

## Life Time: Your Body Clock and Its Essential Roles in Good Health and Sleep

Table of contents

Understand and work with scopes

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In this article

This article helps you understand billing and resource management scopes available in Azure and how to use the scopes in Cost Management and APIs.

Scopes

A scope is a node in the Azure resource hierarchy where Azure AD users access and manage services. Most Azure resources are created and deployed into resource groups, which are part of subscriptions. Microsoft also offers two hierarchies above Azure subscriptions that have specialized roles to manage billing data:

Billing data, such as payments and invoices

Cloud services, such as cost and policy governance

Scopes are where you manage billing data, have roles specific to payments, view invoices, and conduct general account management. Billing and account roles are managed separately from roles used for resource management, which use Azure RBAC. To clearly distinguish the intent of the separate scopes, including the access control differences, they're referred to as billing scopes and Azure RBAC scopes, respectively.

To learn more about scopes, watch the Cost Management setting up hierarchies video. To watch other videos, visit the Cost Management YouTube channel.

How Cost Management uses scopes

Cost Management works at all scopes above resources to allow organizations to manage costs at the level at which they have access, whether that's the entire billing account or a single resource group. Although billing scopes differ based on your Microsoft agreement (subscription type), the Azure RBAC scopes don't.

Azure RBAC scopes

Azure supports three scopes for resource management. Each scope supports managing access and governance, including but not limited to, cost management.

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Management groups - Hierarchical containers, used to organize Azure subscriptions. A management group tree can support up to six levels of depth. The limit doesn't include the Root level or the subscription level. Resource type: Microsoft.Management/managementGroups

Subscriptions - Primary containers for Azure resources. Resource type: Microsoft.Resources/subscriptions

Resource groups - Logical groupings of related resources for an Azure solution that share the same lifecycle. For example resources that are deployed and deleted together. Resource type: Microsoft.Resources/subscriptions/resourceGroups

Management groups allow you to organize subscriptions into a hierarchy. For example, you might create a logical organization hierarchy using management groups. Then, give teams subscriptions for production and dev/test workloads. And then create resource groups in the subscriptions to manage each subsystem or component.

Creating an organizational hierarchy allows cost and policy compliance to roll up organizationally. Then, each leader can view and analyze their current costs. And then they can create budgets to curb bad spending patterns and optimize costs with Advisor recommendations at the lowest level.

Granting access to view costs and optionally manage cost configuration, such as budgets and exports, is done on governance scopes using Azure RBAC. You use Azure RBAC to grant Azure AD users and groups access to do a predefined set of actions that are defined in a role on a specific scope and below. For instance, a role assigned to a management group scope also grants the same permissions to nested subscriptions and resource groups.

Cost Management supports the following built-in roles for each of the following scopes:

Owner â€" Can view costs and manage everything, including cost configuration.

â€" Can view costs and manage everything, including cost configuration. Contributor â€" Can view costs and manage everything, including cost configuration, but excluding access control.

â€" Can view costs and manage everything, including cost configuration, but excluding access control. Reader â€" Can

view everything, including cost data and configuration, but can't make any changes.

â€" Can view everything, including cost data and configuration, but can't make any changes. Cost Management Contributor â€" Can view costs, manage cost configuration, and view recommendations.

â€" Can view costs, manage cost configuration, and view recommendations. Cost Management Reader â€" Can view cost data, cost configuration, and view recommendations.

Cost Management Contributor is the recommended least-privilege role. The role allows people to create and manage budgets and exports to more effectively monitor and report on costs. Cost Management Contributors might also require additional roles to support complex cost management scenarios. Consider the following scenarios:

Reporting on resource usage â€" Cost Management shows cost in the Azure portal. It includes usage as it pertains to cost in the full usage patterns. This report can also show API and download charges, but you may also want to drill into detailed usage metrics in Azure Monitor to get a deeper understanding. Consider granting Monitoring Reader on any scope where you also need to report detailed usage metrics.

â€" Cost Management shows cost in the Azure portal. It includes usage as it pertains to cost in the full usage patterns. This report can also show API and download charges, but you may also want to drill into detailed usage metrics in Azure Monitor to get a deeper understanding. Consider granting Monitoring Reader on any scope where you also need to report detailed usage metrics. Act when budgets are exceeded â€" Cost Management Contributors also need access to create and manage action groups to automatically react to overages. Consider granting Monitoring Contributor to a resource group that contains the action group to use when budget thresholds are exceeded. Automating specific actions requires additional roles for the specific services used, such as Automation and Azure Functions.

â€" Cost Management Contributors also need access to create and manage action groups to automatically react to overages. Consider granting Monitoring Contributor to a resource group that contains the action group to use when budget thresholds are exceeded. Automating specific actions requires additional roles for the specific services used, such as Automation and Azure Functions. Schedule cost data export â€" Cost Management Contributors also need access to manage storage accounts to schedule an export to copy data into a storage account. Consider granting Storage Account Contributor to a resource group that contains the storage account where cost data is exported.

Cost Management Contributors also need access to manage storage accounts to schedule an export to copy data into a storage account. Consider granting Storage Account Contributor to a resource group that contains the storage account where cost data is exported. Viewing cost-saving recommendations Cost Management Readers and Cost Management Contributors have access to view cost recommendations by default. However, access to act on the cost recommendations requires access to individual resources. Consider granting a service-specific role if you want to act on a cost-based recommendation.

Note Management groups aren't currently supported in Cost Management features for Microsoft Customer Agreement subscriptions.

Management groups are only supported if they contain up to 3,000 Enterprise Agreement (EA), Pay-as-you-go (PAYG), or Microsoft internal subscriptions. Management groups with more than 3,000 subscriptions or subscriptions with other offer types, like Microsoft Customer Agreement or Azure Active Directory subscriptions, can't view costs.

If you have a mix of subscriptions, move the unsupported subscriptions to a separate arm of the management group hierarchy to enable Cost Management for the supported subscriptions. As an example, create two management groups under the root management group: Azure AD and My Org. Move your Azure AD subscription to the Azure AD management group and then view and manage costs using the My Org management group.

Feature behavior for each role

The following table shows how Cost Management features are used by each role. The behavior below is applicable to all Azure RBAC scopes.

Feature/Role	Owner Contributor	Reader	Cost Management Reader	Cost Management Contributor	Cost Analysis / Forecast / Query / Cost Details	API	Read only	Read only	Read only	Read only	Read only	Shared views	Create, Read, Update, Delete
Create, Read, Update, Delete	Read only	Read only	Create, Read, Update, Delete	Budgets	Create, Read, Update, Delete	Create, Read, Update, Delete	Read only	Read only	Create, Read, Update, Delete	Alerts	Read, Update	Read, Update	Read only
Create, Read, Update, Delete	Cost Allocation rules	Feature not available for Azure RBAC scopes	Feature not available for Azure RBAC scopes	Feature not available for Azure RBAC scopes	Feature not available for Azure RBAC scopes	Feature not available for Azure RBAC scopes	Feature not available for Azure RBAC scopes	Feature not available for Azure RBAC scopes	Feature not available for Azure RBAC scopes	Feature not available for Azure RBAC scopes	Feature not available for Azure RBAC scopes	Feature not available for Azure RBAC scopes	Feature not available for Azure RBAC scopes

not available for Azure RBAC scopes

Enterprise Agreement scopes

Enterprise Agreement (EA) billing accounts, also called enrollments, have the following scopes:

Billing account - Represents an EA enrollment. Invoices are generated at this scope. Purchases that aren't usage-based, such as Marketplace and reservations, are only available at this scope. They aren't represented in departments or enrollment accounts. Reservation usage, along with all other usage, is applied to individual resources. Usage rolls-up to subscriptions within the billing account. To see reservation costs broken down to each resource, switch to view Amortized cost in cost analysis. Resource type: Microsoft.Billing/billingAccounts (accountType = Enrollment)

Department - Optional grouping of enrollment accounts. Resource type: Billing/billingAccounts/departments

Enrollment account - Represents a single account owner. Doesn't support granting access to multiple people. Resource type: Microsoft.Billing/billingAccounts/enrollmentAccounts

Although governance scopes are bound to a single directory, EA billing scopes aren't. An EA billing account may have subscriptions across any number of Azure AD directories.

EA billing scopes support the following roles:

Enterprise admin â€" Can manage billing account settings and access, can view all costs, and can manage cost configuration. For example, budgets and exports.

â€" Can manage billing account settings and access, can view all costs, and can manage cost configuration. For example, budgets and exports. Enterprise read-only user â€" Can view billing account settings, cost data, and cost configuration. Can manage budgets and exports.

â€" Can view billing account settings, cost data, and cost configuration. Can manage budgets and exports. Department

admin â€" Can manage department settings, such as cost center, and can access, view all costs, and manage cost configuration. For example, budgets and exports. The DA view charges billing account setting must be enabled for department admins and read-only users to see costs. If DA view charges option is disabled, department users can't see costs at any level, even if they're an account or subscription owner.

â€" Can manage department settings, such as cost center, and can access, view all costs, and manage cost configuration. For example, budgets and exports. The billing account setting must be enabled for department admins and read-only users to see costs. If option is disabled, department users can't see costs at any level, even if they're an account or subscription owner. Department read-only user â€" Can view department settings, cost data, and cost configuration. Can manage budgets and exports. If DA view charges option is disabled, department users can't see costs at any level, even if they are an account or subscription owner.

â€" Can view department settings, cost data, and cost configuration. Can manage budgets and exports. If option is disabled, department users can't see costs at any level, even if they are an account or subscription owner. Account owner â€" Can manage enrollment account settings (such as cost center), view all costs, and manage cost configuration (such as budgets and exports) for the enrollment account. The AO view charges billing account setting must be enabled for account owners and Azure RBAC users to see costs.

EA billing account users don't have direct access to invoices. Invoices are available from an external volume licensing system.

Azure subscriptions are nested under enrollment accounts. Billing users have access to cost data for the subscriptions and resource groups that are under their respective scopes. They don't have access to see or manage resources in the Azure portal. Users can view costs by navigating to Cost Management + Billing in the Azure portal list of services. Then, they can filter costs to the specific subscriptions and resource groups they need to report on.

Billing users don't have access to management groups because they don't fall explicitly under a specific billing account. Access must be granted to management groups explicitly. Management groups roll-up costs from all nested subscriptions. However, they only include usage-based purchases. They don't include purchases such as reservations and third-party Marketplace offerings. To view these costs, use the EA billing account.

Feature behavior for each role

The following tables show how Cost Management features can be utilized by each role.

Enrollment scope

Feature/Role	Enterprise Admin	Enterprise Read-Only	Cost Analysis / Forecast / Query / Cost Details API	Read only	Read only Shared Views
Create	Create	Create	Create	Create	Create
Read	Read	Read	Read	Read	Read
Update	Update	Update	Update	Update	Update
Delete	Delete	Delete	Delete	Delete	Delete

Department scope

Feature/Role	Enterprise Admin	Enterprise Read Only	Department Admin (only if "DA view charges" setting is on)	Department Read Only (only if "DA view charges" setting is on)	Cost Analysis / Forecast / Query / Cost Details API
Read only	Read only	Read only	Read only	Read only	Read only
Shared Views	Create	Read	Update	Delete	Create
Create	Read	Update	Delete	Create	Read
Read	Update	Delete	Create	Read	Update
Delete	Create	Read	Update	Delete	Create
Budgets	Create	Read	Update	Delete	Create
Create	Read	Update	Delete	Create	Read
Read	Update	Delete	Create	Read	Update
Delete	Create	Read	Update	Delete	Create
Alerts	Read	Update	Read	Update	Read
Read	Update	Read	Update	Read	Update
Exports	Create	Read	Update	Delete	Create
Create	Read	Update	Delete	Create	Read
Read	Update	Delete	Create	Read	Update
Delete	Create	Read	Update	Delete	Create
Cost Allocation Rules	N/A	only applicable to Billing Account scope	N/A	only applicable to Billing Account scope	N/A

Account scope

Feature/Role	Enterprise Admin	Enterprise Read Only	Department Admin (only if "DA view charges" is on)	Department Read Only (only if "DA view charges" setting is on)	Account Owner (only if "AO view charges" setting is on)	Cost Analysis / Forecast / Query / Cost Details API
Read only	Read only	Read only	Read only	Read only	Read only	Read only
Shared Views	Create	Read	Update	Delete	Create	Read
Create	Read	Update	Delete	Create	Read	Update
Read	Update	Delete	Create	Read	Update	Delete
Delete	Create	Read	Update	Delete	Create	Read
Budgets	Create	Read	Update	Delete	Create	Read
Create	Read	Update	Delete	Create	Read	Update
Read	Update	Delete	Create	Read	Update	Delete
Delete	Create	Read	Update	Delete	Create	Read
Alerts	Read	Update	Read	Update	Read	Update
Read	Update	Read	Update	Read	Update	Read
Exports	Create	Read	Update	Delete	Create	Read
Create	Read	Update	Delete	Create	Read	Update
Read	Update	Delete	Create	Read	Update	Delete

Update, Delete Create, Read, Update, Delete Cost Allocation Rules N/A " only applicable to Billing Account scope N/A " only applicable to Billing Account scope N/A " only applicable to Billing Account scope N/A " only applicable to Billing Account scope N/A " only applicable to Billing Account scope

#### Individual agreement scopes

Azure subscriptions created from individual offers like pay-as-you-go and related types like Free Trial and dev/test offers, don't have an explicit billing account scope. Instead, each subscription has an account owner or account admin, like the EA account owner.

Billing account - Represents a single account owner for one or more Azure subscriptions. It doesn't currently support granting access to multiple people or access to aggregated cost views. Resource type: Not applicable

Individual Azure subscription account admins can view and manage billing data, such as invoices and payments, from the Azure portal > Subscriptions > select a subscription.

Unlike EA, individual Azure subscription account admins can see their invoices in the Azure portal. Keep in mind that Cost Management Reader and Cost Management Contributor roles don't provide access to invoices. For more information, see How to grant access to invoices.

#### Microsoft Customer Agreement scopes

Microsoft Customer Agreement billing accounts have the following scopes:

Billing account - Represents a customer agreement for multiple Microsoft products and services. Customer Agreement billing accounts aren't functionally the same as EA enrollments. EA enrollments are more closely aligned to billing profiles. Resource type: Microsoft.Billing/billingAccounts (accountType = Organization)

Billing profile - Defines the subscriptions that are included in an invoice. Billing profiles are the functional equivalent of an EA enrollment, since that's the scope that invoices are generated at. Similarly, purchases that aren't usage-based (such as Marketplace and reservations) are only available at this scope. They aren't included in



invoice sections. Resource type: Microsoft.Billing/billingAccounts/billingProfiles

Invoice section - Represents a group of subscriptions in an invoice or billing profile. Invoice sections are like departmentsâ€”multiple people can have access to an invoice section. Resource type: Microsoft.Billing/billingAccounts/invoiceSections

Customer - Represents a group of subscriptions that are associated to a specific customer that is onboarded to a Microsoft Customer Agreement by partner. This scope is specific to Cloud Solution Providers (CSP).

Unlike EA billing scopes, Customer Agreement billing accounts are managed by a single directory. Microsoft Customer Agreement billing accounts can have linked subscriptions that could be in different Azure AD directories.

Customer Agreement billing scopes don't apply to partners. Partner roles and permissions are documented at Assign users roles and permissions.

Customer Agreement billing scopes support the following roles:

Owner â€” Can manage billing settings and access, view all costs, and manage cost configuration. For example, budgets and exports. In function, this Customer Agreement billing scope is the same as the Cost Management Contributor Azure role.

â€” Can manage billing settings and access, view all costs, and manage cost configuration. For example, budgets and exports. In function, this Customer Agreement billing scope is the same as the Cost Management Contributor Azure role.  
Contributor â€” Can manage billing settings except access, view all costs, and manage cost configuration. For example, budgets and exports. In function, this Customer Agreement billing scope is the same as the Cost Management Contributor Azure role.

â€” Can manage billing settings except access, view all costs, and manage cost configuration. For example, budgets and exports. In function, this Customer Agreement billing scope is the same as the Cost Management Contributor Azure role.  
Reader â€” Can view billing settings, cost data, and cost configuration. Can manage budgets and exports.

â€" Can view billing settings, cost data, and cost configuration. Can manage budgets and exports. Invoice manager â€" Can view and pay invoices and can view cost data and configuration. Can manage budgets and exports.

â€" Can view and pay invoices and can view cost data and configuration. Can manage budgets and exports. Azure subscription creator â€" Can create Azure subscriptions, view costs, and manage cost configuration. For example, budgets and exports. In function, this Customer Agreement billing scope is the same as the EA enrollment account owner role.

Azure subscriptions are nested under invoice sections, like how they are under EA enrollment accounts. Billing users have access to cost data for the subscriptions and resource groups that are under their respective scopes. However, they don't have access to see or manage resources in the Azure portal. Billing users can view costs by navigating to Cost Management + Billing in the Azure portal list of services. Then, filter costs to the specific subscriptions and resource groups they need to report on.

Note Management group scopes aren't supported for Microsoft Customer Agreement accounts at this time.

Billing users don't have access to management groups because they don't explicitly fall under the billing account. However, when management groups are enabled for the organization, all subscription costs are rolled-up to the billing account and to the root management group because they're both constrained to a single directory. Management groups only include purchases that are usage-based. Purchases like reservations and third-party Marketplace offerings aren't included in management groups. So, the billing account and root management group may report different totals. To view these costs, use the billing account or respective billing profile.

Feature behavior for each role

The following tables show how Cost Management features can be utilized by each role.

Billing account

Feature/Role	Owner	Contributor	Reader	Cost Analysis / Forecast / Query / Cost Details API	Read only	Read only	Read only
Shared Views	Create, Read, Update, Delete	Create, Read, Update, Delete	Create, Read, Update, Delete	Create, Read, Update, Delete	Budgets		

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Create, Read, Update, Delete Create, Read, Update, Delete Create, Read, Update, Delete Alerts Read, Update Read, Update Read, Update Exports Create, Read, Update, Delete Create, Read, Update, Delete Create, Read, Update, Delete Cost Allocation Rules Create, Read, Update, Delete Create, Read, Update, Delete Read only

Billing profile

Feature/Role Owner Contributor Reader Invoice Manager Cost Analysis / Forecast / Query / Cost Details API Read only Read only Read only Read only Shared Views Create, Read, Update, Delete Create, Read, Update, Delete Create, Read, Update, Delete Create, Read, Update, Delete Budgets Create, Read, Update, Delete Create, Read, Update, Delete Create, Read, Update, Delete Alerts Read, Update Read, Update Read, Update Create, Read, Update, Delete Exports Create, Read, Update, Delete Create, Read, Update, Delete Read, Update Cost Allocation Rules N/A " only applicable to Billing Account N/A " only applicable to Billing Account N/A " only applicable to Billing Account N/A " only applicable to Billing Account

Invoice section

Feature/Role Owner Contributor Reader Azure Subscription Creator Cost Analysis / Forecast / Query / Cost Details API Read only Read only Read only Read only Shared Views Create, Read, Update, Delete Create, Read, Update, Delete Create, Read, Update, Delete Create, Read, Update, Delete Budgets Create, Read, Update, Delete Create, Read, Update, Delete Create, Read, Update, Delete Alerts Read, Update Read, Update Read, Update Read, Update Exports Create, Read, Update, Delete Create, Read, Update, Delete Create, Read, Update, Delete Cost Allocation Rules N/A " only applicable to Billing Account N/A " only applicable to Billing Account N/A " only applicable to Billing Account N/A " only applicable to Billing Account

AWS scopes

After AWS integration is complete, see setup and configure AWS integration. The following scopes are available:

External Billing account - Represents a customer agreement with a third-party vendor. It's similar to the EA billing account. Resource type: Microsoft.CostManagement/externalBillingAccounts

External subscription - Represents a customer operational account with a third-party vendor. It's similar to an Azure subscription. Resource type: `Microsoft.CostManagement/externalSubscriptions`

Cloud Solution Provider (CSP) scopes

The following scopes are supported for CSPs with customers on a Microsoft Customer Agreement:

Billing account - Represents a customer agreement for multiple Microsoft products and services. Customer Agreement billing accounts aren't functionally the same as EA enrollments. EA enrollments are more closely aligned to billing profiles. Resource type: `Microsoft.Billing/billingAccounts` (`accountType = Organization`)

Billing profile - Defines the subscriptions that are included in an invoice. Billing profiles are the functional equivalent of an EA enrollment, since that's the scope that invoices are generated at. Similarly, purchases that aren't usage-based (such as Marketplace and reservations) are only available at this scope. Resource type: `Microsoft.Billing/billingAccounts/billingProfiles`

Customer - Represents a group of subscriptions that are associated to a specific customer that is onboarded to a Microsoft Customer Agreement by a partner.

Only the users with Global admin and Admin agent roles can manage and view costs for billing accounts, billing profiles, and customers directly in the partner's Azure tenant. For more information about partner center roles, see [Assign users roles and permissions](#).

Cost Management only supports CSP partner customers if the customers have a Microsoft Customer Agreement. For CSP supported customers who aren't yet on a Microsoft Customer Agreement, see [Partner Center](#).

Management groups in CSP scopes aren't supported by Cost Management. If you have a CSP subscription and you set the scope to a management group in cost analysis, you'll see an error similar to:

Management group does not have any valid subscriptions

### Switch between scopes in Cost Management

All Cost Management views in the Azure portal include a Scope selection pill at the top-left of the view. Use it to quickly change scope. Select the Scope pill to open the scope picker. It shows billing accounts, the root management group, and any subscriptions that aren't nested under the root management group. To select a scope, select the background to highlight it and then select Select at the bottom. To drill-in to nested scopes, like resource groups in a subscription, select the scope name link. To select the parent scope at any nested level, select Select this at the top of the scope picker.

### Identify the resource ID for a scope

When working with Cost Management APIs, knowing the scope is critical. Use the following information to build the proper scope URI for Cost Management APIs.

#### Billing accounts

Open the Azure portal and then navigate to Cost Management + Billing in the list of services. Select Properties in the billing account menu. Copy the billing account ID. Your scope is:

```
"/providers/Microsoft.Billing/billingAccounts/{billingAccountId}"
```

#### Billing profiles

Open the Azure portal and then navigate to Cost Management + Billing in the list of services. Select Billing profiles in the billing account menu. Select the name of the billing profile. Select Properties in the billing profile menu. Copy the billing account and billing profile IDs. Your scope is:

```
"/providers/Microsoft.Billing/billingAccounts/{billingAccountId}/billingProfiles/{billingProfileId}"
```

#### Invoice sections

Open the Azure portal and then navigate to Cost Management + Billing in the list of services. Select Invoice sections in the billing account menu. Select the name of the invoice section. Select Properties in the invoice section menu.

Copy the billing account and invoice section IDs. Your scope is:

"/providers/Microsoft.Billing/billingAccounts/{billingAccountId}/invoiceSections/{invoiceSectionId}"

EA departments

Open the Azure portal and then navigate to Cost Management + Billing in the list of services. Select Departments in the billing account menu. Select the name of the department. Select Properties in the department menu. Copy the billing account and department IDs. Your scope is:

"/providers/Microsoft.Billing/billingAccounts/{billingAccountId}/departments/{departmentId}"

EA enrollment account

Open the Azure portal and navigate to Cost Management + Billing in the list of services. Select Enrollment accounts in the billing account menu. Select the name of the enrollment account. Select Properties in the enrollment account menu. Copy the billing account and enrollment account IDs. Your scope is:

"/providers/Microsoft.Billing/billingAccounts/{billingAccountId}/enrollmentAccounts/{enrollmentAccountId}"

Management group

Open the Azure portal and navigate to Management groups in the list of services. Navigate to the management group. Copy the management group ID from the table. Your scope is: "/providers/Microsoft.Management/managementGroups/{id}"

Subscription

Open the Azure portal and navigate to Subscriptions in the list of services. Copy the subscription ID from the table. Your scope is: "/subscriptions/{id}"

Resource groups

Open the Azure portal and navigate to Resource groups in the list of services. Select the name of the resource group. Select Properties in the resource group menu. Copy the resource ID field value. Your scope is:

```
"/subscriptions/{id}/resourceGroups/{name}"
```

Cost Management is currently supported in Azure Global with <https://management.azure.com> and Azure Government with <https://management.usgovcloudapi.net> . For more information about Azure Government, see Azure Global and Government API endpoints.

Next steps

## Reference

[MCAT Critical Analysis and Reasoning Skills Review 2023-2024: Online + Book \(Kaplan Test Prep\)](#)

[The Gift of Therapy: An Open Letter to a New Generation of Therapists and Their Patients](#)