aws FOR FINANCIAL SERVICES

Prototyping and Cloud Engineering

FSI PACE

Financial Services Industry

OPA on AWS

Security

Orchestrate Platform and Applications

FSI PACE

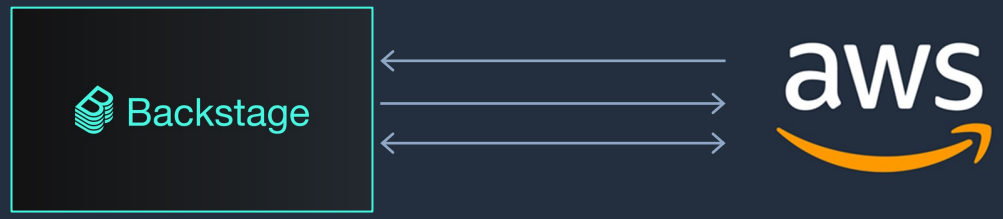
Platform Engineering Team

fsi-pace-pe@amazon.com

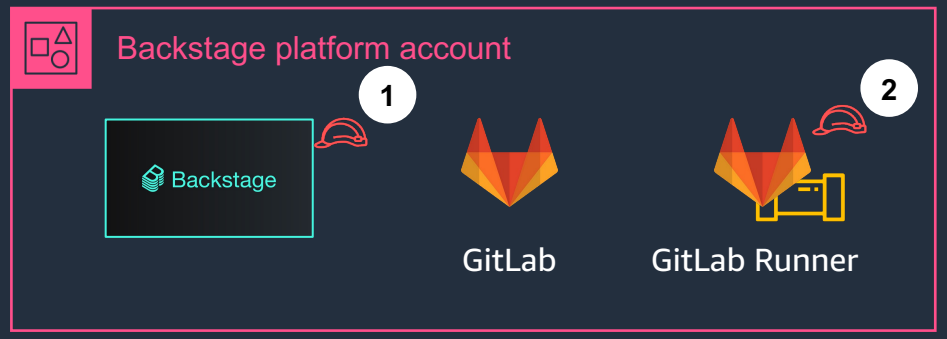
OPA – Orchestrate Platform and Applications

Foundations to build Integrated IDP with AWS

- Source Code
- Designed for Enterprise
- Templates
- Examples
- Backstage Plugins
- Security Best Practices



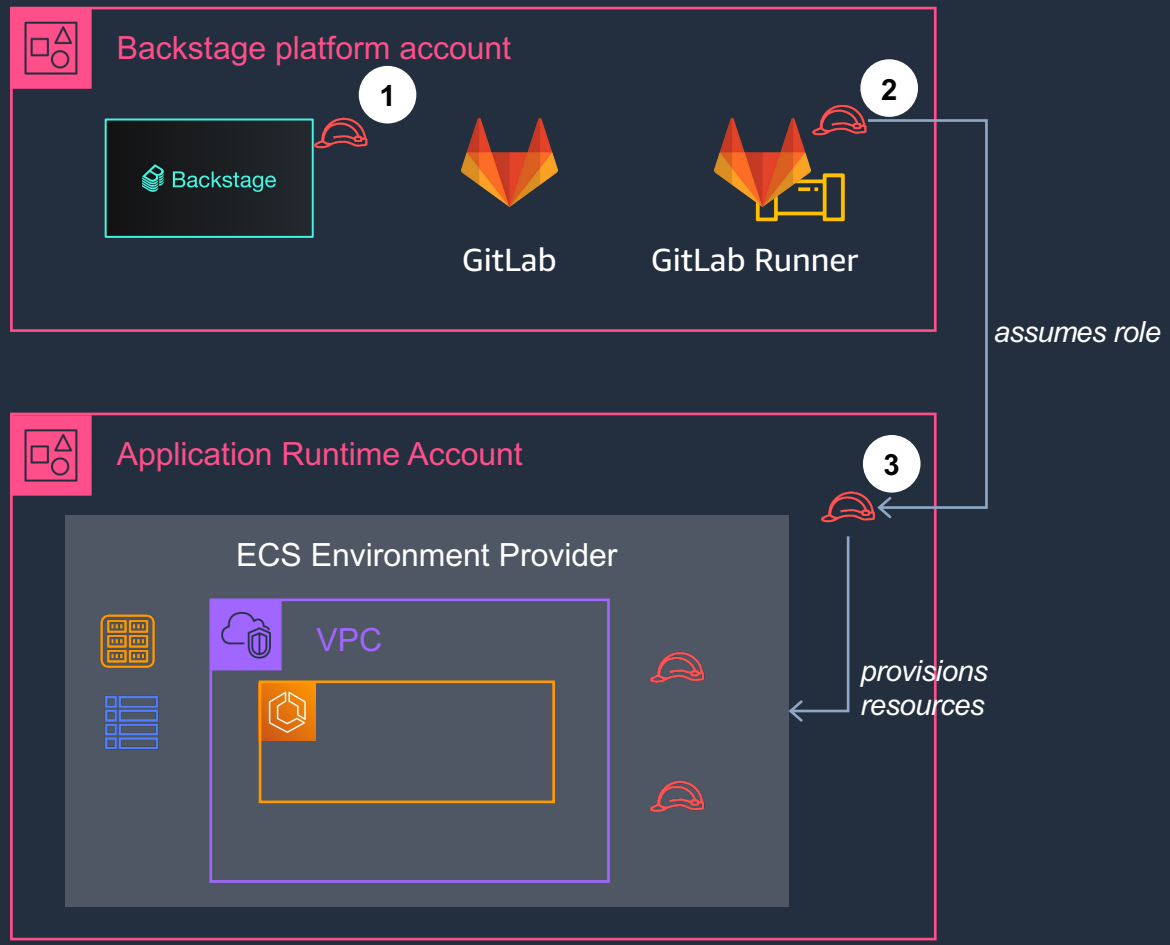
Architecture



1. Backstage platform role (ECS task execution role)

2. GitLab Runner EC2 instance role

Architecture – Environment Provider Provisioning



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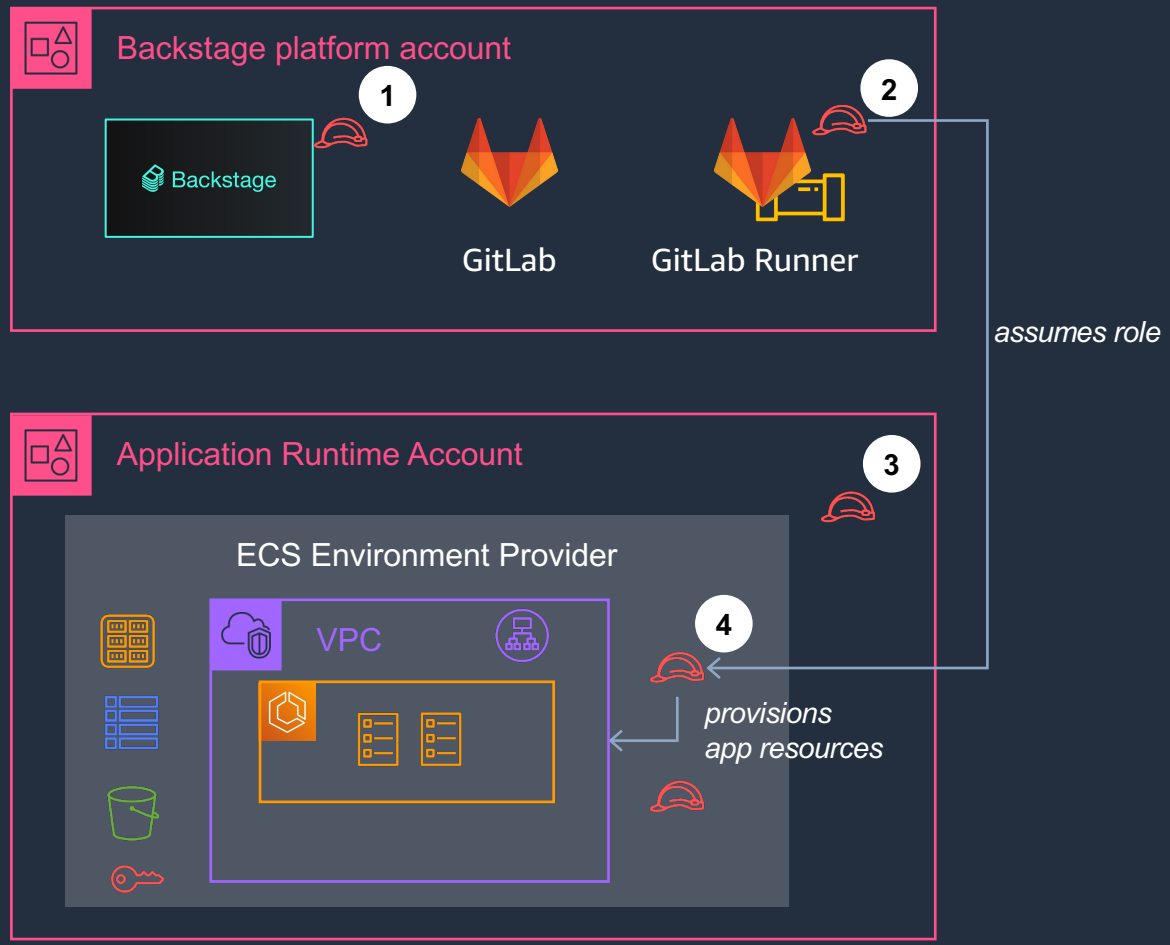
Architecture – Application Provisioning



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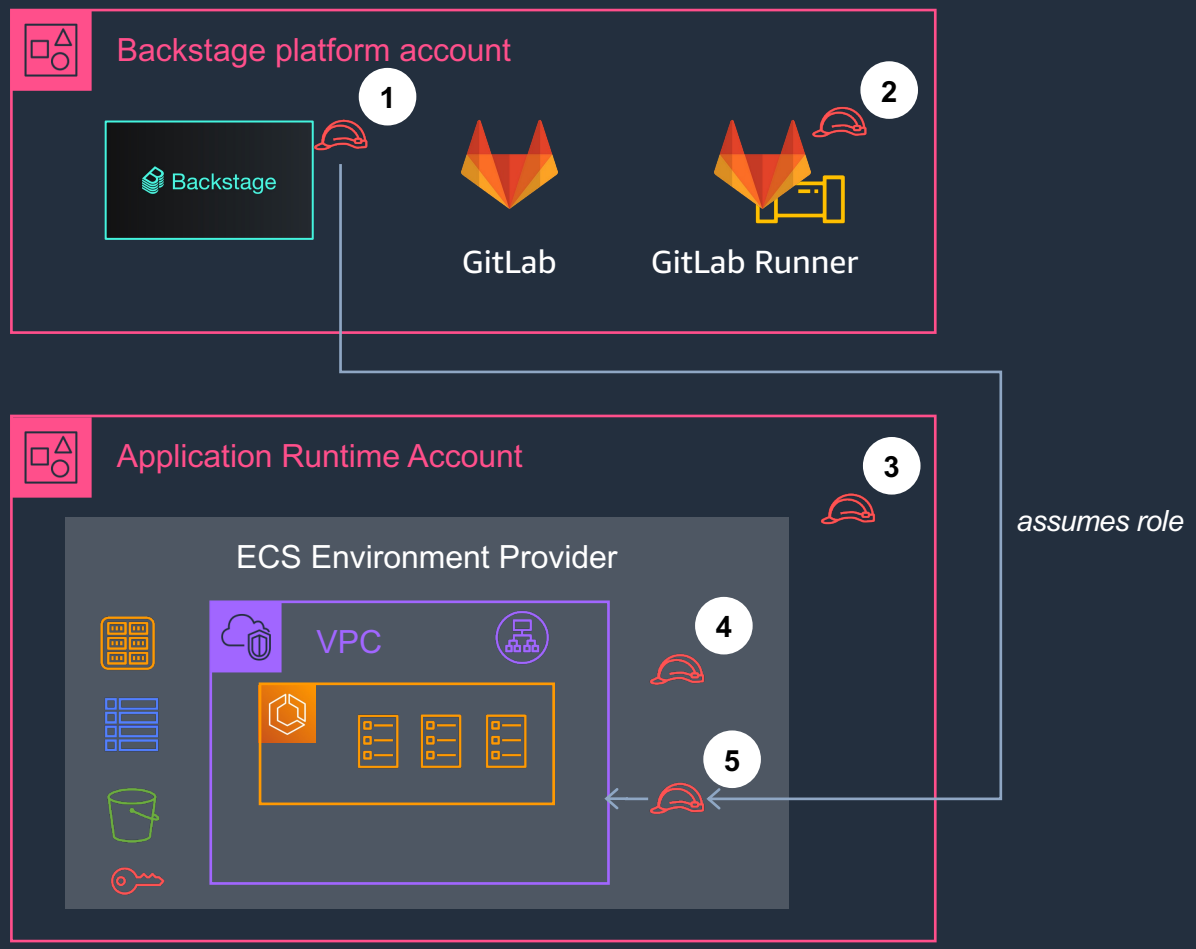
Architecture – Application Operations



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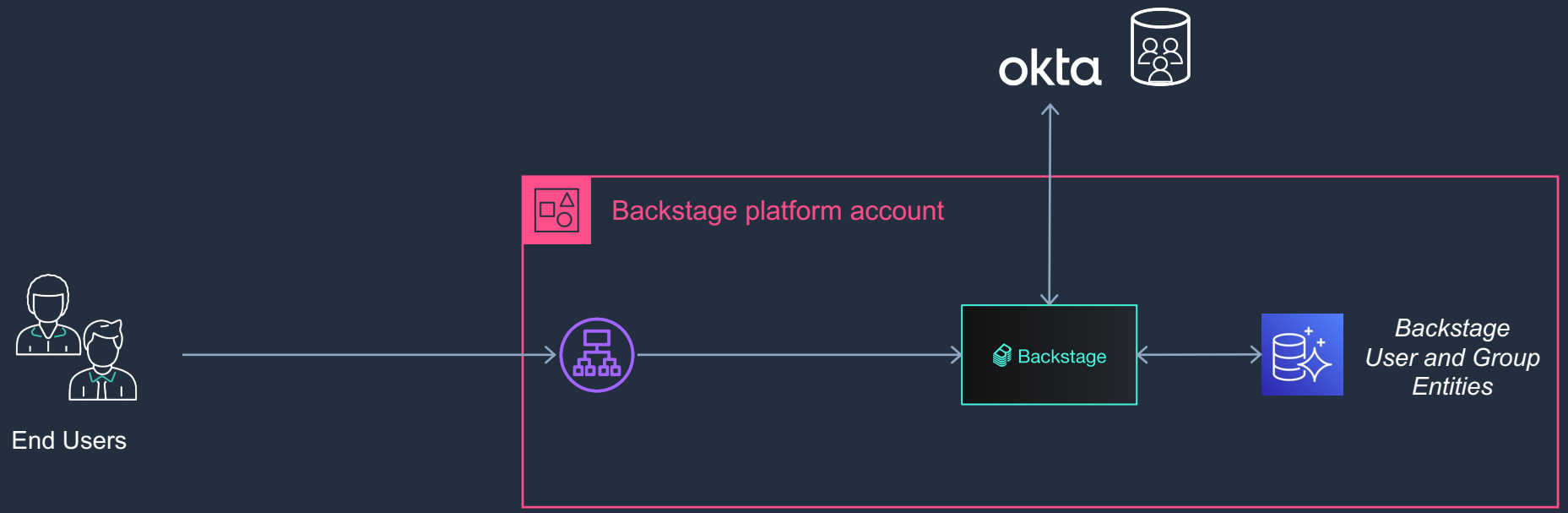
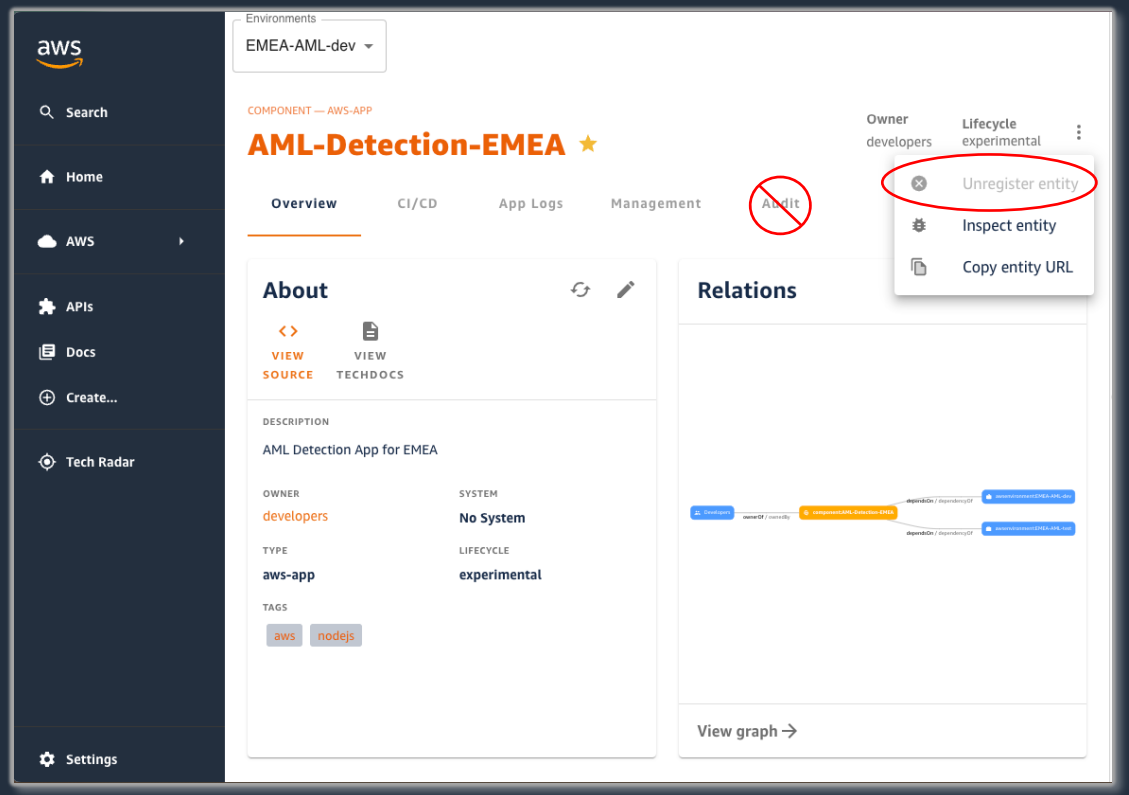
4. Application provisioning role
5. Application operations role

End user authentication



https://backstage.io/docs/auth/

Permissions



Default Allow for all actions

Write Policies to return policy decisions

Examples:

- Disable UI options
- Hide UI widgets
- Return 401 ‘not authorized’ API responses

https://backstage.io/docs/permissions/overview

Writing a custom policy – OPA example policy decisions

```
// backstage/packages/backend/src/plugins/OpaSamplePermissionPolicy.ts

// DENY OPA audit read access if the user is in the Testers group
if (isPermission(request.permission, readOpaAppAuditPermission) && ownershipGroups.includes(TESTERS_GROUP)) {
  return { result: AuthorizeResult.DENY };
}

// DENY access to 'aws-environment' or 'aws-environment-provider' templates if the user cannot claim ownership of the
entity
if (isPermission(request.permission, catalogEntityReadPermission)) {
  return createCatalogConditionalDecision(request.permission, {
    not: {
      allOf: [
        catalogConditions.isEntityKind({ kinds: ['template'] }),
        {
          anyOf: [
            catalogConditions.hasSpec({ key: 'type', value: 'aws-environment' }),
            catalogConditions.hasSpec({ key: 'type', value: 'aws-environment-provider' }),
          ],
        },
      ],
    },
  });
}
```

Specify the custom policy

```
// backstage/packages/backend/src/plugins/permission.ts

import { OpaSampleAllowAllPolicy, OpaSamplePermissionPolicy } from './OpaSamplePermissionPolicy';


export default async function createPlugin(env: PluginEnvironment): Promise<Router> {
  return await createRouter({
    config: env.config,
    logger: env.logger,
    discovery: env.discovery,
    // policy: new OpaSampleAllowAllPolicy(),
    policy: new OpaSamplePermissionPolicy(),
    identity: env.identity,
  });
}
```

https://backstage.io/docs/permissions/overview

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Thank you!

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