

Migration Center

Quick Start

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1 Quick Start

This section provides an overview of MgC core functions to help you quickly grasp its key capabilities.

TCO Analysis

Function	Description
TCO Analysis for On-Prem to Cloud Migration	You can specify your on-premises infrastructure details and related assumptions to estimate the potential cost savings from migrating workloads to Huawei Cloud. The system provides target equivalents for your source resources along with their pricing, helping you make informed decisions about cloud migration.
Credential-based TCO Analysis for Cross-Cloud Migration	You can use MgC to identify what and how many source resources you used, match the source resources with Huawei Cloud alternatives, and then compare the costs of your source environment with the costs on Huawei Cloud.

Resource Survey

Function	Description
Online Discovery	You can discover your resources on cloud platforms and collect resource details over the Internet.
Intranet Discovery	You can discover servers running in on-premises IDCs and vCenters. Before getting started, you need to install the MgC Agent in the source intranet. Then you can discover servers by network range or VMware vCenter.

Function	Description
Importing RVTools Data	You can export a server list in Excel from RVTools and then import it into MgC. Once the import is complete, the system will automatically extract server details and display them in the server list.
Importing Details of Cloud Resources	You can export resource details from Alibaba Cloud and Azure in CSV and import them directly into MgC. Once the import is complete, you can check and manage the resource details on the MgC console.
Importing Collected Data	You can use offline collectors to discover your resources and collect their details, and import the collected details to MgC for automated application dependency and association analysis.
Manually Adding Resources	You can manually add details of servers and Oracle databases to MgC. To gather details about these resources, you need to install the MgC Agent in the source environment.
Questionnaires	By completing the questionnaires crafted from years of Huawei Cloud expertise, you can organize your source architecture and resources.

Cloud Migration Assessment

Function	Description
Generating Target Recommendations	You can get recommendations for Huawei Cloud resources based on the specifications, performance, and business purpose of source resources as well as your requirements for costs, availability, security, and compliance.
Assessing Migration Risks	You can assess potential migration risks before performing a migration. The assessment results will indicate whether your source servers are compatible with the target cloud in terms of OS, firmware, and specifications.
Estimating Storage Migration Costs	You can estimate the costs and time required to migrate your storage data to Huawei Cloud based on the size and number of files to be migrated. MgC will calculate a migration cluster size, network bandwidth, and costs for the migration. This allows you to choose a migration solution that best fits your needs and budget.

Function	Description
Big Data Migration Evaluation	You can assess how much migration resources are required based on the number of tables and the volume of incremental data to be processed. The speed of data verification tasks depends on the cluster size. You can plan resources in advance to avoid project suspension due to insufficient resources, ensure efficient migration, and prevent service interruptions and cost wastes.

Migration Implementation

Function	Description
Migration Plans	You can create migration plans using the templates for different scenarios: server migration, object storage migration, and file storage migration. Based on migration plans, you can seamlessly create migration workflows.
Migration Workflows	You can create migration workflows using templates for different scenarios. If needed, you can add stages and steps into workflows to meet your specific requirements. You can execute workflows with one click and track the migration progress in real time.
Big Data Migration	You can migrate big data from Alibaba Cloud MaxCompute to Huawei Cloud DLI.
Big Data Verification	You can verify the consistency of data migrated from various big data computing and storage engines, such as Hive, HBase, Doris, and MaxCompute. This ensures data accuracy and reliability, giving you confidence in migrating big data to Huawei Cloud.

2 Preparations

Before using MgC, you must have a HUAWEI ID or an IAM user that has permissions to access MgC. This section describes how to sign up for a HUAWEI ID, enable Huawei Cloud services, complete real-name authentication, and create an IAM user.

Signing up for a HUAWEI ID, Enabling Huawei Cloud Services, and Completing Real-Name Authentication

Perform the following operations to sign up for a HUAWEI ID, enable Huawei Cloud services, and complete real-name authentication. If you already have a HUAWEI ID, skip this part.

1. Visit [Huawei Cloud](#) and click **Sign Up**.
2. [Sign up for a HUAWEI ID and enable Huawei Cloud services](#).
3. (Optional) Complete real-name authentication. Real-name authentication is the process of submitting valid identity information (such as a passport or business license) for verification when you use cloud services in the Chinese mainland. There are individual real-name authentication and enterprise real-name authentication.

To comply with relevant laws and regulations and ensure account security and legal rights, real-name authentication is required for using cloud services in the Chinese mainland. Without real-name authentication, you are not allowed to purchase these cloud services. For more information, see [Real-Name Authentication](#).

To complete real-name authentication for an individual or enterprise account, refer to:

- Individual account: [Individual Real-Name Authentication](#)
- Enterprise account: [Enterprise Real-Name Authentication](#)

Creating an IAM User

You can use your account to create IAM users to ensure the security of accounts and resources. For more information about IAM users, see [Creating an IAM User](#). This section describes how to create an IAM user with permissions to access MgC. If you do not need to use any IAM users, skip this part.

1. Visit [Huawei Cloud](#). Click **Console** in the upper right corner. Sign in to the console using your HUAWEI ID.
2. Hover your cursor over the username in the upper right corner, and choose **Identity and Access Management** from the drop-down list.
3. **Create a user group and assign permissions to it.**

Create a user group. In the user group list, locate the user group created and click **Authorize** in the **Operation** column. On the **Authorize User Group** page, search for **MgC** and select the permissions to be assigned to the user group.

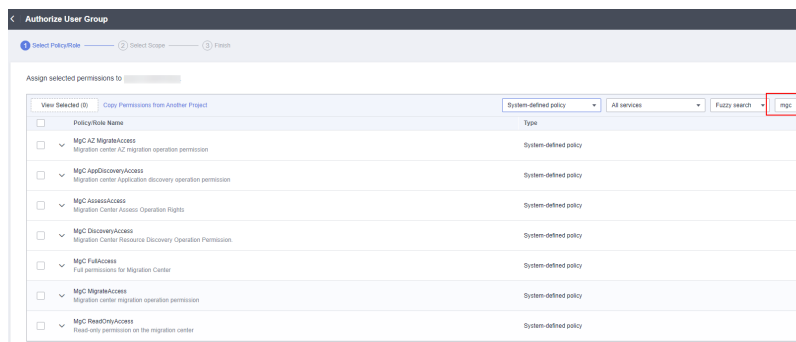


Table 2-1 describes all system-defined policies supported by MgC.

Table 2-1 System-defined policies supported by MgC

Policy Name	Description	Type
MgC FullAccess	Administrator permissions for MgC. Users with these permissions can perform all operations on MgC.	System-defined policies
MgC ReadOnlyAccess	Read-only permissions for MgC. Users with these permissions can only view MgC resources.	System-defined policies
MgC DiscoveryAccess	Permissions for resource discovery with MgC. Users with these permissions can use the resource discovery function of MgC and view MgC resources.	System-defined policies
MgC AssessAccess	Permissions for application assessment with MgC. Users with these permissions can use the resource discovery and application assessment functions of MgC and view MgC resources.	System-defined policies

Policy Name	Description	Type
MgC MigrateAccess	Permissions for application migration with MgC. Users with these permissions can use the resource discovery, application assessment, and application migration functions of MgC and view MgC resources.	System-defined policies
MgC AppDiscoveryAccess	Permissions for resource collection with MgC. Users with these permissions can use the resource discovery and data collection functions of MgC and view MgC resources.	System-defined policies

Table 2-2 describes the common operations supported by each system-defined policy of MgC.

Table 2-2 Common operations supported by each MgC system-defined policy

Operation	MgC FullAccess	MgC ReadOnlyAccess	MgC DiscoveryAccess	MgC AssessAccess	MgC MigrateAccess	MgC AppDiscoveryAccess
Performing operations on MgC resources	√	x	x	x	x	x
Viewing MgC resources	√	√	√	√	√	√
Discovering resources using MgC	√	x	√	√	√	√
Performing operations on migration workflows	√	x	x	x	√	x

Operation	MgC FullAccess	MgC ReadOnlyAccess	MgC DiscoverAccess	MgC AssessAccess	MgC MigrateAccess	MgC AppDiscoveryAccess
Collecting resource details using MgC	√	x	x	x	x	√

4. **Create an IAM user and add it to the user group.**

Create a user and add it to the user group authorized with MgC permissions in [Step 3](#).

Obtaining an Access Key (AK/SK Pair)

Access keys are identity credentials used to call APIs and perform authentication. Accounts and IAM users can only use their own access keys for these actions, ensuring secure and controlled access. For details about how to obtain an access key, see [Access Keys](#).

3 Quickly Migrating Servers in Batches

This section describes how to quickly migrate a group of servers by creating a migration plan and a migration workflow based on that plan.

Notes and Constraints

- Only one migration workflow can be created for a migration plan.
- A migration plan can only include source servers from the same platform.
- A server can only be included in one migration plan.
- A migration plan can include a maximum of 100 servers.
- Source servers in workflows created by the same user must have unique MAC addresses. Duplicate MAC addresses may cause network conflicts or task execution errors.
- You can migrate up to 200 resources at the same time. Any additional resources beyond this limit will have their workflows paused at the initial step and stay in a pending state. Once other migrations complete, these workflows will automatically resume in the order they were created.
- If this is your first time to create a server migration workflow, you need to assign MgC the required permissions. For more information about the required permissions, see [Agency Permissions](#).

Precautions

Before creating a server migration workflow, read and understand the precautions below.

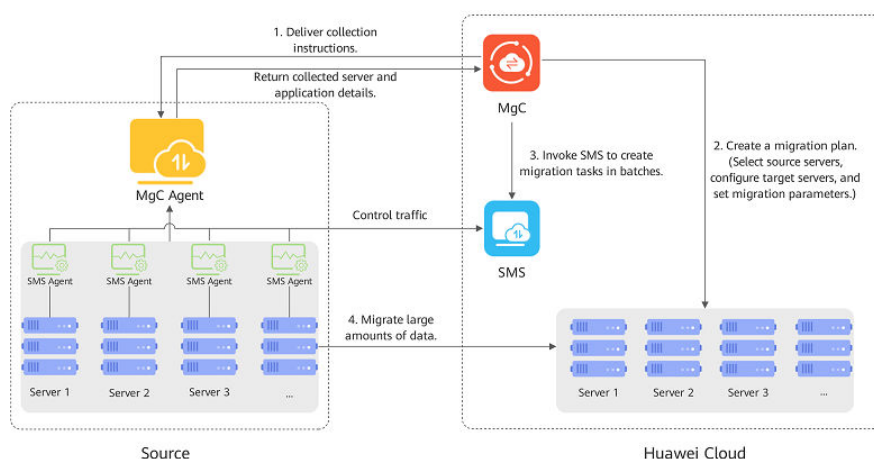
Item	Description
Source download bandwidth	Used to download SMS-Agent to source servers. <ul style="list-style-type: none">• If each source server uses a dedicated bandwidth, the bandwidth must be at least 30 Mbit/s.• If source servers share a bandwidth, the average bandwidth must be at least 50 Mbit/s.

Item	Description
Migration bandwidth	<ul style="list-style-type: none"> Used to migrate data. It affects the migration speed and duration. For details about how to estimate the migration duration, see How Long Does a Migration Take?
Available CPUs and memory	<ul style="list-style-type: none"> Memory: at least 520 MB CPU: at least 0.3 CPUs in Linux and 1 CPU in Windows
OS compatibility	For details, see Supported OSs .
Server migration statements	For details about the important statements you need to understand before the migration, see What Are the Important Statements of SMS?
Notes and Constraints	For details about the notes and constraints for server migration, see Notes and Constraints .
Billing	For details about the costs that may be incurred during the migration, see Billing .
Permissions configuration	IAM is used for fine-grained permissions management. For details, see Permissions Management .
Migration network and ports	For details about the requirements for the migration network and ports, see How Do I Set Up a Secure Migration Network for Using SMS?
Changes in server configurations before and after migration	For details about the configurations that may change after the migration, see What Are the Differences Between the Source and Target Servers After the Migration?

Migration Principles

[Figure 3-1](#) shows the principles of server migration using MgC.

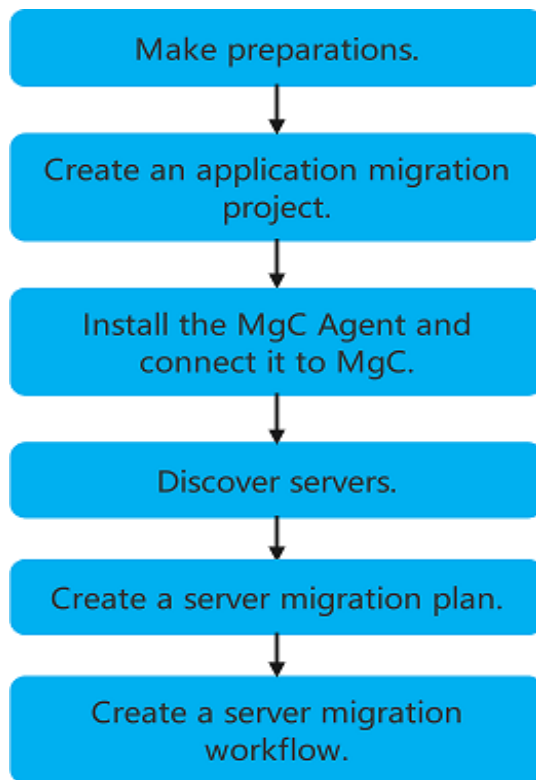
Figure 3-1 Server migration principles



Operation Process

Figure 3-2 shows the process of creating a server migration workflow based on a migration plan.

Figure 3-2 Server migration process



Step	Description
Preparations	Sign up for a HUAWEI ID, enable Huawei Cloud services, complete real-name authentication, and obtain an AK/SK pair.
Step 1: Create an Application Migration Project	Create a project to segregate and manage your migration resources.
Step 2: Install the MgC Agent and Connect it to MgC	The MgC Agent is a tool used to discover resources and collect their details. It is also used for executing migration workflow tasks.
Step 3: Discover Source Servers	Discover source servers and collect their details.
Step 4: Create a Server Migration Plan	Create a migration plan using the "Batch Server Migration" template to outline the servers to be migrated together and configure the target servers. After the migration plan is configured, you can create a server migration workflow based on that plan.

Preparations

Before using MgC, prepare a HUAWEI ID or an IAM user that can access MgC. In addition, you need to enable Huawei Cloud services, complete real-name authentication, and obtain an access key.

Signing up for a HUAWEI ID, Enabling Huawei Cloud Services, and Completing Real-Name Authentication

Perform the following operations to sign up for a HUAWEI ID, enable Huawei Cloud services, and complete real-name authentication. If you already have a HUAWEI ID, skip this part.

1. Visit [Huawei Cloud](#) and click **Sign Up**.
2. [Sign up for a HUAWEI ID and enable Huawei Cloud services](#).
3. (Optional) Complete real-name authentication. Real-name authentication is the process of submitting valid identity information (such as a passport or business license) for verification when you use cloud services in the Chinese mainland. There are individual real-name authentication and enterprise real-name authentication.

To comply with relevant laws and regulations and ensure account security and legal rights, real-name authentication is required for using cloud services in the Chinese mainland. Without real-name authentication, you are not allowed to purchase these cloud services. For more information, see [Real-Name Authentication](#).

To complete real-name authentication for an individual or enterprise account, refer to:

- Individual account: [Real-Name Authentication](#)
- Enterprise account: [Real-Name Authentication](#)

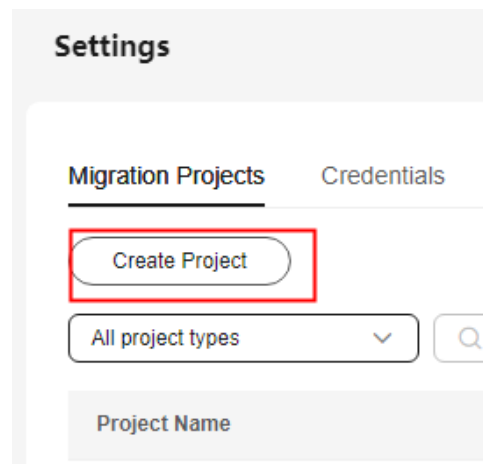
Obtaining an Access Key (AK/SK Pair)

Access keys are identity credentials used to call APIs and perform authentication. Accounts and IAM users can only use their own access keys for these actions, ensuring secure and controlled access. For details about how to obtain an access key, see [Access Keys](#).

Step 1: Create an Application Migration Project

- Step 1** Sign in to the [MgC console](#).
- Step 2** In the navigation pane on the left, choose **Settings**.
- Step 3** Under **Migration Projects**, click **Create Project**.

Figure 3-3 Creating a project

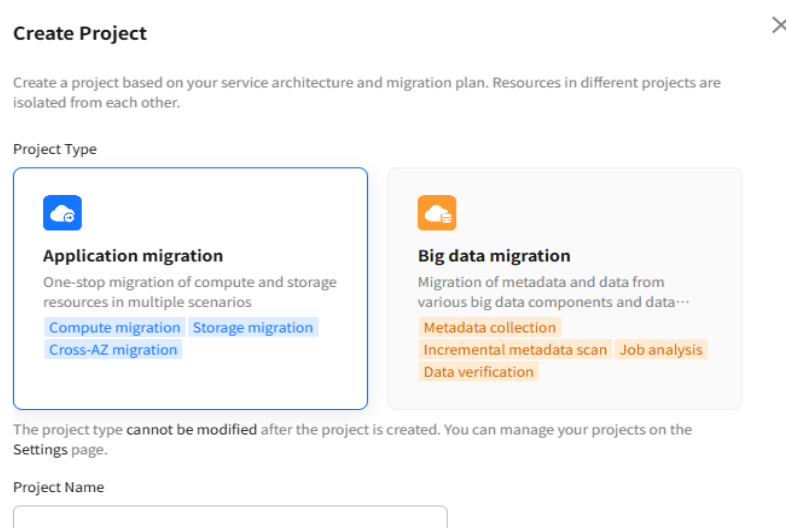


Step 4 In the **Create Project** dialog box, set **Project Type** to **Application migration**.

NOTICE

The project type cannot be changed after the project is created.

Figure 3-4 Setting the project type to application migration



Step 5 Enter a project name and click **Create**. After the project is created, you can view it in the project list.

----End

Step 2: Install the MgC Agent and Connect it to MgC

Step 1 [Install the MgC Agent on Windows](#). Log in to the MgC Agent console using the **Huawei Cloud Access Key**.

Step 2 Connect the MgC Agent to MgC.

----End

Step 3: Discover Source Servers

MgC provides the following methods for you to do this work.

- **Online Discovery:** This method is recommended if your source servers run on a cloud platform, such as Alibaba Cloud, Huawei Cloud, AWS, Tencent Cloud, Google Cloud, or Azure.
- **Intranet Discovery:** This method is recommended if your source servers run in an on-premises or vCenter environment.
- **Manual Addition:** This method can be used in all scenarios.

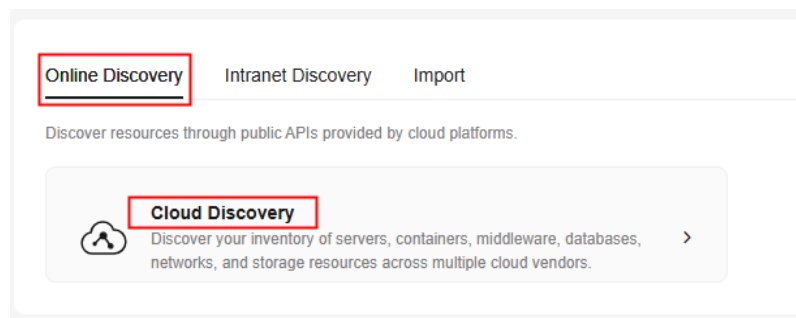
The following describes how to perform an online discovery.

Step 1 Sign in to the **MgC console**. In the navigation pane, under **Project**, choose your **application migration project** from the drop-down list.

Step 2 In the navigation pane, click **Resource Discovery**.

Step 3 Under **Online Discovery**, click **Cloud Discovery**.

Figure 3-5 Cloud platform discovery



Step 4 Configure the parameters based on **Table 3-1** to create a discovery task.

Table 3-1 Parameters for creating a cloud discovery task

Area	Parameter	Description
Task Settings	Source Platform	Select the source cloud platform. Currently, Alibaba Cloud, Huawei Cloud, AWS, Tencent Cloud, Google Cloud, and Azure are supported.

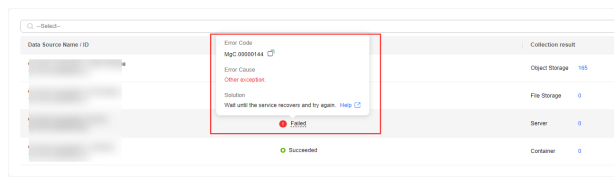
Area	Parameter	Description
	Collection Method	<p>If you choose Credential, select the credential for accessing the source cloud platform. If the credential is not in the drop-down list, click Add Credential to add it. For details, see Managing Credentials.</p> <ul style="list-style-type: none"> • If the source cloud platform is Alibaba Cloud, Huawei Cloud, AWS, or Tencent Cloud, select AK/SK for Authentication and enter the AK/SK pair of your source cloud account. • If the source cloud platform is Google Cloud, select Configuration File for Authentication and upload the configuration file that contains your Google Cloud service account credentials. The file must be in JSON format and cannot exceed 4 KB. For details about how to obtain the configuration file, see Obtaining Google Cloud Credentials Configuration Files. • If the source cloud platform is Azure, select ID/Secret for Authentication. To learn how to obtain Azure credentials, see How Do I Obtain Azure Credentials?
		<p>If you choose Agency, a cloud service agency is required to assign MgC the permissions required to access resources in your current account. For details about the agency permissions, see Cloud Discovery.</p> <p>NOTE This option is available only when Source Platform is set to Huawei Cloud.</p> <p>If the Agency Status is Agency not created, click Create Agency. On the displayed page, click OK.</p>
	Region	Select the regions where your source resources are deployed.
	Resource Type	Select Servers from the drop-down list.
Basic Information	Task Name	The default name format is <i><task type>-<current-time></i> . You can also specify a name.
	Task Description (Optional)	Describe the task.

Area	Parameter	Description
	Application (Optional)	<p>Select the application that you want to group the discovered resources into. If no applications are available, perform the following steps to create one:</p> <ol style="list-style-type: none"> 1. Click Create Application. Enter an application name and description. 2. Configure Business Scenario and Environment, and set Region to the region that you want to migrate to. 3. Click OK.

Step 5 Click **Confirm**. After the online discovery task is created, MgC starts discovering source resources.

- If the task succeeds, return to the **Source Resources** page and view the list of discovered source resources and their details.
- If the task fails, click the task name to view the data source that fails to be collected. Hover over to the collection status to view the failure cause.

Figure 3-6 Viewing the failure cause



----End

Step 4: Create a Server Migration Plan

You can create a migration plan using the template provided by MgC. After that, you can create a server migration workflow based on that plan. For details, see [Creating a Server Migration Plan](#).