# Define your naming convention

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An effective naming convention composes resource names from important information about each resource. A well-chosen name helps you quickly identify the resource's type, its associated workload, its deployment environment, and the Azure region hosting it. For example, a public IP resource for a production SharePoint workload residing in the West US region might be pip-sharepoint-prod-westus-001.

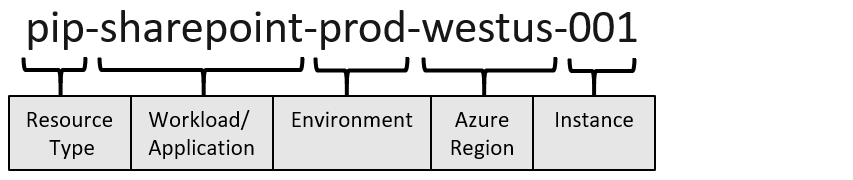


Diagram 1: Components of an Azure resource name.

## Naming scope

All Azure resource types have a scope that defines the level that resource names must be unique. A resource must have a unique name within its scope.

For example, a virtual network has a resource group scope, which means that there can be only one network named vnet-prod-westus-001 in a given resource group. Other resource groups could have their own virtual network named vnet-prod-westus-001. Subnets are scoped to virtual networks, so each subnet within a virtual network must have a distinct name.

Some resource names, such as PaaS services with public endpoints or virtual machine DNS labels, have global scopes, so they must be unique across the entire Azure platform.

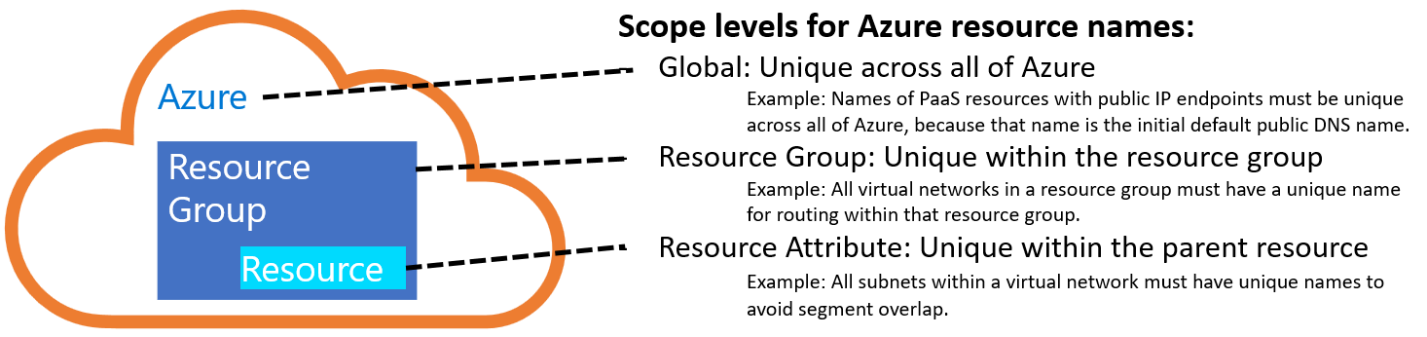


Diagram 2: Scope levels for Azure resource names.

Resource names have length limits. Balancing the context embedded in a name with its scope and length limit is important when you develop your naming conventions. For more information, see [naming rules and restrictions for Azure resources](https://docs.microsoft.com/en-us/azure/azure-resource-manager/management/resource-name-rules).

### Recommended naming components

When you construct your naming convention, identify the key pieces of information that you want to reflect in a resource name. Different information is relevant for different resource types. The following list provides examples of information that are useful when you construct resource names.

Keep the length of naming components short to prevent exceeding resource name length limits.

| Recommended naming components | |
| --- | --- |
| **Naming component** | **Description** |
| **Resource type** | An abbreviation that represents the type of Azure resource or asset. This component is often used as a prefix or suffix in the name. For more information, see [Recommended abbreviations for Azure resource types](https://docs.microsoft.com/en-us/azure/cloud-adoption-framework/ready/azure-best-practices/resource-abbreviations). Examples: rg, vm |
| **Business unit** | Top-level division of your company that owns the subscription or workload the resource belongs to. In smaller organizations, this component might represent a single corporate top-level organizational element. Examples: fin, mktg, product, it, corp |
| **Application or service name** | Name of the application, workload, or service that the resource is a part of. Examples: navigator , emissions, sharepoint, hadoop |
| **Subscription type** | Summary description of the purpose of the subscription that contains the resource. Often broken down by deployment environment type or specific workloads. Examples: prod, shared, client |
| **Deployment environment** | The stage of the development lifecycle for the workload that the resource supports. Examples: prod, dev, qa, stage, test |
| **Region** | The Azure region where the resource is deployed. Examples: westus, eastus2, westeu, usva, ustx |

## Example names for common Azure resource types

The following section provides some example names for common Azure resource types in an enterprise cloud deployment.

Note

Some of these example names use a three-digit padding scheme (###), such as mktg-prod-001.

Padding improves readability and sorting of assets when those assets are managed in a configuration management database (CMDB), IT Asset Management tool, or traditional accounting tools. When the deployed asset is managed centrally as part of a larger inventory or portfolio of IT assets, the padding approach aligns with interfaces those systems use to manage inventory naming.

Unfortunately, the traditional asset padding approach can prove problematic in infrastructure-as-code approaches which may iterate through assets based on a non-padded number. This approach is common during deployment or automated configuration management tasks. Those scripts would have to routinely strip the padding and convert the padded number to a real number, which slows script development and run time.

Choose an approach that's suitable for your organization. The padding shown here illustrates the importance of using a consistent approach to inventory numbering, rather than which approach is superior. Before choosing a numbering scheme (with or without padding), evaluate what will affect long-term operations more: CMDB/asset management solutions or code-based inventory management. Then consistently follow the padding option that best fits your operational needs.

## Example names: General

| Example names: General | | |
| --- | --- | --- |
| **Asset type** | **Scope** | **Format and examples** |
| **Management group** | Business unit and/or  environment type | mg-<business unit>[-<environment type>]   mg-mktg   mg-hr   mg-corp-prod   mg-fin-client |
| **Subscription** | Account / enterprise agreement | <business unit>-<subscription type>-<###>   mktg-prod-001   corp-shared-001   fin-client-001 |
| **Resource group** | Subscription | rg-<app or service name>-<subscription type>-<###>   rg-mktgsharepoint-prod-001   rg-acctlookupsvc-shared-001   rg-ad-dir-services-shared-001 |
| **API management service instance** | Global | apim-<app or service name>   apim-navigator-prod |
| **Managed identity** | Resource group | id-<app or service name>   id-appcn-keda-prod-eastus2-001 |

## Example names: Networking

| Example names: Networking | | |
| --- | --- | --- |
| **Asset type** | **Scope** | **Format and examples** |
| **Virtual network** | Resource group | vnet-<subscription type>-<region>-<###>   vnet-shared-eastus2-001   vnet-prod-westus-001   vnet-client-eastus2-001 |
| **Subnet** | Virtual network | snet-<subscription>-<region>-<###>   snet-shared-eastus2-001   snet-prod-westus-001   snet-client-eastus2-001 |
| **Network interface (NIC)** | Resource group | nic-<##>-<vm name>-<subscription>-<###>   nic-01-dc1-shared-001   nic-02-vmhadoop1-prod-001   nic-02-vmtest1-client-001 |
| **Public IP address** | Resource group | pip-<vm name or app name>-<environment>-<region>-<###>   pip-dc1-shared-eastus2-001   pip-hadoop-prod-westus-001 |
| **Load balancer** | Resource group | lb-<app name or role>--<###>   lb-navigator-prod-001   lb-sharepoint-dev-001 |
| **Network security group (NSG)** | Subnet or NIC | nsg-<policy name or app name>-<###>   nsg-weballow-001   nsg-rdpallow-001   nsg-sqlallow-001   nsg-dnsblocked-001 |
| **Local network gateway** | Virtual gateway | lgw-<subscription type>-<region>-<###>   lgw-shared-eastus2-001   lgw-prod-westus-001   lgw-client-eastus2-001 |
| **Virtual network gateway** | Virtual network | vgw-<subscription type>-<region>-<###>   vgw-shared-eastus2-001   vgw-prod-westus-001   vgw-client-eastus2-001 |
| **Virtual network gateway** | Virtual network | vgw-<subscription type>-<region>-<###>   vgw-shared-eastus2-001   vgw-prod-westus-001   vgw-client-eastus2-001 |
| **Site-to-site connection** | Resource group | cn-<local gateway name>-to-<virtual gateway name>   cn-lgw-shared-eastus2-001-to-vgw-shared-eastus2-001   cn-lgw-shared-eastus2-001-to-vgw-shared-westus-001 |
| **VPN connection** | Resource group | cn-<subscription1>-<region1>-to-<subscription2>-<region2>-   cn-shared-eastus2-to-shared-westus   cn-prod-eastus2-to-prod-westus |
| **Route table** | Resource group | route-<route table name>   route-navigator   route-sharepoint |
| **DNS label** | Global | <DNS A record for VM>.<region>.cloudapp.azure.com   dc1.westus.cloudapp.azure.com   web1.eastus2.cloudapp.azure.com |

## Example names: Compute and Web

| Example names: Compute and Web | | |
| --- | --- | --- |
| **Asset type** | **Scope** | **Format and examples** |
| **Virtual machine** | Resource group | vm<policy name or app name><###>   vmnavigator001   vmsharepoint001   vmsqlnode001   vmhadoop001 |
| **VM storage account** | Global | stvm<performance type><app name or prod name><region><###>   stvmstcoreeastus2001   stvmpmcoreeastus2001   stvmstplmeastus2001   stvmsthadoopeastus2001 |
| **Web app** | Global | app-<app name>-<environment>-<###>.azurewebsites.net   app-navigator-prod-001.azurewebsites.net   app-accountlookup-dev-001.azurewebsites.net |
| **Function app** | Global | func-<app name>-<environment>-<###>.azurewebsites.net   func-navigator-prod-001.azurewebsites.net   func-accountlookup-dev-001.azurewebsites.net |
| **Cloud service** | Global | cld-<app name>-<environment>-<###>.cloudapp.net}   cld-navigator-prod-001.azurewebsites.net   cld-accountlookup-dev-001.azurewebsites.net |
| **Notification Hubs namespace** | Global | ntfns-<app name>-<environment>   ntfns-navigator-prod   ntfns-emissions-dev |
| **Notification hub** | Notification Hubs namespace | ntf-<app name>-<environment>   ntf-navigator-prod   ntf-emissions-dev |

## Example names: Databases

| Example names: Databases | | |
| --- | --- | --- |
| **Asset type** | **Scope** | **Format and examples** |
| **Azure SQL Database server** | Global | sql-<app name>-<environment>   sql-navigator-prod   sql-emissions-dev |
| **Azure SQL database** | Azure SQL Database | sqldb-<database name>-<environment>   sqldb-users-prod   sqldb-users-dev |
| **Azure Cosmos DB database** | Global | cosmos-<app name>-<environment>   cosmos-navigator-prod   cosmos-emissions-dev |
| **Azure Cache for Redis instance** | Global | redis-<app name>-<environment>   redis-navigator-prod   redis-emissions-dev |
| **MySQL database** | Global | mysql-<app name>-<environment>   mysql-navigator-prod   mysql-emissions-dev |
| **PostgreSQL database** | Global | psql-<app name>-<environment>   psql-navigator-prod   psql-emissions-dev |
| **Azure SQL Data Warehouse** | Global | sqldw-<app name>-<environment>   sqldw-navigator-prod   sqldw-emissions-dev |
| **SQL Server Stretch Database** | Azure SQL Database | sqlstrdb-<app name>-<environment>   sqlstrdb-navigator-prod   sqlstrdb-emissions-dev |

## Example names: Storage

| Example names: Storage | | |
| --- | --- | --- |
| **Asset type** | **Scope** | **Format and examples** |
| **Storage account (general use)** | Global | st<storage name><###>   stnavigatordata001   stemissionsoutput001 |
| **Storage account (diagnostic logs)** | Global | stdiag<first 2 letters of subscription name and number><region><###>   stdiagsh001eastus2001   stdiagsh001westus001 |
| **Azure StorSimple** | Global | ssimp<app name>-<environment>   ssimpnavigatorprod   ssimpemissionsdev |
| **Azure Container Registry** | Global | acr<app name><environment><###>   acrnavigatorprod001 |

## Example names: AI and machine learning

| Example names: AI and machine learning | | |
| --- | --- | --- |
| **Asset type** | **Scope** | **Format and examples** |
| **Azure Cognitive Search** | Global | srch-<app name>-<environment>   srch-navigator-prod   srch-emissions-dev |
| **Azure Cognitive Services** | Resource group | cog-<app name>-<environment>   cog-navigator-prod   cog-emissions-dev |
| **Azure Machine Learning workspace** | Resource group | mlw-<app name>-<environment>   mlw-navigator-prod   mlw-emissions-dev |

## Example names: Analytics and IoT

| Example names: Analytics and IoT | | |
| --- | --- | --- |
| **Asset type** | **Scope** | **Format and examples** |
| **Azure Data Factory** | Global | adf-<app name><environment>   adf-navigator-prod   adf-emissions-dev |
| **Azure Stream Analytics** | Resource group | asa-<app name>-<environment>   asa-navigator-prod   asa-emissions-dev |
| **Data Lake Analytics account** | Global | dla<app name><environment>   dlanavigatorprod   dlanavigatorprod |
| **Data Lake Storage account** | Global | dls<app name><environment>   dlsnavigatorprod   dlsemissionsdev |
| **Event hub** | Global | evh-<app name>-<environment>   evh-navigator-prod   evh-emissions-dev |
| **HDInsight - HBase cluster** | Global | hbase-<app name>-<environment>   hbase-navigator-prod   hbase-emissions-dev |
| **HDInsight - Hadoop cluster** | Global | hadoop-<app name>-<environment>   hadoop-navigator-prod   hadoop-emissions-dev |
| **HDInsight - Spark cluster** | Global | spark-<app name>-<environment>   spark-navigator-prod   spark-emissions-dev |
| **IoT hub** | Global | iot-<app name>-<environment>   iot-navigator-prod   iot-emissions-dev |
| **Power BI Embedded** | Global | pbi-<app name>-<environment>   pbi-navigator-prod   pbi-emissions-dev |

## Example names: Integration

| Example names: Integration | | |
| --- | --- | --- |
| **Asset type** | **Scope** | **Format and Examples** |
| **Service Bus** | Global | sb-<app name>-<environment>.servicebus.windows.net   sb-navigator-prod   sb-emissions-dev |
| **Service Bus queue** | Service Bus | sbq-<query descriptor>   sbq-messagequery |
| **Service Bus topic** | Service Bus | sbt-<query descriptor>   sbt-messagequery |

**General**

| General | |
| --- | --- |
| **Asset type** | **Abbreviation** |
| Management group | mg- |
| Resource group | rg- |
| Policy definition | policy- |
| API management service instance | apim- |
| Managed Identity | id- |

**Networking**

| Networking | |
| --- | --- |
| **Asset type** | **Abbreviation** |
| Virtual network | vnet- |
| Subnet | snet- |
| Virtual network peering | peer- |
| Network interface (NIC) | nic- |
| Public IP address | pip- |
| Load balancer (internal) | lbi- |
| Load balancer (external) | lbe- |
| Network security group (NSG) | nsg- |
| Application security group (ASG) | asg- |
| Local network gateway | lgw- |
| Virtual network gateway | vgw- |
| VPN connection | cn- |
| ExpressRoute circuit | erc- |
| Application gateway | agw- |
| Route table | route- |
| User defined route (UDR) | udr- |
| Traffic Manager profile | traf- |
| Front door | fd- |
| CDN profile | cdnp- |
| CDN endpoint | cdne- |
| Web Application Firewall (WAF) policy | waf |

**Compute and Web**

| Compute and Web | |
| --- | --- |
| **Asset type** | **Abbreviation** |
| Virtual machine | vm |
| Virtual machine scale set | vmss- |
| Availability set | avail- |
| Managed disk (OS) | osdisk |
| Managed disk (data) | disk |
| VM storage account | stvm |
| Azure Arc enabled server | arcs- |
| Azure Arc enabled Kubernetes cluster | arck |
| Container registry | cr |
| Container instance | ci- |
| AKS cluster | aks- |
| Service Fabric cluster | sf- |
| App Service environment | ase- |
| App Service plan | plan- |
| Web app | app- |
| Function app | func- |
| Cloud service | cld- |
| Notification Hubs | ntf- |
| Notification Hubs namespace | ntfns- |

**Databases**

| Databases | |
| --- | --- |
| **Asset type** | **Abbreviation** |
| Azure SQL Database server | sql- |
| Azure SQL database | sqldb- |
| Azure Cosmos DB database | cosmos- |
| Azure Cache for Redis instance | redis- |
| MySQL database | mysql- |
| PostgreSQL database | psql- |
| Azure SQL Data Warehouse | sqldw- |
| Azure Synapse Analytics | syn- |
| SQL Server Stretch Database | sqlstrdb- |
| SQL Managed Instance | sqlmi- |

**Storage**

| Storage | |
| --- | --- |
| **Asset type** | **Abbreviation** |
| Storage account | st |
| Azure StorSimple | ssimp |
| Azure Container Registry | acr |

**AI and Machine Learning**

| AI and Machine Learning | |
| --- | --- |
| **Asset type** | **Abbreviation** |
| Azure Cognitive Search | srch- |
| Azure Cognitive Services | cog- |
| Azure Machine Learning workspace | mlw- |

**Analytics and IoT**

| Analytics and IoT | |
| --- | --- |
| **Asset type** | **Abbreviation** |
| Azure Analysis Services server | as |
| Azure Databricks workspace | dbw- |
| Azure Stream Analytics | asa- |
| Azure Data Explorer cluster | dec |
| Azure Data Factory | adf- |
| Data Lake Store account | dls |
| Data Lake Analytics account | dla |
| Event hub | evh- |
| HDInsight - Hadoop cluster | hadoop- |
| HDInsight - HBase cluster | hbase- |
| HDInsight - Kafka cluster | kafka- |
| HDInsight - Spark cluster | spark- |
| HDInsight - Storm cluster | storm- |
| HDInsight - ML Services cluster | mls- |
| IoT hub | iot- |
| Power BI Embedded | pbi- |
| Time Series Insights environment | tsi- |

**Developer tools**

| Developer tools | |
| --- | --- |
| **Asset type** | **Abbreviation** |
| App Configuration store | appcs- |

**Integration**

| Integration | |
| --- | --- |
| **Asset type** | **Abbreviation** |
| Integration account | ia- |
| Logic apps | logic- |
| Service Bus | sb- |
| Service Bus queue | sbq- |
| Service Bus topic | sbt- |

**Management and governance**

| Management and governance | |
| --- | --- |
| **Asset type** | **Abbreviation** |
| Automation account | aa- |
| Azure Monitor action group | ag- |
| Blueprint | bp- |
| Blueprint assignment | bpa- |
| Key vault | kv- |
| Log Analytics workspace | log- |
| Application Insights | appi- |

**Migration**

| Migration | |
| --- | --- |
| **Asset type** | **Abbreviation** |
| Azure Migrate project | migr- |
| Database Migration Service instance | dms- |
| Recovery Services vault | rsv- |

**Minimum suggested tags**

The following tags will guide implementation and processes in all subsequent Cloud Adoption Framework methodologies. Many of the best practices in those methodologies demonstrate automation of cloud operations and governance based on the following tags.

| Minimum suggested tags | | |
| --- | --- | --- |
| **Tag Name** | **Description** | **Key and example values** |
| **Workload name** | Name of the workload the resource supports. | *WorkloadName*   ControlCharts |
| **Data classification** | Sensitivity of data hosted by this resource. | *DataClassification*   Non-business   Public   General   Confidential   Highly confidential |
| **Business criticality** | Business impact of the resource or supported workload. | *Criticality*   Low   Medium   High   Business unit-critical   Mission-critical |
| **Business unit** | Top-level division of your company that owns the subscription or workload that the resource belongs to. In smaller organizations, this tag might represent a single corporate or shared top-level organizational element. | *BusinessUnit*   Finance   Marketing   Product XYZ   Corp   Shared |
| **Operations commitment** | Level of operations support provided for this workload or resource. | *OpsCommitment*   Baseline only   Enhanced baseline   Platform operations   Workload operations |
| **Operations team** | Team accountable for day-to-day operations. | *OpsTeam*   Central IT   Cloud operations   ControlCharts team   MSP-{Managed Service Provider name} |

**Additional common tagging examples**

The following are a number of tags commonly used across Azure to increase visibility into the usage of Azure resources.

| Additional common tagging examples | | |
| --- | --- | --- |
| **Tag Name** | **Description** | **Key and example values** |
| **Application name** | Added granularity, if the workload is subdivided across multiple applications or services. | *ApplicationName*   IssueTrackingSystem |
| **Approver name** | Person responsible for approving costs related to this resource. | *Approver*   chris@contoso.com |
| **Budget required/approved** | Money allocated for this application, service, or workload. | *BudgetAmount*   $200,000 |
| **Cost center** | Accounting cost center associated with this resource. | *CostCenter*   55332 |
| **Disaster recovery** | Business criticality of the application, workload, or service. | *DR*   Mission-critical   Critical   Essential |
| **End date of the project** | Date when the application, workload, or service is scheduled for retirement. | *EndDate*   10/15/2023 |
| **Environment** | Deployment environment of the application, workload, or service. | *Env*   Prod   Dev   QA   Stage   Test |
| **Owner name** | Owner of the application, workload, or service. | *Owner*   jane@contoso.com |
| **Requester name** | User who requested the creation of this application. | *Requester*   john@contoso.com |
| **Service class** | Service level agreement level of the application, workload, or service. | *ServiceClass*   Dev   Bronze   Silver   Gold |
| **Start date of the project** | Date when the application, workload, or service was first deployed. | *StartDate*   10/15/2020 |