05:17:02.595000+00:00	Edit	
frontend-beta	frontend	lb-fargate-service	1.1 Recommended	Succeeded	2022-05-14T09:25:39.022000+00:00	Edit	

3.3.3.3 Update the services

Confirm services/service instances

AWS Proton Services

Services (3) Info Last fetched 20 seconds ago

Name	Status	Service template	Created
nodejs	Active	LoadbalancedFargateService...	May 14, 2022, ...
crystal	Active	LoadbalancedFargateService...	May 14, 2022, ...
frontend	Active	LoadbalancedFargateService...	May 14, 2022, ...

AWS Proton Service instances

Service instances (3) Info Last fetched 10 seconds ago

Name	Service na...	Template name	Template version	Deployment stat...	Last
nodejs-beta	nodejs	lb-fargate-service	-	In progress	May
crystal-beta	crystal	lb-fargate-service	-	In progress	May
frontend-...	frontend	lb-fargate-service	1.0 (Recommended)	Succeeded	May

AWS Proton Service instances

Service instance name: frontend-beta Environment: multi-svc-beta Deployment status: Succeeded Created: May 14, 2022, 14:04 (UTC+9:00)

Service name: frontend Deployment status message: Last successful deployment May 14, 2022, 14:17 (UTC+9:00)

ARN: arn:aws:proton:ap-northeast-1:841600881451:service/frontend/service-instance/frontend-beta Template: lb-fargate-service Template version: 1.0 (Recommended)

Outputs (1)

Key	Value
ServiceEndpoint	http://AWSPr-LoadB-1N1WGAKBSWBH-1626134937.ap-northeast-1.elb.amazonaws.com

Getting started

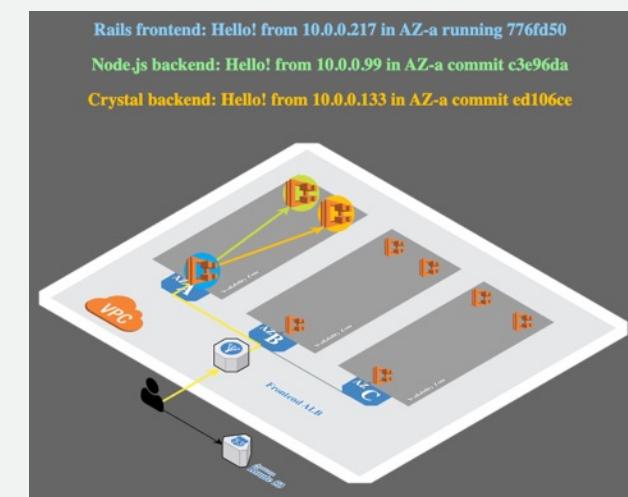
Confirm CodePipeline status

<https://ap-northeast-1.console.aws.amazon.com/codesuite/codepipeline/pipelines>

Developer Tools > CodePipeline > Pipelines

Pipelines Info

Name	Most recent execution	Latest source revisions	Last executed
AWSProton-nodejs-cloudformation-BIVGOAFEKASWAML-Pipeline-1107UOXJCTEG	Succeeded	Checkout - fba34b90 Merge pull request #4 from tsahiduek/add-helm-deploy	4 hours ago
AWSProton-crystal-cloudformation-ULGHQXHNJCLEFT-Pipeline-TM9TO9UVK3MH	Succeeded	Checkout - b6db623d Merge pull request #4 from tsahiduek/add-helm-deploy	4 hours ago
AWSProton-frontend-cloudformation-TQSCMYLWANIPBOZ-Pipeline-1N9ZJZJM5DLXQ	Succeeded	Checkout - e3559e49 Merge pull request #4 from tsahiduek/add-helm-deploy	4 hours ago





Thank you!

Appendices