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Alibaba Cloud

FunctionFlow

Frequently-used Tools

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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 `cd /d C:/window` command to enter the Windows system folder.
Italic	Italic formatting is used for parameters and variables.	`bae log list --instanceid` *Instance_ID*
[] or [a|b]	This format is used for an optional value, where only one item can be selected.	`ipconfig [-all|-t]`
{} or {a|b}	This format is used for a required value, where only one item can be selected.	`switch {active|stand}`

Table of Contents

1.Alibaba Cloud CLI

This topic describes how to use Alibaba Cloud Command Line Interface (Alibaba Cloud CLI) to access Serverless Workflow.

Prerequisites

1. You have installed Alibaba Cloud CLI. For more information, see Installation Guide.
2. You have configured Alibaba Cloud CLI. For more information, see Configure Alibaba Cloud CLI.

> **Note** We recommend that you use the latest version of Alibaba Cloud CLI. If you have used an earlier version of Alibaba Cloud CLI before you use Serverless Workflow, you may receive a message indicating that Serverless Workflow cannot be found. Update Alibaba Cloud CLI to the latest version.

Examples

This example is intended for Serverless Workflow. It allows you to run commands to access Serverless Workflow on Alibaba Cloud CLI.

After you install Alibaba Cloud CLI and configure the AccessKeyID and AccessKeySecret, you can perform the following operations:

- Query help information about Serverless Workflow

  CLI example:

```
aliyun help fnf
Alibaba Cloud CLI x.x.x
Usage:
 aliyun fnf <ApiName> --parameter1 value1 --parameter2 value2 ...
Product: fnf (Serverless Workflow)
Version: 2019-03-15
Available Api List:
 CreateFlow
 DeleteFlow
 DescribeExecution
 DescribeFlow
 DescribeRegions
 GetExecutionHistory
 ListExecutions
 ListFlows
 StartExecution
 StopExecution
 UpdateFlow
Run `aliyun fnf <ApiName> --help` to get more information about this API
```

- Query help information about an API operation

  CLI example:

```
aliyun fnf ListFlows --help
Alibaba Cloud CLI 3.0.12
Product: fnf (Serverless Workflow)
Parameters:
 --Limit    String Optional
 --NextToken String Optional
 --RequestID String Optional
```

This command outputs the information about an API operation, including **Parameter**, **Type**, **Required**.

- Run subcommands

  CLI example:

```
aliyun fnf ListFlows
{
  "Flows": [
    {
      "Name": "xxx",
      ...
    }
  ],
  "RequestId": "xxx"
}
```

2.Alibaba Cloud ROS

This topic describes how to use Alibaba Cloud Resource Orchestration Service (ROS).

Serverless Workflow has been connected to Alibaba Cloud ROS. You can use ROS to manage flows.

Examples

You can create resources by using the ROS console or Alibaba Cloud CLI. For more information, see Use a template to create a stack and Stack operations. For more information about template definition, see ALIYUN::FNF::Flow.

- YAML format

```
ROSTemplateFormatVersion: '2015-09-01'
Resources:
 Flow:
  Type: 'ALIYUN::FNF::Flow'
  Properties:
   Description: flow created from ros
   Definition: |-
    version: v1
    type: flow
    steps:
     - type: pass
       name: pass1
   Name: test-ros
Outputs:
 CreatedTime:
  Description: The flow creation time.
  Value:
   'Fn::GetAtt':
    - Flow
    - CreatedTime
 LastModifiedTime:
  Description: The flow last modified time.
  Value:
   'Fn::GetAtt':
    - Flow
    - LastModifiedTime
 Id:
  Description: The flow ID.
  Value:
   'Fn::GetAtt':
    - Flow
    - Id
```

- JSON format

```
{
 "ROSTemplateFormatVersion": "2015-09-01",
 "Resources": {
  "Flow": {
   "Type": "ALIYUN::FNF::Flow",
   "Properties": {
    "Description": "flow created from ros",
    "Definition": "version: v1\ntype: flow\nsteps:\n  - type: pass\n    name: pass1",
    "Name": "test-ros"
   }
  }
 },
 "Outputs": {
  "CreatedTime": {
   "Description": "The flow creation time.",
   "Value": {
    "Fn::GetAtt": [
     "Flow",
     "CreatedTime"
    ]
   }
  },
  "LastModifiedTime": {
   "Description": "The flow last modified time.",
   "Value": {
    "Fn::GetAtt": [
     "Flow",
     "LastModifiedTime"
    ]
   }
  },
  "Id": {
   "Description": "The flow ID.",
   "Value": {
    "Fn::GetAtt": [
     "Flow",
     "Id"
    ]
   }
  }
 }
}
```

3.Aliyun Serverless VSCode Extension

Aliyun Serverless VSCode Extension is a graphic development, debugging, and resource management tool for Function Compute. This extension is developed based on Visual Studio Code (VS Code). This topic describes the commonly used features of Aliyun Serverless VSCode Extension and how to use Aliyun Serverless VSCode Extension to create functions.

Prerequisites

If you want to use all features of Aliyun Serverless VSCode Extension, make sure that the following components are installed on your on-premises computer:

- VS Code: Download VSCode from the Visual Studio Code official website.
- Docker: For information about how to download and configure this component, visit alibaba/funcraft.

Context

Aliyun Serverless VSCode Extension is a VS Code-based development, debugging, and deployment extension provided by Function Compute. This extension integrates the features of Function Compute SDKs and Funcraft, a command-line tool provided by Function Compute. For more information, see Supported SDKs and visit Aliyun Serverless VSCode Extension and Funcraft. You can use this extension to perform the following operations:

- Initialize projects and create functions in your local environment.
- Run and debug local functions, and deploy the local functions of your services to Function Compute.
- View services, functions, and the configurations of the services and functions, and invoke functions in Function Compute.
- Obtain syntax prompts of template files, including automatic completion, schema validation, and hovering prompts.

Install Aliyun Serverless VSCode Extension

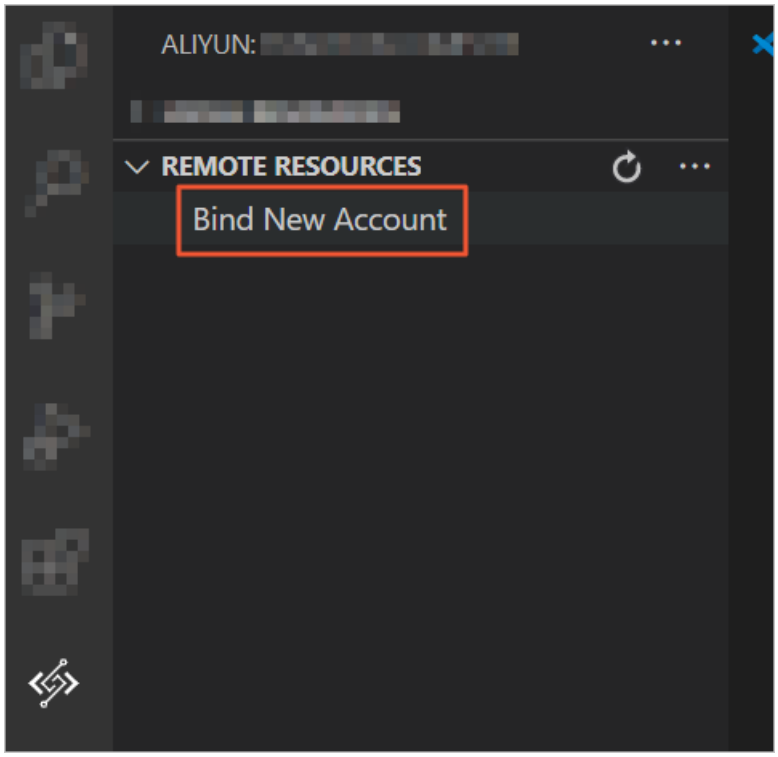
1. Start VS Code and go to the extension marketplace.
2. Search for Aliyun Serverless, view the details, and install the extension.
3. Restart VS Code. The icon for Aliyun Serverless VSCode Extension is displayed in the left-side navigation pane.

Quick start

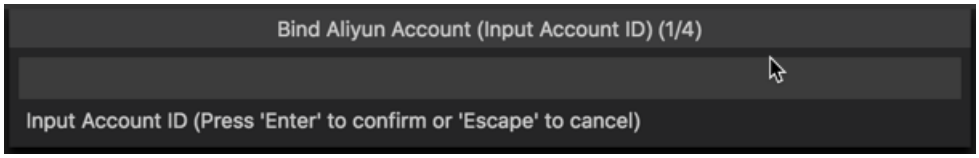
1. Bind an Alibaba Cloud account.

i. In the left-side navigation pane, click the icon for Aliyun Serverless VSCode Extension.

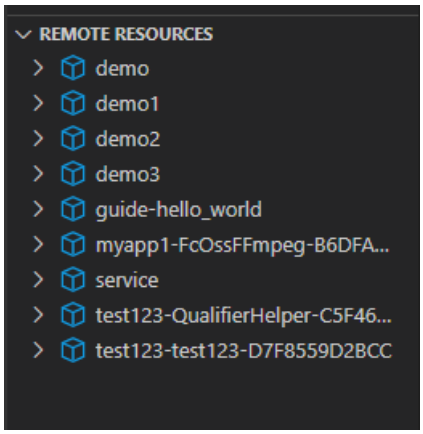
Then, click **Bind New Account**.



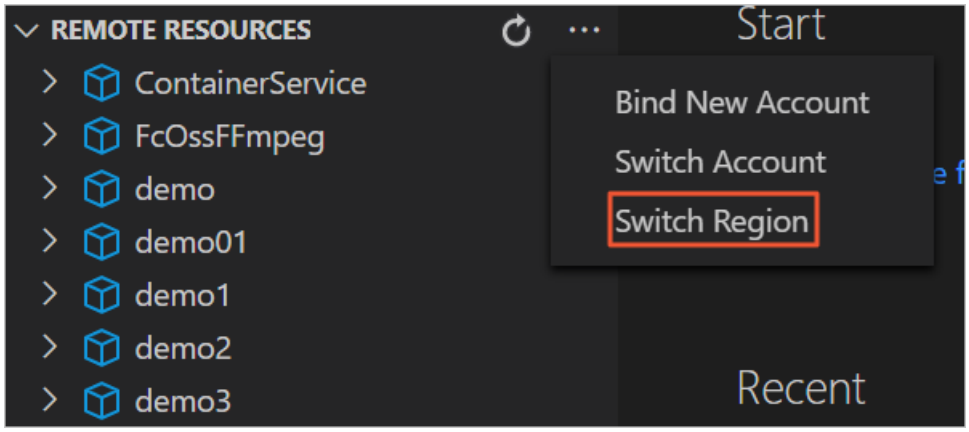
ii. Enter your Alibaba Cloud account, the AccessKey ID, the AccessKey secret, and the on-premises name of the account.



After the account is bound, you can view the services and functions of the account in Function Compute.

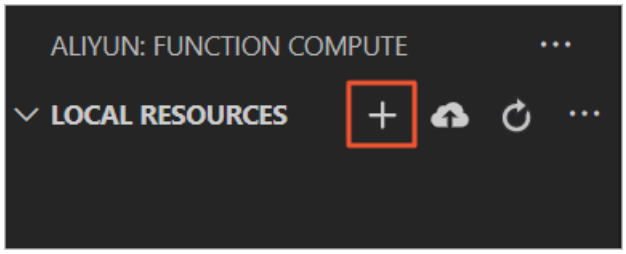


You can click the More icon in the upper-right corner of the **Remote Resources** list. Select **Switch Region** from the drop-down list to view services and functions in different regions.

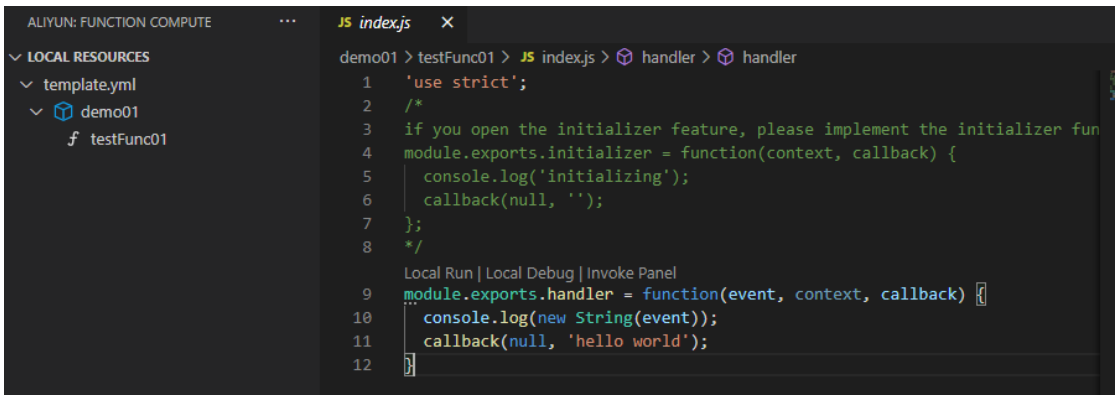


2. Create a function.

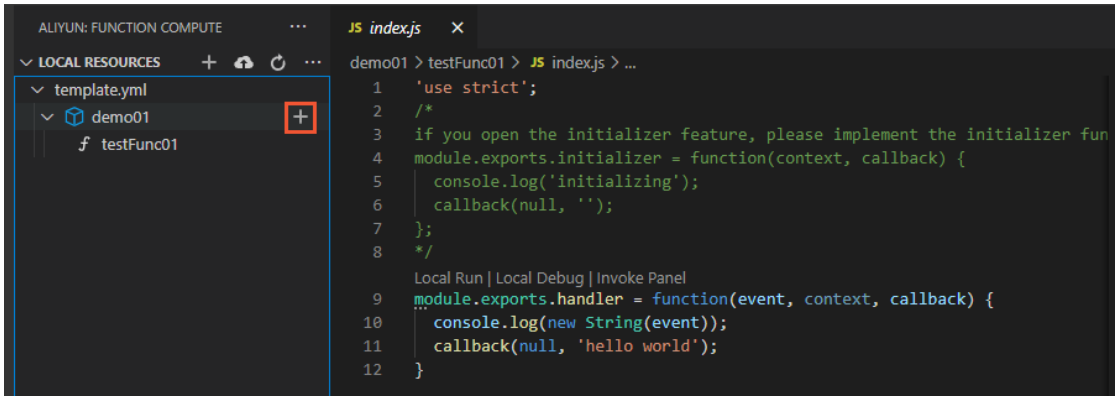
i. Open an empty directory file in VS Code. In the **LOCAL RESOURCES** list, click the Create Function icon to initialize an on-premises Function Compute project.



ii. Specify the service name, function name, runtime, and function type. After you configure the parameters, Aliyun Serverless VSCode Extension automatically creates the function. The new on-premises service and function are displayed in the **LOCAL RESOURCES** list.

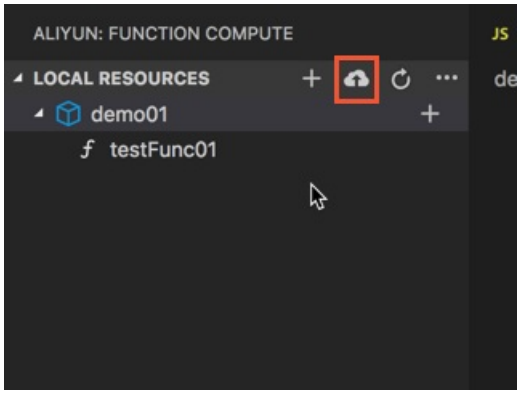


You can also click the Create Function icon next to a service in the **LOCAL RESOURCES** list to create functions for the service. Follow the on-screen instructions to enter or select the function name, function runtime, and function type.

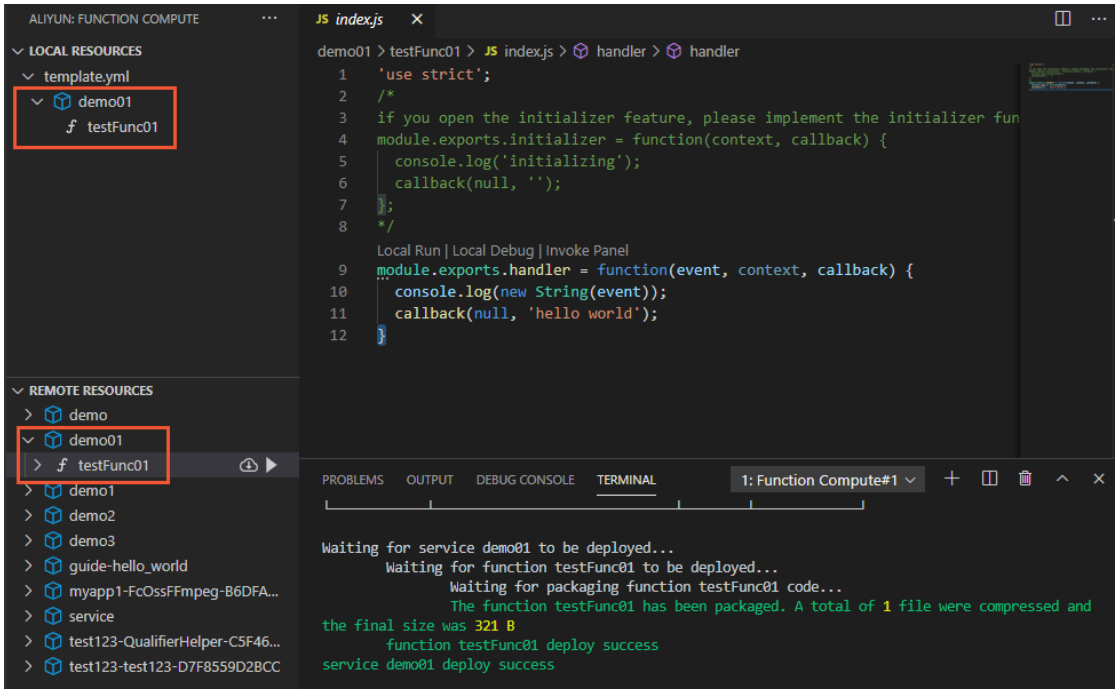


3. Deploy services and functions.

i. In the **LOCAL RESOURCES** list, click the Deploy icon to deploy on-premises services and functions to Function Compute.



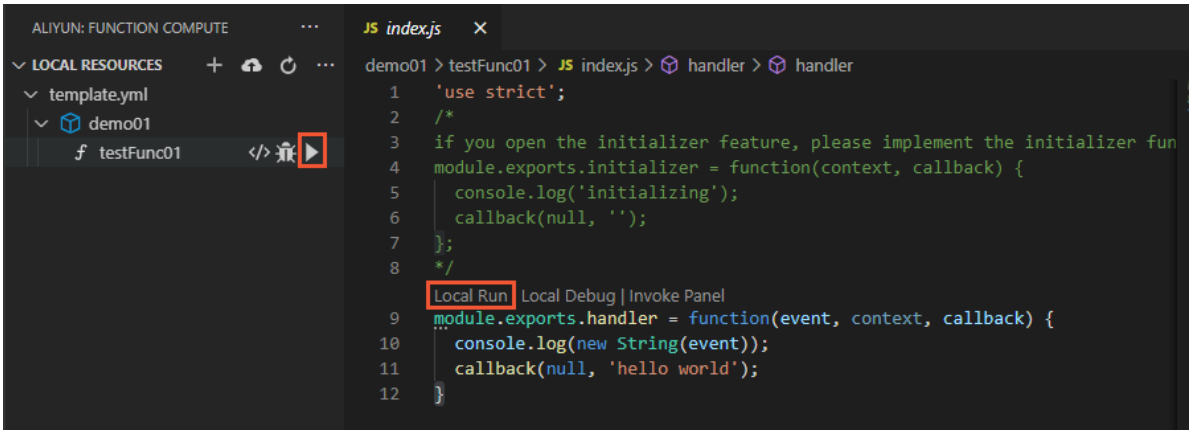
After you deploy the services and functions, click the Refresh icon in the **REMOTE RESOURCES** list to view the services and functions that are deployed to Function Compute.



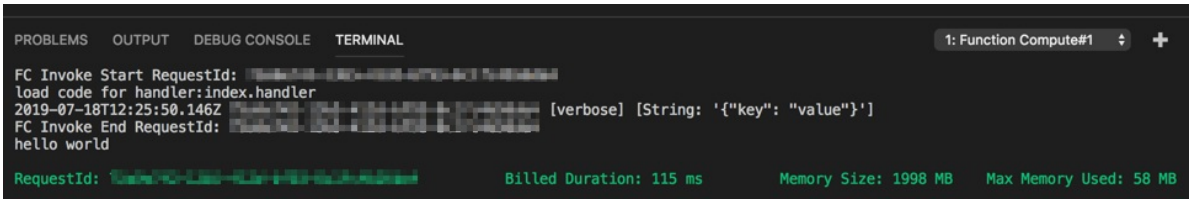
Other features

- Invoke on-premises functions

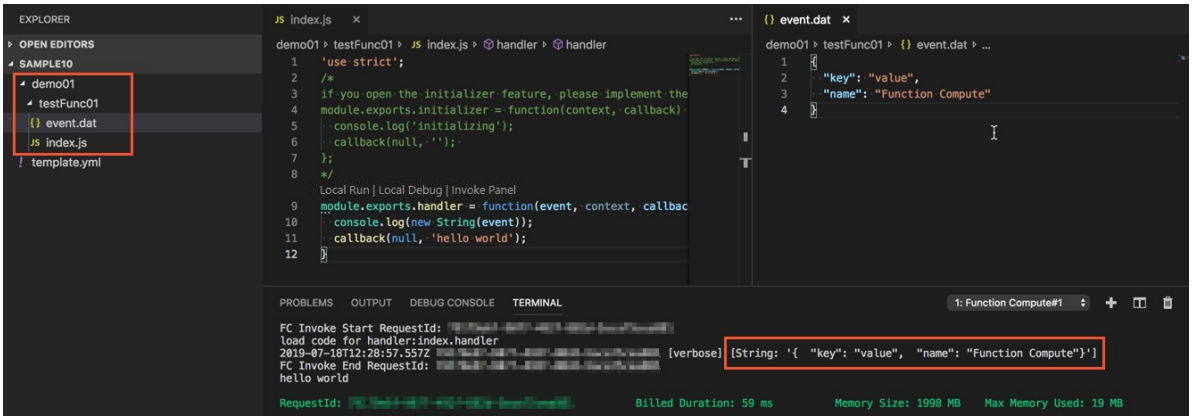
In the **LOCAL RESOURCES** list, click the Local Run icon next to a function or the link in the *handler* file to invoke on-premises functions.



The logs and invocation results of the functions are displayed on the **TERMINAL** tab.



Aliyun Serverless VSCode Extension creates an *event.dat* file in the directory in which the function handler file is stored. You can modify the event.dat file to configure events that are triggered when the function is invoked.

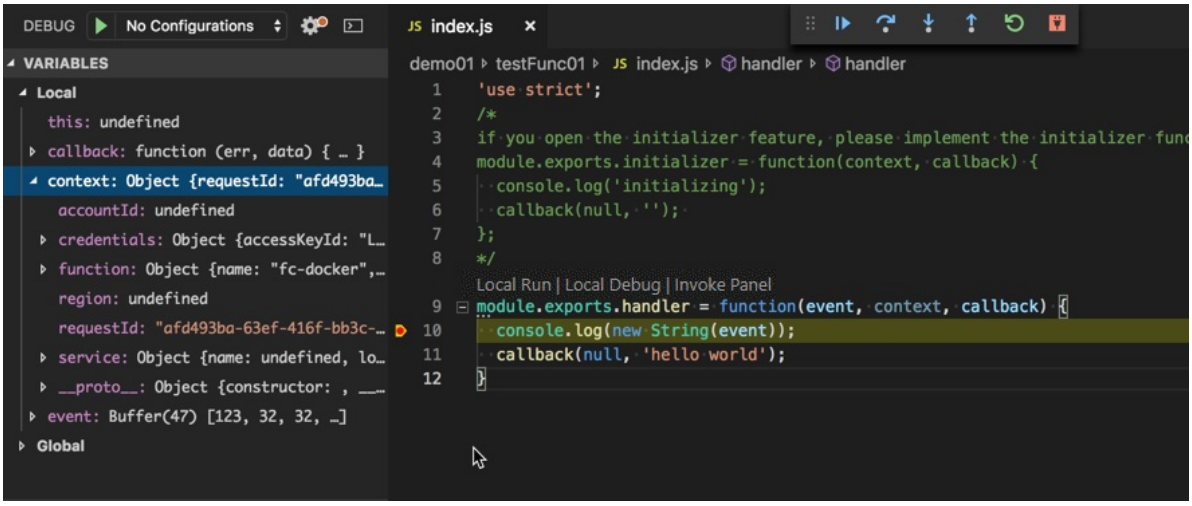


- Debug on-premises functions

> **Notice**
>
> - If you need to debug functions that are run in Python 2.7 or Python 3, you must install the Python extension.
> - If you need to debug PHP functions, you must install the PHP Debug extension.

In the **LOCAL RESOURCES** list, click the Debug icon next to a function or the link in the *handler* file to debug the on-premises function.

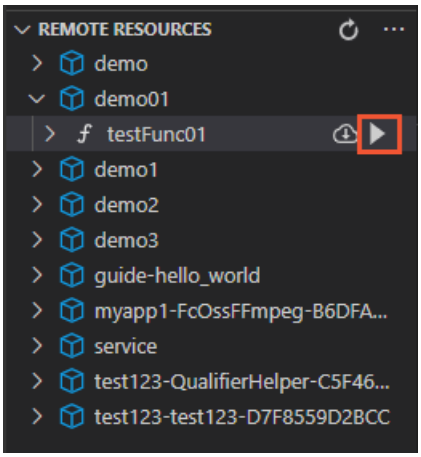
Specify breakpoints in the code and start the debugging process. The debugging information is displayed.



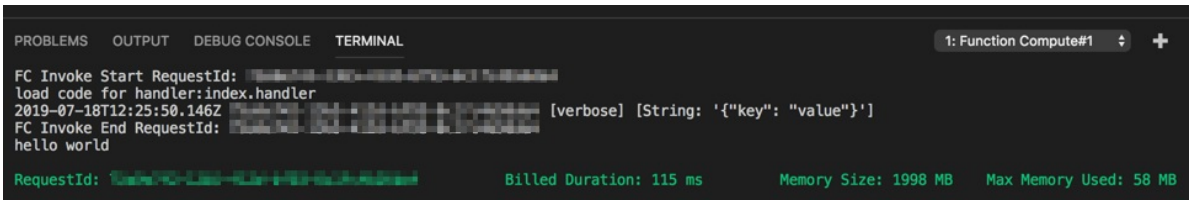
Aliyun Serverless VSCode Extension creates an *event.dat* file in the directory in which the function handler file is stored. You can modify the event.dat file to configure events that are triggered when the function is debugged.

- Invoke functions in Function Compute

  In the **REMOTE RESOURCES** list, click the Remote Invoke icon next to a function to invoke the function.



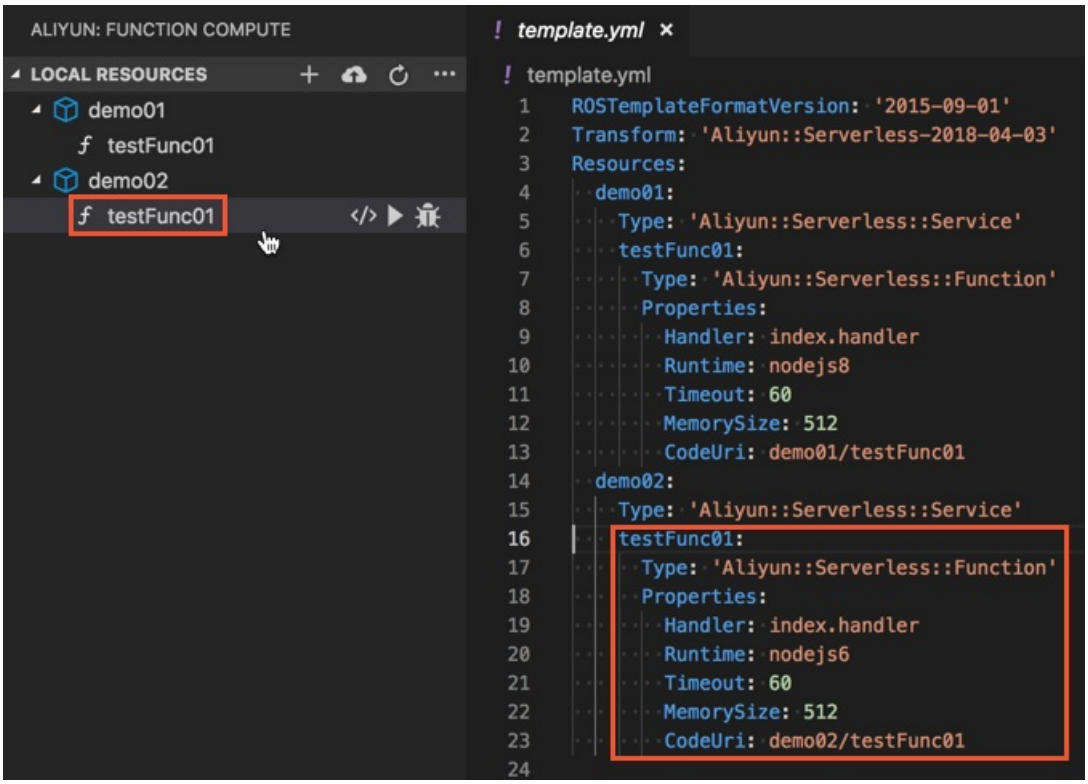
The logs and invocation results of the function are displayed on the **TERMINAL** tab.



Aliyun Serverless VSCode Extension creates an *event.dat* file in the root directory of the project. You can modify the event.dat file to configure events that are triggered when the function is invoked.

- Configure parameters in templates files

  Funcraft uses YAML template files to describe serverless applications. For more information, visit Funcraft and YAML. When you use Aliyun Serverless VSCode Extension to create a function, default values are automatically specified for the parameters in the template file. If you need to modify the configurations of an on-premises service or function, click the name of the service or function in the **LOCAL RESOURCES** list to go to the descriptions in the template file. The description blocks are highlighted and then gradually dimmed.



- Obtain template prompts
  - Completion

    All keys in the *template.yml* file are automatically completed based on precise prompts. Precise prompts are provided based on the indentation level.

  - Schema validation

    All resource configuration information in the *template.yml* file is validated based on the template specification description. For more information, visit Serverless Application Model.

- Hovering prompts

  All resource configuration information in the *template.yml* file is prompted. In the *template.yml* file, when you move the pointer over a resource key, a hovering prompt appears which indicates the resource. The hovering prompt shows the fields that you can configure under the resource key, such as the field name and field type.

Feedback

Scan the following QR code to join the official Function Compute DingTalk group for troubleshooting or send your feedback on GitHub.