

Practical 7

Exercise:

a) Implementation of identity management.

Create a Role with Principals:

The screenshot shows the Google Cloud IAM & Admin console for the project "GoogleDriveProject". The left sidebar lists various IAM & Admin tools, including IAM, PAM, Principal Access Boundary, Organizations, Identity & Organization, Policy Troubleshooter, Policy Analyzer, Organization Policies, Service Accounts, Workload Identity Federation, Workforce Identity Federation, Labels, Tags, Settings, Privacy & Security, Manage Resources, and Release Notes. The main content area is titled "Permissions for project \"GoogleDriveProject\"". It includes a notification to "Upgrade to view full recommendations in Security Command Center Enterprise" and a checkbox for "Include Google-provided role grants". Below this, there are tabs for "VIEW BY PRINCIPALS" and "VIEW BY ROLES". The "VIEW BY PRINCIPALS" tab is active, showing a table of principals with their roles. The table has columns for Type, Principal, Name, Role, and Security insights. Two principals are listed: "a230141@famt.ac.in" with the role "Owner" and "bhushanshirsat637@gmail.com" with the role "Editor". A "Policy updated" notification is displayed at the bottom.

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Google Cloud GoogleDriveProject Search (/) for resources, docs, products, and more Search

IAM & Admin IAM

ALLOW DENY RECOMMENDATIONS HISTORY

Upgrade to view full recommendations in Security Command Center Enterprise

Access additional recommendations, including those for non-basic roles, removing lateral movement permissions from service accounts, enabling multi-factor authentication (MFA), and implementing other security enhancements.

[UPGRADE](#) [LEARN MORE](#)

Permissions for project "GoogleDriveProject"

These permissions affect this project and all of its resources. [Learn more](#)

☐ Include Google-provided role grants

[VIEW BY PRINCIPALS](#) [VIEW BY ROLES](#)

[GRANT ACCESS](#) [REMOVE ACCESS](#)

Filter Enter property name or value

Type	Principal	Name	Role	Security insights
<input type="checkbox"/>	a230141@famt.ac.in	PANDURANG SHIRSAT	Owner	
<input type="checkbox"/>	bhushanshirsat637@gmail.com	EVOLVING BACKWORD	Editor	

Policy updated

Grant access to "GoogleDriveProject"

Grant principals access to this resource and add roles to specify what actions the principals can take. Optionally, add conditions to grant access to principals only when a specific criteria is met. [Learn more about IAM conditions](#)

Resource

GoogleDriveProject

Add principals

Principals are users, groups, domains, or service accounts. [Learn more about principals in IAM](#)

New principals *

bhushanshirsat637@gmail.com



Assign roles

Roles are composed of sets of permissions and determine what the principal can do with this resource. [Learn more](#)

Role *

Editor



IAM condition (optional) ?

+ ADD IAM CONDITION



View, create, update, and delete most Google Cloud resources. See the list of included permissions.

+ ADD ANOTHER ROLE

SAVE

CANCEL

New Role Added in Principals Click on the Roles:

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Google Cloud

GoogleDriveProject

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Search

IAM & Admin

Roles

+ CREATE ROLE

CREATE ROLE FROM SELECTION

DISABLE

DELETE

Policy Analyzer

NEW

Organization Policies

Service Accounts

Workload Identity Federat...

Workforce Identity Federa...

Labels

Tags

Settings

Privacy & Security

Identity-Aware Proxy

Roles

Audit Logs

Essential Contacts

Asset Inventory

Quotas & System Limits

Roles for "GoogleDriveProject" project

A role is a group of permissions that you can assign to principals. You can create a role and add permissions to it, or copy an existing role and adjust its permissions. [Learn more](#)

Filter

Enter property name or value

<input type="checkbox"/>	Type	Title	Used in	Status	
<input type="checkbox"/>	🔗	Access Approval Approver	Access Approval	Enabled	⋮
<input type="checkbox"/>	🔗	Access Approval Config Editor	Access Approval	Enabled	⋮
<input type="checkbox"/>	🔗	Access Approval Invalidator	Access Approval	Enabled	⋮
<input type="checkbox"/>	🔗	Access Approval Viewer	Access Approval	Enabled	⋮
<input type="checkbox"/>	🔗	Access Context Manager Admin	Access Context Manager	Enabled	⋮
<input type="checkbox"/>	🔗	Access Context Manager Editor	Access Context Manager	Enabled	⋮
<input type="checkbox"/>	🔗	Access Context Manager Reader	Access Context Manager	Enabled	⋮
<input type="checkbox"/>	🔗	Access Transparency Admin	Organization Policy	Enabled	⋮
<input type="checkbox"/>	🔗	Actions Admin	Actions	Enabled	⋮
<input type="checkbox"/>	🔗	Actions Viewer	Actions	Enabled	⋮
<input type="checkbox"/>	🔗	Activity Analysis Viewer	Other	Enabled	⋮
<input type="checkbox"/>	🔗	Admin of Tenancy Units	Service Consumer Management	Enabled	⋮
<input type="checkbox"/>	🔗	Advisory Notifications Admin	Other	Enabled	⋮
<input type="checkbox"/>	🔗	Advisory Notifications Viewer	Other	Enabled	⋮

Create Custom Role :

SYMCA_DSCC_LAB SH24

MCAL34 Distributed Systems

DSCC P - Google Drive

IAM - Google Docs

console.cloud.google.com/iam-admin/roles/create?project=scenic-scholar-439404-m8

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Google Cloud

GoogleDriveProject

Search (/) for resources, docs, p

IAM & Admin

Create role

Policy Analyzer

NEW

Organization Policies

Service Accounts

Workload Identity Federat...

Workforce Identity Federa...

Labels

Tags

Settings

Privacy & Security

Identity-Aware Proxy

Roles

Audit Logs

Essential Contacts

Asset Inventory

Quotas & System Limits

Groups

Manage Resources

Release Notes

Custom roles let you group permissions and assign them to principals in your project or organization. You can manually select permissions or import permissions from another role. [Learn more](#)

Title *

Custom Role

11 / 100 characters

Description

Created on: 2024-10-28

22 / 256 characters

ID *

CustomRole

Role launch stage

Alpha

+ ADD PERMISSIONS

No assigned permissions

Filter

Enter property name or value

?

⋮

<input type="checkbox"/>	Permission	↑	Status
No rows to display			

1

Some permissions might be associated with and checked by third parties. These permissions contain the third party's service and domain name in the permission prefix.

CREATE

CANCEL

Save it and Add Permissions:

Search (/) for resources, docs, products, and more

Search

nd assign them to principals
missions or import permis

Add permissions

Filter permissions by role

Filter

Enter property name or value

?

|||

<input type="checkbox"/>	Permission ↑	Status
<input type="checkbox"/>	accessapproval.requests.approve	Supported
<input type="checkbox"/>	accessapproval.requests.dismiss	Supported
<input type="checkbox"/>	accessapproval.requests.get	Supported
<input type="checkbox"/>	accessapproval.requests.invalidate	Supported
<input type="checkbox"/>	accessapproval.requests.list	Supported
<input type="checkbox"/>	accessapproval.serviceAccounts.get	Supported
<input type="checkbox"/>	accessapproval.settings.delete	Supported
<input type="checkbox"/>	accessapproval.settings.get	Supported
<input type="checkbox"/>	accessapproval.settings.update	Supported
<input type="checkbox"/>	accesscontextmanager.accessLevels.create	Non-applicable ⚠

1 - 10 of 10453 < >

CANCEL

ADD

10 assigned permissions

Filter

Enter property name or value

?

|||

<input checked="" type="checkbox"/>	Permission	Status ↑
<input checked="" type="checkbox"/>	container.bindings.delete	Deprecated i
<input checked="" type="checkbox"/>	container.bindings.get	Deprecated i
<input checked="" type="checkbox"/>	container.bindings.list	Deprecated i
<input checked="" type="checkbox"/>	container.bindings.update	Deprecated i
<input checked="" type="checkbox"/>	container.initializerConfigurations.create	Deprecated i
<input checked="" type="checkbox"/>	container.initializerConfigurations.delete	Deprecated i
<input checked="" type="checkbox"/>	container.initializerConfigurations.get	Deprecated i
<input checked="" type="checkbox"/>	container.initializerConfigurations.list	Deprecated i
<input checked="" type="checkbox"/>	container.initializerConfigurations.update	Deprecated i
<input checked="" type="checkbox"/>	container.localSubjectAccessReviews.list	Deprecated i

i

Some permissions might be associated with and checked by third parties.
These permissions contain the third party's service and domain name in
the permission prefix.

SHOW ADDED AND REMOVED PERMISSIONS

CREATE

CANCEL

10 permis

AI Platform

Enabled

⋮

AI Platform

Role created

×

AI Platform

Enabled

⋮

Custom Role

ID	projects/scenic-scholar-439404-m8/roles/CustomRole75
Role launch stage	General Availability

Description

Created on: 2024-10-28

10 assigned permissions

container.bindings.delete
container.bindings.get
container.bindings.list
container.bindings.update
container.initializerConfigurations.create
container.initializerConfigurations.delete
container.initializerConfigurations.get
container.initializerConfigurations.list
container.initializerConfigurations.update
container.localSubjectAccessReviews.list



Some permissions might be associated with and checked by third parties. These permissions contain the third party's service and domain name in the permission prefix.

←

→

↺

console.cloud.google.com/iam-admin/roles/create;roles=projects<scenic-scholar-439404-m8<roles<CustomRol

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Google Cloud

GoogleDriveProject

Search (/) for resources

IAM & Admin

Policy Analyzer NEW

Organization Policies

Service Accounts

Workload Identity Federat...

Workforce Identity Federa...

Labels

Tags

Settings

Privacy & Security

Identity-Aware Proxy

Roles

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Manage Resources

Release Notes

<I

← Create role

Custom roles let you group permissions and assign them to principals in your project or organization. You can manually select permissions or import permissions from another role. [Learn more](#)

Title *

Custom Custom Role

18 / 100 characters

Description

Created on: 2024-10-28 Based on: Custom Role

44 / 256 characters

ID *

CustomCustomRole

Role launch stage

Alpha

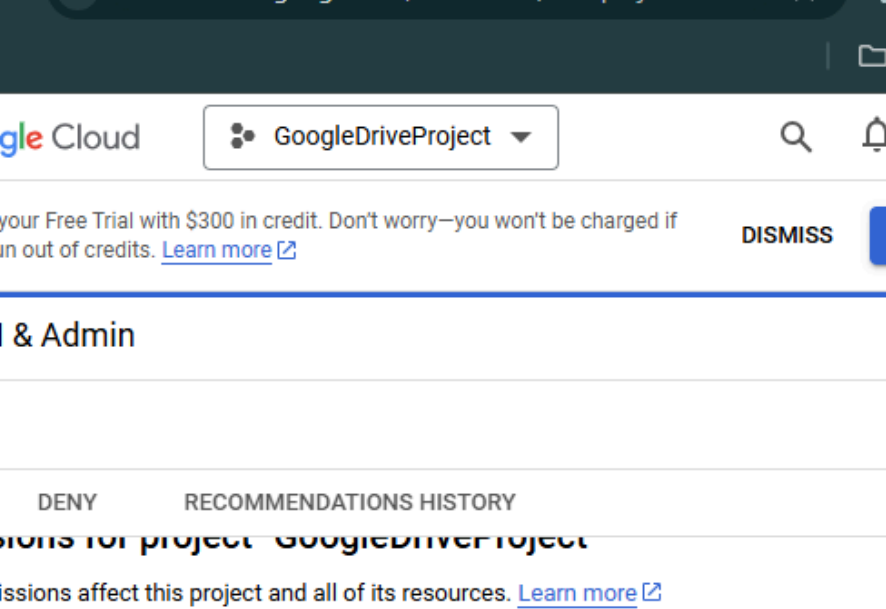
+ ADD PERMISSIONS

10 assigned permissions

Filter Enter property name or value

✓	Permission ↑	Status
✓	container.bindings.delete	Deprecated ⓘ
✓	container.bindings.get	Deprecated ⓘ
✓	container.bindings.list	Deprecated ⓘ
✓	container.bindings.update	Deprecated ⓘ
✓	container.initializerConfigurations.create	Deprecated ⓘ
✓	container.initializerConfigurations.delete	Deprecated ⓘ
✓	container.initializerConfigurations.get	Deprecated ⓘ
✓	container.initializerConfigurations.list	Deprecated ⓘ
✓	container.initializerConfigurations.update	Deprecated ⓘ

New Role Assigned:



The screenshot shows the Google Cloud IAM & Admin console interface. At the top, there's a navigation bar with the Google Cloud logo, a search bar, and a dropdown menu showing 'GoogleDriveProject'. Below this, there's a section for 'IAM & Admin' with a shield icon. Underneath, the 'IAM' section is active, showing 'Permissions for project GoogleDriveProject'. A message states: 'These permissions affect this project and all of its resources. [Learn more](#)'. There's a checkbox for 'Include Google-provided role grants' which is currently unchecked. Below this, there are two tabs: 'VIEW BY PRINCIPALS' (selected) and 'VIEW BY ROLES'. At the bottom, there are buttons for '+ GRANT ACCESS' and '- REMOVE ACCESS'. A table lists the current permissions:

Type	Principal	Name	Role	Security insight
<input type="checkbox"/> User	a230141@famt.ac.in	PANDURANG SHIRSAT	Owner	
<input type="checkbox"/> User	bhushanshirsat637@gmail.com	EVOLVING BACKWORD	Editor	