

Alibaba Cloud

DataWorks Update Records

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Document conventions

Style	Description	Example
 Danger	A danger notice indicates a situation that will cause major system changes, faults, physical injuries, and other adverse results.	 Danger: Resetting will result in the loss of user configuration data.
 Warning	A warning notice indicates a situation that may cause major system changes, faults, physical injuries, and other adverse results.	 Warning: Restarting will cause business interruption. About 10 minutes are required to restart an instance.
 Notice	A caution notice indicates warning information, supplementary instructions, and other content that the user must understand.	 Notice: If the weight is set to 0, the server no longer receives new requests.
 Note	A note indicates supplemental instructions, best practices, tips, and other content.	 Note: You can use Ctrl + A to select all files.
>	Closing angle brackets are used to indicate a multi-level menu cascade.	Click Settings> Network> Set network type .
Bold	Bold formatting is used for buttons, menus, page names, and other UI elements.	Click OK .
Courier font	Courier font is used for commands	Run the <code>cd /d C:/window</code> command to enter the Windows system folder.
<i>Italic</i>	Italic formatting is used for parameters and variables.	<code>bae log list --instanceid</code> <i>Instance_ID</i>
[] or [a b]	This format is used for an optional value, where only one item can be selected.	<code>ipconfig [-all -t]</code>
{ } or {a b}	This format is used for a required value, where only one item can be selected.	<code>switch {active stand}</code>


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1. Release notes of key features

This topic describes the release notes of key DataWorks features.

April 2020

Feature	Description	Release date	Support ed region	Documentation
Phone call alerting in Operation Center	<p>In addition to text messages and emails, Operation Center can notify you of alerts by making phone calls to you.</p> <div data-bbox="453 719 801 931"><p> Notice You can only use the phone call alerting feature in DataWorks Professional Edition or higher.</p></div>	April 15, 2020	All regions	Manage alert triggers

2. Version history

2.1. DataWorks V2.0

This topic describes the release notes and new features of DataWorks V2.0.

Release information

Version: DataWorks V2.0

- **Date:** July 25, 2018
- **Region:** China (Shanghai)
- **Content:** Based on DataWorks V1.0, DataWorks V2.0 adds some concepts including the workflow and SQL script template, and also improves the data development process. DataWorks V2.0 supports workspaces in basic mode and standard mode. It can isolate the development environment from the production environment to help you develop data in a standard manner and reduce errors in code.

Available regions

Currently, all regions support DataWorks V2.0.

Operation updates

- DataWorks V2.0 does not display retroactive instances created in earlier versions. To check whether a retroactive instance is created, choose **Data Management > Tables > Partitions** to check whether the corresponding time partition is generated. If the time partition does not appear as expected, we recommend that you create a retroactive instance.

If you fail to determine whether the retroactive instance is created, [submit a ticket](#).

- You can watch the video [FAQ and key points of DataWorks V2.0](#) to learn about DataWorks V2.0.

Feature updates

DataWorks V2.0 improves the overall visual interaction and user experience of the DataStudio service. In addition, it adds four services: Monitor, Data Security Guard, Data Quality, and DataService Studio.

Service	Feature	Item	DataWorks V1.0	DataWorks V2.0	Description
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Service	Feature	Item	DataWorks V1.0	DataWorks V2.0	Description
MaxCompute project	Project management	Project management method	A DataWorks workspace is associated with one MaxCompute project.	The standard mode is added for workspaces. In standard mode, a DataWorks workspace is associated with two MaxCompute projects to isolate the development environment from the production environment. For more information, see Basic mode and standard mode .	The development environment can be isolated from the production environment to guarantee the stability of code in the production environment.

Service	Feature	Item	DataWorks V1.0	DataWorks V2.0	Description
		Overall feature	<p>You can develop code and configure scheduling properties for a single node or a single flow. Then, you can commit the node or flow to Operation Center for automatic scheduling and running.</p>	<ul style="list-style-type: none"> • The service name is changed to DataStudio. • The concepts of a solution and a workflow are added. • The concept of a flow is deleted. • The SQL editor is more intelligent. More permissions are granted on node scheduling and dependency configurations. 	
		SQL development	<p>You can develop and test code for a single node or a single flow in the SQL editor.</p>	<p>The SQL editor provides more intelligent and user-friendly features, including syntax highlight, code formatting, intelligent code completion, error prompts, and schemas.</p> <p>The Code Structure tab on the right of the SQL editor displays the SQL code structure in an intuitive manner.</p>	

Service	Feature development	Item	DataWorks V1.0	DataWorks V2.0	Description
		Node configuration	You can develop your business only by associating nodes and flows.	Flows are replaced by workflows. You can develop your business by associating nodes in a workflow and adding the required tables, resources, and functions to the workflow. You can also integrate correlated workflows into a solution for unified management.	
		Recurrence configuration	The recurrence configuration of a node is subject to the flow recurrence.	You cannot configure the recurrence for associated nodes as a whole. Instead, you must configure the recurrence for each node separately. The recurrence type of a node can be the same as or different from that of its ancestor or descendant nodes.	
		Dependency	You can only configure dependencies between flows.	You can configure dependencies between nodes of different workflows.	

Service	Feature	Item	DataWorks V1.0	DataWorks V2.0	Description
DataStudio	Script	Overall feature	You can use scripts to process acyclic temporary data. For example, you can use a script to add, delete, or modify a temporary table. This feature is a supplement to auto triggered nodes and does not require recurrence and dependency configurations.	The feature name is changed to Ad-Hoc Query .	<ul style="list-style-type: none"> The SQL editor is optimized to provide more user-friendly and immersive SQL development experience . Node development and management are simplified by using workflows and solutions. More permissions are granted in the scheduling system to handle
	Manually triggered node	Overall feature	In a manually triggered flow task, all nodes must be manually triggered and cannot be automatically scheduled by DataWorks.	The feature name is changed to Manually Triggered Workflows .	
	Resource management	Overall feature	Resource management is an independent feature used to manage all resources in a MaxCompute project, including the JAR, file, and archive resources.	Resource management is changed to a feature of workflows. You can add the required resources to a workflow and create multi-level folders to manage these resources.	

Service	Feature	Item	DataWorks V1.0	DataWorks V2.0	complex Description business demands.
	Function management	Overall feature	Function management is an independent feature used to manage the built-in functions and custom functions required by an ODPS SQL node.	Function management is an independent feature used to manage all the functions. It is also a feature of workflows and allows you to manage the functions of a workflow.	<ul style="list-style-type: none"> Some other features are added to resolve pain points and improve user experience.
	Table query	Overall feature	You can find, preview, and reference all tables of a MaxCompute project.	No update.	
	Table management	Overall feature	Not supported.	Table management is added. It allows developers to manage their own tables. For example, developers can set the time-to-live (TTL) and modify the category, description, fields, and partitions for tables, and hide, show, and delete tables.	
	Ad-hoc query	Overall feature	Not supported.	The ad-hoc query feature is added to test code in the development environment. You do not need to commit and deploy ad-hoc query nodes or set scheduling parameters for ad-hoc query nodes.	

Service	Feature	Item	DataWorks V1.0	DataWorks V2.0	Description
	SQL script template management	Overall feature	Not supported.	SQL script template management is added. It allows you to abstract SQL code as an SQL script template to reuse the SQL code. You can select SQL script templates and configure input and output parameters for these templates based on your business requirements.	
	Runtime logs	Overall feature	Not supported.	The Runtime Logs tab is added to show the records of all nodes that have been run in the development environment in the last three days. You can view and filter the running results.	
	Filtering of SQL results	Overall feature	Not supported.	An Excel component is integrated into the SQL editor so that you can filter, screen, and sort the running results of SQL statements.	

Service	Feature	Item	DataWorks V1.0	DataWorks V2.0	Description
	Recycle bin	Overall feature	Not supported.	A recycle bin is added to prevent misoperation. You can view the nodes deleted from the current workspace in the recycle bin and restore them as needed.	
	Global code search	Overall feature	Not supported.	Global code search is supported. You can search for an ODPS SQL, Shell, or sync node by entering a part of a string included in the node to quickly find the node that you want to view or manage.	
	Node deployment	Overall feature	DataWorks V1.0 supports node deployment.	The feature name is changed to Cross-Project Cloning . You can clone a node only between workspaces in basic mode.	
Operation Center	Node list	Feature	You can search for a node by node type, node name, and owner in the node list.	More filters are added to help you search for nodes, including Workflow, Solution, and Baseline .	Nodes can be managed based on the business. More features are added for
	Node management	Feature	You can search for a node by node type, node name, owner, data timestamp, and running date in the node list.	More filters are added to help you search for nodes, including Workflow, Solution, and Baseline .	

Service	Feature	Item	DataWorks V1.0	DataWorks V2.0	node Description.
	Alerting	Feature	You can configure alerts based on the completion status and running status of nodes.	The Baseline Management, Event Management, and Rule Management features are added to build a more intelligent and comprehensive alerting system.	
Monitor	The Monitor service is added as a node monitoring and analysis system of DataWorks. It monitors the running status of nodes and sends alerts based on the intervals, notification methods, and recipients specified in alert triggers. It can automatically select the most appropriate alerting time, notification methods, and recipients.				A one-stop cloud platform is built to provide data development, security, governance, and sharing services.
Data Quality	<p>The Data Quality service is added for you to control the data quality of heterogeneous connections. In Data Quality, you can check data quality, configure alert notifications, and manage connections.</p> <p>Data Quality monitors data in datasets. Currently, it allows you to monitor MaxCompute tables and DataHub topics. When offline MaxCompute data changes, Data Quality checks data and blocks nodes if it detects exceptions. This prevents nodes from being affected. In addition, Data Quality allows you to manage the check result history so that you can analyze and evaluate the data quality.</p>				
DataService Studio	The DataService Studio service is added. You can quickly create API operations in DataService Studio based on tables or register existing API operations with DataService Studio. DataService Studio and API Gateway are interconnected. This allows you to deploy API operations to API Gateway with ease. DataService Studio works together with API Gateway to provide a secure, stable, low-cost, and easy-to-use data sharing service.				
Data Security Guard	The Data Security Guard service is added to identify data assets, detect sensitive data, classify data, de-identify data, monitor data access behavior, report alerts, and audit risks.				

2.2. DataWorks V3.0

This topic describes the release notes and new features of DataWorks V3.0.

Release information

Version: DataWorks V3.0

- Date: December 18, 2019

- **Region:** all regions that support DataWorks
- **Content:** In addition to the MaxCompute engine supported by DataWorks V2.0, DataWorks V3.0 integrates many other computing engines such as E-MapReduce, Realtime Compute, Hologres, and Graph Compute to build a multi-engine architecture.

You can add multiple types of engine instances to manage your workflows, nodes, and tables in a workspace. You can also configure dependencies between nodes in different regions to flexibly schedule nodes and facilitate cross-region collaboration.

Key features

- **Multiple types of computing engines**

DataWorks V3.0 supports plug-ins of multiple computing engines. In addition to the MaxCompute engine supported by DataWorks V2.0, DataWorks V3.0 integrates many other computing engines such as E-MapReduce, Realtime Compute, Hologres, and Graph Compute.

- **MaxCompute:** MaxCompute is a fast and fully-managed computing platform for large-scale data warehousing. It supports processing exabytes of data. MaxCompute is the first and maturest computing engine supported by DataWorks. Almost all of its features have been seamlessly integrated into DataWorks. For more information, see [What is MaxCompute?](#)
- **E-MapReduce:** E-MapReduce is a big data engine that runs on Alibaba Cloud Elastic Compute Service (ECS) based on open-source Apache Hadoop and Apache Spark. You can analyze and process your data by using peripheral systems such as Apache Hive in the Hadoop and Spark ecosystems.

All services and features of DataWorks V3.0 support E-MapReduce, such as metadata management, Data Map, data lineage, DataStudio, scheduling, node management and monitoring, and Data Quality. Currently, only DataWorks V3.0 Professional Edition and higher support E-MapReduce. To use E-MapReduce in DataWorks, you must bind the target workspace ID to an E-MapReduce cluster and add the endpoint of the E-MapReduce cluster to the whitelist of DataWorks. For more information, see [What is E-MapReduce?](#)

- **Realtime Compute:** Built on Apache Flink, Realtime Compute is a one-stop, high-performance platform used to process big data in real time. All services and features of DataWorks V3.0 support Realtime Compute. DataWorks V3.0 provides Stream Studio for you to create real-time computing nodes by using drag-and-drop operations in directed acyclic graphs (DAGs). DAGs and Flink SQL statements can be converted into each other to facilitate the development of real-time computing nodes with intelligent management and diagnosis.
- **Hologres:** Hologres is a real-time interactive data analysis service that is fully compatible with PostgreSQL and seamlessly integrated with Alibaba Cloud big data services.

Using Hologres, you can gain an analytical insight into thousands of billions of concurrent data records from multiple dimensions with low latency and explore for new business opportunities. You can also use your business intelligence (BI) tools with Hologres.

DataWorks V3.0 provides a one-stop online analytical processing (OLAP) service Holo Studio to facilitate standard development management and help you build real-time data warehouses. This contributes to effective and simple development.

- **Graph Compute:** Graph Compute is a new-generation, one-stop platform used to manage and analyze graph data. It supports quick data loading, auto scaling, millisecond-level query latency, hybrid computing engines for online and offline graph computing, and shared data storage.

DataWorks V3.0 provides Graph Studio based on Graph Compute, which supports one-stop development services, including instance modeling, data import, data query by using Gremlin, and visualized data analysis.

- **Custom wrappers**

In addition to a variety of computing engines, DataWorks V3.0 Enterprise Edition also supports custom wrappers. For more information, see [Overview of custom node types](#). You can use wrappers to access specified computing services or database query services.

You can also use the intelligent SQL editor to configure custom nodes and schedule, orchestrate, manage, and monitor these custom nodes as required.

- **Multiple engine instances in a workspace**

In DataWorks V2.0, you can configure only one engine instance for a workspace. For example, if the computing engine is MaxCompute, you can create only one MaxCompute project for a workspace. DataWorks V3.0 Professional Edition and higher allow you to create or bind multiple engine instances for or to a workspace. You can manage the computing engines, computing nodes, and tables required by your business in a more flexible manner.

- **Cross-region dependencies**

In DataWorks V2.0, you can only configure dependencies between nodes in the same region. DataWorks V3.0 Enterprise Edition and higher allow you to configure dependencies between nodes in different regions in Mainland China under an Alibaba Cloud account. You can use this feature to schedule nodes for your business across different regions.

- **Resource group orchestration (available soon)**


DataWorks V3.0 will support resource group orchestration. With this feature, you can quickly configure and change the resource group for multiple nodes at a time. For example, you can change multiple nodes from the default shared resource group to an exclusive resource group.

- **Workspace import and export (available soon)**

DataWorks V2.0 supports the data backup and recovery of workspaces. DataWorks V3.0 upgrades this feature and makes it more flexible. You can import or export nodes, table data definition language (DDL) statements, resources, functions, and connections to or from workspaces. This facilitates workspace migration and initialization.

3.Change history

This topic describes the change history of DataWorks documentation. You can learn the new features and feature changes of DataWorks.

 **Note** DataWorks can be automatically upgraded, and the upgrade has no impact on existing users.

Changes in June 2020

Date	Feature	Change type	Description	Documentation
June 30, 2020	DataWorks services	Experience optimization	The FAQ about DataWorks services is provided, including Data Integration, Data Analytics, custom resource groups, exclusive resource groups, dependencies, Intelligent Monitor, and DataService Studio.	FAQ
June 28, 2020	Exclusive resource group	New feature	A topic is added to describe how to add a route for your exclusive resource group to access a data store in a virtual private cloud (VPC) or a data center.	Add a route
June 28, 2020	Data migration	Experience optimization	A best practice is added to describe how to use an exclusive resource group for Data Integration to migrate data from a user-created MySQL database on an Elastic Compute Service (ECS) instance to MaxCompute.	Migrate data from a user-created MySQL database on an ECS instance to MaxCompute
June 28, 2020	Data analysis	Experience optimization	A best practice is added to describe how to use Artificial Intelligence Recommendation to provide a personalized recommendation service for developers to increase the customer purchase rate and order conversion rate. This feature is based on the cutting edge big data and artificial intelligence (AI) technologies of Alibaba, and years of experience in the e-commerce industry.	Intelligently recommend items on e-commerce websites

Date	Feature	Change type	Description	Documentation
June 28, 2020	Data security	Experience optimization	A best practice is added to describe how to grant access to a specific user-defined function (UDF) only to a specified user. This best practice involves data encryption and decryption algorithms. It relates to data security.	Grant access to a specific UDF to a specified user
June 28, 2020	Data analytics	Experience optimization	A best practice is added to describe how to build a data warehouse for an enterprise based on AnalyticDB for MySQL, and use the data warehouse to perform O&M and manage metadata.	Build a data warehouse for an enterprise based on AnalyticDB for MySQL
June 28, 2020	Data analytics	Experience optimization	A best practice is added to describe how to use a PyODPS node in DataWorks to segment Chinese text based on Jieba, an open-source segmentation tool, and write the segmented words and phrases to a new table. After you read this topic, you will also know how to use closure functions to segment Chinese text based on a custom dictionary.	Use a PyODPS node to segment Chinese text based on Jieba
June 28, 2020	Data analytics	Experience optimization	A best practice is added to describe how to use a PyODPS node that is running on an exclusive resource group to send emails.	Use a PyODPS node to send emails
June 28, 2020	Data analytics	Experience optimization	A best practice is added to describe how to connect DataV to DataWorks DataService Studio and then call API operations of DataService Studio to obtain data from MaxCompute. DataV can display the data analysis results on dashboards.	Connect DataV to DataWorks DataService Studio
June 28, 2020	Data migration	Experience optimization	A best practice is added to describe how to automatically synchronize Internet of Things (IoT) data to the cloud. The IoT is a network that carries data based on the Internet and traditional telecommunication networks and it enables connections among all physical objects that are independently addressable.	Automatically synchronize IoT data to the cloud

Date	Feature	Change type	Description	Documentation
June 16, 2020	Data quality	Experience optimization	A tutorial is added to describe how to guarantee data quality. Data quality is the basis for effective and accurate data analysis.	Overview
June 16, 2020	DataWorks services	Experience optimization	A tutorial is added to describe how to use big data services of Alibaba Cloud to build an online operation analysis platform.	Business scenario and development process
June 15, 2020	ApsaraDB for OceanBase connection	New connection	A topic is added to describe how to configure an ApsaraDB for OceanBase connection. An ApsaraDB for OceanBase connection allows you to read data from and write data to ApsaraDB for OceanBase by using ApsaraDB for OceanBase Reader and Writer. You can configure sync nodes for ApsaraDB for OceanBase by using the codeless user interface (UI) or code editor.	Configure an ApsaraDB for OceanBase connection
June 15, 2020	Vertica connection	New connection	A topic is added to describe how to configure a Vertica connection. A Vertica connection allows you to read data from and write data to Vertica by using Vertica Reader and Writer. You can configure sync nodes for Vertica by using the codeless UI or code editor.	Configure a Vertica connection
June 15, 2020	Gbase8a Reader	New reader or writer	A topic is added to describe the data types and parameters supported by Gbase8a Reader and how to configure it by using the code editor.	Gbase8a Reader
June 15, 2020	Hologres Reader	New reader or writer	A topic is added to describe the parameters supported by Hologres Reader and how to configure it by using the codeless UI and code editor. You can use Hologres Reader to read data from the tables of Hologres data stores and write the data to other types of data stores.	Hologres Reader

Date	Feature	Change type	Description	Documentation
June 15, 2020	TSDB Reader	New reader or writer	A topic is added to describe the data types and parameters supported by Time Series Database (TSDB) Reader and how to configure it by using the code editor.	TSDB Reader
June 15, 2020	Hologres Writer	New reader or writer	A topic is added to describe the working mechanism and parameters supported by Hologres Writer and how to configure it by using the codeless UI and code editor. Hologres Writer allows you to import data from multiple data stores to Hologres for real-time data analysis.	Hologres Writer
June 15, 2020	Resource group configuration	New configuration	A topic is added to describe how to configure a resource group for node scheduling. You can configure the resource group for scheduling a node when you configure the scheduling properties of the node.	Configure the resource group
June 15, 2020	Scheduling dependency logic	Experience optimization	A topic is added to describe the logic of scheduling dependencies. To guarantee that business data is effectively produced in a timely manner, you must configure correct dependencies for nodes.	Logic of scheduling dependencies
June 15, 2020	Exclusive resource group for scheduling	New feature	A topic is added to describe how to add and use exclusive resource groups for scheduling. DataWorks allows you to bind an exclusive resource group for scheduling to a VPC so that the resource group can access data stores in the VPC.	Add and use exclusive resource groups for scheduling

Changes in May 2020

Date	Feature	Change type	Description	Documentation
May 27, 2020	Resource group usage	Experience optimization	A topic is added to describe the scenarios and methods of using the default resource group, exclusive resource groups, and custom resource groups in DataWorks.	DataWorks resource groups

Date	Feature	Change type	Description	Documentation
May 27, 2020	Report template	New feature	A topic is added to describe how to manage report templates. You can create a template of data quality reports on the Report Template Management page. DataWorks Data Quality can periodically generate and send data quality reports based on the template.	Manage report templates
May 27, 2020	Rule template	New feature	A topic is added to describe how to manage rule templates. In Data Quality, you can manage a set of custom rule templates and use the rule templates to improve the efficiency of rule configuration.	Manage rule templates
May 27, 2020	Built-in rule template	New feature	A topic is added to describe the verification logic of Data Quality and the built-in rule templates provided for monitoring offline data.	Built-in rule templates for offline data

Changes in April 2020

Date	Feature	Change type	Description	Documentation
April 19, 2020.	Operation Center	Upgrade in DataWorks V3.0	Topics are added to describe how to use Operation Center. In Operation Center, you can view the dashboard, manage auto triggered nodes and manually triggered nodes, and monitor nodes.	Operation Center
April 18, 2020	Data warehouse	Upgrade in DataWorks V3.0	Topics are added to describe the overall process of building a MaxCompute data warehouse.	Build and optimize a data warehouse
April 18, 2020	Data Integration	Upgrade in DataWorks V3.0	Topics are added to describe how to use Data Integration. Data Integration is a stable, efficient, and scalable data synchronization service. It is designed to migrate and synchronize data between a wide range of heterogeneous data stores fast and stably in complex network environments.	Data Integration

Date	Feature	Change type	Description	Documentation
April 8, 2020	Data analytics and O&M	Upgrade in DataWorks V3.0	A quick start is added to guide you through a complete process of data analytics and O&M.	Overview
April 8, 2020	DataWorks services	Upgrade in DataWorks V3.0	Topics are added to provide an overview of DataWorks, including the basic concepts, usage scenarios, and data analytics processes.	What is DataWorks?

Changes in March 2020

Date	Feature	Change type	Description	Documentation
March 26, 2020	DataWorks for E-MapReduce	Experience optimization	A tutorial is added to describe how to use E-MapReduce in DataWorks for data computing.	DataWorks for EMR Workshop
March 17, 2020	Data analytics	Upgrade in DataWorks V3.0	A topic is added to describe the upgraded data analytics mode. In the upgraded data analytics mode, you can group multiple workflows in a solution of a workspace.	Solution
March 17, 2020	Node types	Upgrade in DataWorks V3.0	Topics are added to describe how to create various types of nodes in DataWorks, including batch sync nodes, MaxCompute nodes, E-MapReduce nodes, general nodes, and custom nodes.	Node types
March 17, 2020	Setup	Upgrade in DataWorks V3.0	Topics are added to describe how to configure various objects in DataStudio. For example, you can configure code templates, table folders, and table levels.	Setup
March 2, 2020	DataWorks console	Upgrade in DataWorks V3.0	Topics are added to provide an overview of the DataWorks console. You can view the workspaces, resource groups, and computing engines in the DataWorks console.	DataWorks console overview

Changes in February 2020

Date	Feature	Change type	Description	Documentation
February 29, 2020	Data migration	Experience optimization	A best practice is added to describe how to use the data synchronization feature of DataWorks to migrate data from Oracle to MaxCompute.	Migrate data from Oracle to MaxCompute
February 28, 2020	App Studio	New feature	A topic is added to describe the Projects page in App Studio. You can create and manage projects on the Projects page.	Projects
February 28, 2020	App Studio	New feature	A topic is added to describe the Apps page in App Studio. You can view applications that are created by you, shared by you, and shared to you on the Apps page.	Apps
February 28, 2020	App Studio	New feature	A topic is added to describe the Templates page in App Studio. You can view all templates that are created based on projects on the Templates page.	Templates
February 28, 2020	App Studio	New feature	A topic is added to describe how to create an application in App Studio and deploy it in the production environment to make it accessible on the Internet.	App deployment
February 2, 2020	DataAnalysis	New feature	Topics are added to describe how to use the DataAnalysis service. DataAnalysis allows you to collaboratively edit and analyze workbooks, manage MaxCompute tables by using dimension tables, and generate and share visual reports.	DataAnalysis

Changes in December 2019

Date	Feature	Change type	Description	Documentation
December 31, 2019	De-identification	New feature	A topic is added to describe how to customize de-identification rules in Data Security Guard so that DataWorks can dynamically de-identify the results of ad hoc queries.	Customize desensitization rules

Changes in October 2019

Date	Feature	Change type	Description	Documentation
October 31, 2019	Requirements Management	New feature	Topics are added to describe how to use the Requirements Management service. The Requirements Management service helps users of Alibaba Cloud big data services develop data in a standardized and cost-effective way.	Requirements Management

Changes in August 2019

Date	Feature	Change type	Description	Documentation
August 21, 2019	WYSIWYG designer	Experience optimization	Topics are added to describe how to use the WYSIWYG designer. The WYSIWYG designer of App Studio is provided to assist in developing frontend pages. It provides common web page components that allow you to create frontend pages by using simple drag-and-drop operations.	WYSIWYG designer
August 21, 2019	Bill details	Experience optimization	A topic is added to describe how to view the details of each billing item for DataWorks that you activated in the pay-as-you-go mode.	View spending details