

IBM Cloud Advocate Study Guide



This study guide will help prepare you for the IBM Cloud Advocate Certification Examination.

What's in the Study Guide

This study guide covers:

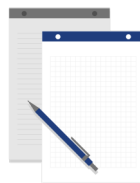
- ❑ ***IBM Cloud Account Essentials***



How to Use this Study Guide



Read the content.



Take notes.



Answer practice questions.

Preparation

Thorough study is essential to a successful outcome on the exam.



- Clear your schedule.
- Find a quiet place to study.
- Focus on the content.



- Open the associated on-line course for reference.
- Locate the study guide.
- Download the study guide.



- Print a copy of the study guide.
- Take notes.

Courses and Objectives

Courses

1. Account Types
2. Support Plans
3. Identity and Access Management (IAM)

Objectives

- Summarize Account Types (lite, pay-as-you-go, subscription, enterprise)
- Define Support Plans (basic, advanced, premium)
- Define Identity and Access Management (IAM)
- Identify two major IAM concepts: identity, and access management
- Identify the two common access control models
- Recognize how using access and resource groups benefits customers
- Recall how access is assigned to resources
- Differentiate the similarities and differences of service and platform roles



Course 4.1: Account Types

Introduction and Objectives:

In Course 4.1 of the study guide, the subject matter:

- Explores the IBM Cloud account types.
- Highlights Lite, Pay-as-You-Go, Subscription, and Enterprise account types.

Lessons

- Introduction and Objectives
- Pay-As-You-Go, Subscription, and Enterprise
- Course Summary
- Knowledge Check Questions

Objective

- Summarize account types, such as Lite, Pay-as-You-Go, Subscription, and Enterprise



Course 4.1: Account Types

IBM manages its services via *accounts*, comprised of systems and components that define the relationship among the resources each user and user group can access.

Lite

If a user created a Lite account before 25 October 2021, the account doesn't expire and they can work in IBM Cloud for free by accessing services with select Lite plans, which are displayed with a Lite tag in the IBM Cloud catalog.

Note: As of 25 October 2021, all new accounts are created as Pay-As-You-Go (“Pay-go”) based on an update to IBM's account registration process. As part of this update, a user is asked to provide credit card information for identity verification. The user has full access to the catalog, including all Free and Lite plans, and gets a \$200 credit that can be applied in the first 30 days. The user pays only for billable services that are used, with no long-term contracts or commitments.

Pay-As-You-Go

When you register with IBM Cloud, user is initially registered in a Pay-As-You-Go (“Pay-go”) account.

- Allows users to explore the full catalog of IBM Cloud services and pay for only the ones they wish to use.
- Users receive Basic support.
- Upon signing up, users get a \$200 credit, which they can spend on IBM Cloud products.
- Can create resource groups and spending notifications to manage and view usage and billing.

Subscription

Subscription accounts offer all of the IBM Cloud services as Pay-go but add predictability and discounts for platform services.

- Invoiced monthly on a consumption basis.
- Discounted Pricing: Subscribers commit to paying a minimum amount per month for a specific duration. The longer duration, the greater the discount.
- Notifications: Subscribers receive notifications when they reach 80, 90, and 100 percent of their spending thresholds, as well as 60, 30, 14, and 1 day before the subscription expires. If they do not renew, the account converts to Pay-go.
- Allows for building an enterprise account hierarchy.
- Option to add Advanced or Premium support.

Enterprise

An Enterprise account is a type of subscription account, which gathers multiple accounts into a single entity to centrally manage billing and usage across an organization.

4.1: Account Types

Check Your Knowledge



Question 1

Which type of account has the following characteristics: it is created automatically when a user registers with IBM Cloud, receives basic support, and gives a \$200 credit to use on IBM Cloud?

- A. Lite
- B. Subscription
- C. Pay-As-You-Go
- D. Enterprise

➔ **Answer C.** Pay-As-You-Go is created automatically when users register with IBM Cloud. User receives basic support and is given a \$200 credit to use on IBM Cloud.

4.1: Account Types

Check Your Knowledge



Question 2

Which type of account allows for building an enterprise account hierarchy and has discounted pricing?

- A. Lite
- B. Subscription
- C. Pay-As-You-Go
- D. Enterprise

➔ **Answer B.** A subscription account allows for building an enterprise account hierarchy and has discounted pricing.

4.1: Account Types

Check Your Knowledge



Question 3

When are spending notifications sent for IBM Cloud accounts?

- A. Notifications are not supported for IBM Cloud accounts.
- B. Notifications are sent when 25%, 50%, and 75% of the spending is reached.
- C. Notifications are sent when 95% of the spending is reached.
- D. Notifications are sent when 80%, 90%, and 100% of the spending is reached.



Answer D. Notifications are sent when 80%, 90%, and 100% of the spending is reached.

4.1: Account Types

Check Your Knowledge



Question 4

Which support plan is the default plan for a Pay-As-You-Go account type?

- A. Free
- B. Basic
- C. Advanced
- D. Premium

➔ **Answer B.** The default support plan for Pay-As-You-Go is Basic.

4.1: Account Types

Check Your Knowledge



Question 5

What support plans are available on IBM?

- A. Free, Lite, Basic, and Advanced
- B. Free, Basic, Enterprise, and Premium
- C. Basic, Advanced, and Custom
- D. Basic, Advanced, and Premium

➔ **Answer D.** Basic, Advanced, and Premium are the support plans available on IBM.

4.1: Account Types

Check Your Knowledge



Question 6

How would an IBM Cloud user go about requesting a Service Bundle subscription?

- A. Services are not bundles
- B. Through the IBM Cloud console
- C. Contact IBM Cloud Sales
- D. Through the IBM Cloud catalog

➔ **Answer C.** Contact IBM Cloud Sales to request a Service Bundle subscription.

4.1: Account Types

Check Your Knowledge



Question 7

After an IBM account subscription expires, which of the following processes occurs?

- A. Access to the account is locked
- B. The account is converted to Pay-As-You-Go
- C. The credit card is billed automatically
- D. The account is converted to a Free account

➔ **Answer B.** If an IBM Cloud subscription account expires, the account is converted to a Pay-As-You-Go.



Course 4.2: Support Plans

Introduction and Objectives:

In Course 4.2 of the study guide, the subject matter:

- Explores IBM Cloud support plans.
- Highlights three kinds of support plans: basic, advanced, and premium.

Lessons

- Introduction and Objectives
- IBM Support Plans
- Course Summary
- Knowledge Check Questions

Objective

- Define Support Plans (basic, advanced, premium)



Course 4.2: Support Plans

IBM Cloud Support Plans

There are three levels to IBM Cloud support plans.

1. Basic
2. Advanced
3. Premium

	Basic	Advanced	Premium
Description	Included with IBM Cloud Pay-As-You-Go or Subscription account.	Prioritized case handling and support experience that is aligned with the user's business needs.	Client engagement that is aligned with the user's business outcomes to accelerate time-to-value.
Availability	<p>Default support plan. Provides access to create cases or tickets.</p> <p>Allows the Pay-As-You Go and Subscription accounts to talk with support via phone or chat.</p>	24/7 access to the IBM Cloud technical support team through cases, phone, and chat.	24/7 access to the IBM Cloud technical support team through cases, phone, and chat.
Response Time	N/A	Guarantees a response time of 1 to 8 hours based on the severity of the ticket.	Guarantees a response time of 15 minutes to two hours.
Additional Support	N/A	N/A	Assigns a Technical Account Manager to the user's account for quarterly business reviews.
Case severity ranking is available for Advanced and Premium support plans. How quickly the user support cases are addressed depends on the assigned severity. (1 = Critical, 2 = Significant, 3 = Some, 4 = Minimum)			
		Severity 1: Less than 1 hr. Severity 2: Less than 2 hrs. Severity 3: Less than 4 hrs. Severity 4: Less than 8 hrs.	Severity 1: Less than 15 min. Severity 2: Less than 1 hr. Severity 3: Less than 2 hrs. Severity 4: Less than 4 hrs.

4.2: Support Plans Check Your Knowledge



Question 1

IBM Cloud offers which three support plans?

- A. Basic, Advanced, Premium
- B. Basic, Standard, and Professional
- C. Standard, Enhanced, and Premium
- D. Standard, Premium, and Signature

➔ **Answer A.** IBM Cloud offers Basic, Advanced, and Premium support plans.

4.2: Support Plans Check Your Knowledge



Question 2

What is the default support plan for anyone with a paid account on IBM Cloud that allows for the creation of support cases or tickets?

- A. Free
- B. Entry
- C. Standard
- D. Basic

➔ **Answer D.** Basic is the default support plan for anyone with a paid account on IBM Cloud.

4.2: Support Plans

Check Your Knowledge



Question 3

Which IBM Cloud support plan allows a user to assign case severity and provides 24/7 access to the IBM Cloud technical support team through cases, phone, and chat?

- A. Free
- B. Basic
- C. Advanced
- D. Premium

➔ **Answer C.** The Advanced IBM Cloud support plan allows a user to assign case severity and provides 24/7 access to the IBM Cloud technical support team.

4.2: Support Plans Check Your Knowledge



Question 4

Which support plan in IBM Cloud includes a Technical Account Manager?

- A. Free
- B. Basic
- C. Advanced
- D. Premium

➔ **Answer D.** The Premium IBM Cloud support plan includes a Technical Account Manager.

4.2: Support Plans Check Your Knowledge



Question 5

The client needs a support response time of under an hour for Severity 1 issues to deploy on IBM Cloud. Which support plan is most cost effective?

- A. Free
- B. Basic
- C. Advanced
- D. Premium

➔ **Answer C.** The Advanced IBM Cloud support plan would be most cost effective for Severity 1 issues.



Course 4.3: Identity and Access Management (IAM)

Introduction and Objectives:

In Course 4.3 of the study guide, the subject matter:

- Explores how an account is secured with IBM Identity and Access Management (IAM).
- Provides information on user groups, resource groups, dynamic access groups, and account management.
- Highlights the similarities and differences of the service and platform roles.

Lessons

- Introduction and Objectives
- Identity and Access Management (IAM) Defined
- Assigning Access to Resources
- Service and Platform Roles
- IAM Scenario: Three Teams Working on Three Projects
- Course Summary
- Check Your Knowledge

Objectives

- Define Identity and Access Management (IAM)
- Identify two major IAM concepts: identity, and access management
- Identify the two common access control models
- Recognize how using access and resource groups benefits customers
- Recall how access is assigned to resources
- Differentiate the similarities and differences of service and platform roles



Course 4.3: Identity and Access Management (IAM)

Identity and Access Management (IAM) provides security and consistent access control.

It enables customers to securely authenticate users for platform services and control access to resources across the IBM Cloud platform. Its major aspects are Identity and Access Management.

Identity

Consists of user identities, service, and app identities, API keys, and resources.

Access Management

Enables target access and how users gain access to services in an account.

Access Control Models

There are two common access control models: ABAC and RBAC.

ABAC

Attribute-based Access Control (ABAC) is typically used when fine-grained access control is needed.

RBAC

Role-based Access Control (RBAC) defines the type of access that a user or service has in relation to a resource.

IAM Concepts

In IBM Cloud, IAM is comprised of four concepts:

1. Users – The people that log in and use the account.
2. Access groups – A collection of users.
3. Resources – A provisioned service offering with selections from the catalog.
4. Resource groups – A way of grouping resources together.

Actions in IAM

IAM roles define the level of access or allowed actions on the target of the policy. Actions are sometimes called permissions. They are mapped to the IBM Cloud IAM roles so that users perform only specific tasks when they are assigned a specific role.

Access policies

Access policies are how users, service IDs, and access groups in an account are given permission to access and take actions on account resources.

Each IAM Access Policy includes a **subject**, **target**, and **role**.

- **Subject** - Who has the access. A subject is a user, service ID, or access group.
- **Target** - What the subject can have access to. A target can be a service or resource in the account, a specific resource instance or type, or an account management service.
- **Role** - Defines what level of access the subject has on the target.



Course 4.3: Identity and Access Management (IAM)

Administrator Role

To assign access to resources in IAM, the account administrator must identify or create access groups, invite users to the account, and then manage the user access. It is the **Administrator that enables a user to manage resources**.

Access and Resource Groups

An IAM best practice is to use access and resource groups together. Using both resource groups and access groups streamlines access with a single resource group and a single access group containing all the users that need those resources. System administrators can assign a single policy that grants access to all resources in the resource group.

Enabling Security

Customers requiring enhanced security can require **multifactor authentication (MFA)** to add an extra layer of security to an account by requiring all users to authenticate using an additional authentication factor beyond an ID and password.

Service versus Resource

Service	Resource
A service is an entry from the IBM Cloud catalog, like a virtual machine or object storage, or one of the many other offerings.	A resource is an instance of a service. For example, in the IBM Cloud catalog there is a database service called Cloudant. We can provision two instances of this service and call them DB-dev and DV-prod. These would be our resources.

Service Roles versus Platform Roles

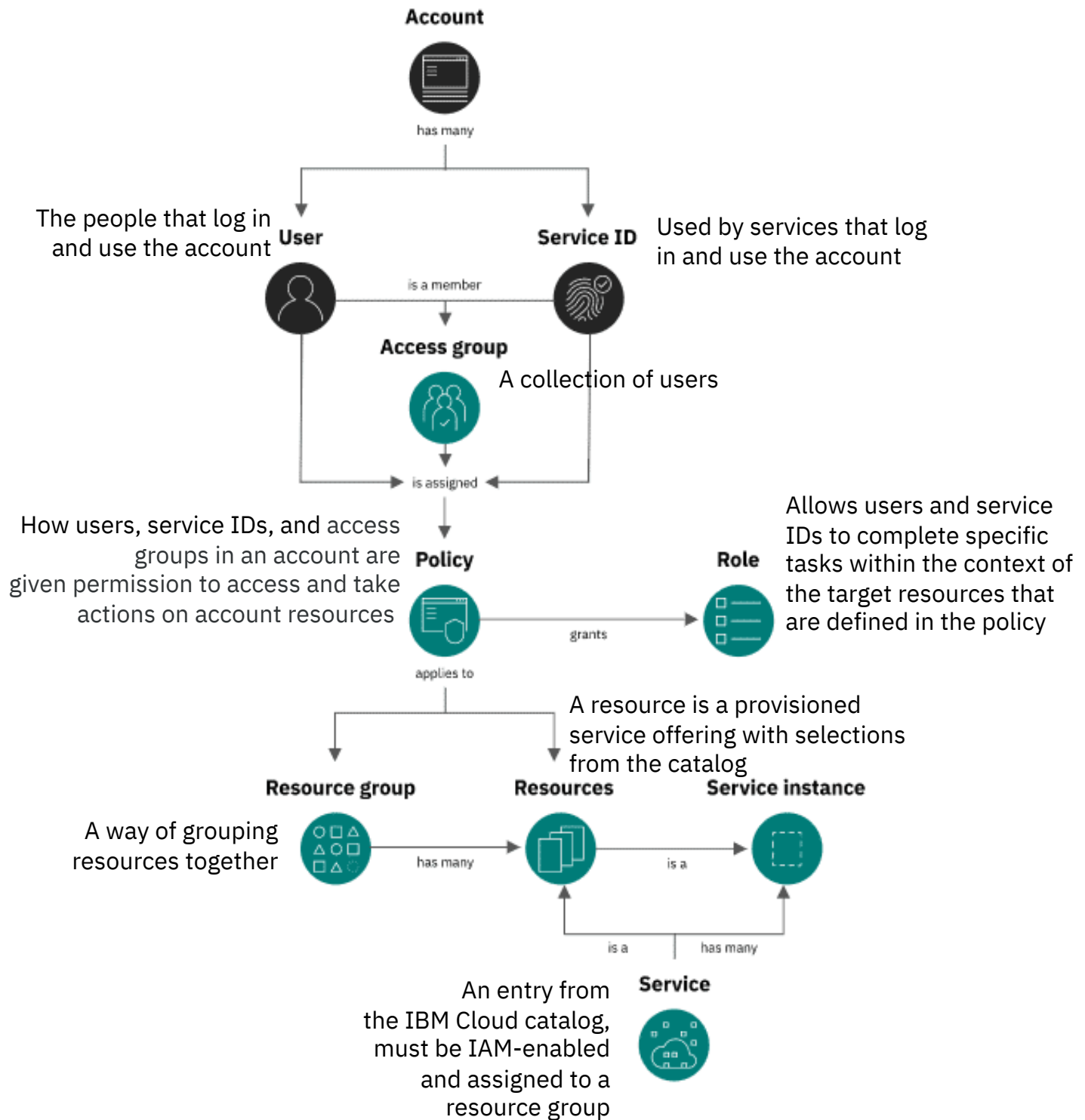
Service Roles - define a user or service's ability to perform actions on a service instance, such as accessing the console or performing API calls. There are three possible service access roles: manager, writer, and reader.

Platform Roles - cover a range of actions, including the ability to create and delete instances, manage aliases, bindings, and credentials, and manage access. Platform roles are viewer, operator, editor, and administrator.



Course 4.3: Identity and Access Management (IAM)

IBM Cloud IAM is comprised of component concepts.



4.3: Identity and Access Management (IAM) Check Your Knowledge



Question 1

Which IBM Cloud feature is used to control access to resources across the IBM Cloud platform and to authenticate users?

- A. Identity and Access Management
- B. Trusted Platform 2.0
- C. Hyper Protect Crypto Services
- D. Kubernetes Users Group

➔ **Answer A.** Identity and Access Management is used to control access to resources across the IBM Cloud platform and to authenticate users.

4.3: Identity and Access Management (IAM)

Check Your Knowledge



Question 2

Giving users access to more than one resource at a time is a benefit of IBM Cloud _____ resource groups.

- A. Kubernetes
- B. IAM (Identity and Access Management)
- C. Azure active directory
- D. MongoDB

➔ **Answer B.** Giving users access to more than one resource at a time is a benefit of IBM Cloud IAM (Identity and Access Management) resource groups.

4.3: Identity and Access Management (IAM) Check Your Knowledge



Question 3

An Identity and Access Management (IAM) policy is made of a subject, target, and role. What does IAM Target and IAM Subject define?

- A. Service, Login credentials
- B. User, Access rights
- C. Service, Access rights
- D. Service, User

➔ **Answer D.** IAM Target and IAM Subject define the service and user.

4.3: Identity and Access Management (IAM) Check Your Knowledge



Question 4

Which of these four concepts in IAM is an instance of a provision service offering from the catalog?

- A. Users
- B. Resources
- C. Resource groups
- D. Access groups

➔ **Answer B.** In IAM, resources is an instance of a provision service offering from the catalog.

4.3: Identity and Access Management (IAM)

Check Your Knowledge



Question 5

MongoDB is an example of a(n) _____. A production instance of MongoDB is an example of a _____.

- A. Service, resource
- B. User, service
- C. Service, resource group
- D. Access group, service

➔ **Answer A.** MongoDB is an example of a service. A production instance of MongoDB is an example of a resource.

4.3: Identity and Access Management (IAM) Check Your Knowledge



Question 6

Similar to how a user ID identifies a user, what identifies the service or application in Identity and Access Management?

- A. Access groups
- B. Zip codes
- C. Service IDs
- D. Resource groups

➔ **Answer C.** Service IDs identify the service or application in IAM.

4.3: Identity and Access Management (IAM) Check Your Knowledge



Question 7

Which role in Identity and Access Management would enable a user to manage resources?

- A. Administrator
- B. Editor
- C. Viewer
- D. Assistant

➔ **Answer A.** An administrator would enable a user to manage resources in Identity and Access Management.

4.3: Identity and Access Management (IAM) Check Your Knowledge



Question 8

Which feature in Identity and Access Management requires additional methods to prove identity and increase security?

- A. Single Sign-On (SSO)
- B. Domain Name Resolution
- C. Multi-factor Authentication (MFA)
- D. Key fob

➔ **Answer C.** Multi-factor Authentication (MFA) requires additional methods to provide, identify, and increase security in IAM.

4.3: Identity and Access Management (IAM) Check Your Knowledge



Question 9

In order for a user to perform only specific tasks when they are assigned the different rules, which component is mapped to Identity and Access Management roles?

- A. Resources
- B. Access groups
- C. Services
- D. Actions

➔ **Answer D:** Actions are mapped to Identity and Access Management roles in order for a user to perform only specific tasks then they are assigned the different rules.

Acronyms

Acronym	Acronym Expansion
ABAC	Attribute Based Access Control
API	Application Programming Interface
DB or db	Database
IAM	Identity and Access Management
MFA	Multifactor Authentication
RBAC	Role Based Access Control
SSO	Single Sign-On