Alibaba Cloud

Web App Service

Product Introduction

C-D Alibaba Cloud

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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}`

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1.What is Web+?

Web App Service (Web+) is a fully managed platform for deploying applications, including web applications, mobile applications, and API applications. These applications can be developed in any supported languages, including Java, Node.js, PHP, Go and Python. Without the need to manage the underlying infrastructure, you can deploy, scale, modify, and monitor your applications in an easy, efficient, secure, and flexible manner in Web+.

Features

- **Supports multiple mainstream programming languages**

  Web+ supports multiple mainstream languages, including Java, Node.js, PHP, Go, Python, and Ruby. You can also build your own language runtime environment as required.

- **Provides configuration templates and API**

  Web+ provides the configuration specifications for deployment environments and the API for you to create your own development tools and script sets.

- **Provides a plug-in system**

  In addition to the infrastructure and deployment environments required for running applications, Web+ provides a plug-in system. By developing and using plug-ins, you can connect Web+ to any services as required.

- **Provides fully managed services**

  You do not need to apply for or purchase any cloud resources or perform any complicated system configuration. Instead, you only need to upload application deployment packages and submit resource requirements. Then, Web+ automatically creates all resources.

- **Automatically configures deployment environments**

  Web+ uses the desired-state-oriented resource scheduling method to create deployment environments automatically based on your requirements.

- **Provides monitoring information, logs, and diagnostic information**

  Web+ allows you to monitor applications and deployment environments. In Web+, you can check and download logs and diagnostic information, monitor the health and performance of applications, and debug and troubleshoot applications.

- **Manages application versions**

  Web+ sorts all deployed application versions so that you can easily manage and roll back application versions.

- **Saves the configuration of a deployment environment as a template**

  Web+ allows you to save the configuration of a deployment environment as a template so that you can use the template to create a deployment environment with the same configuration quickly.

2.Scenarios

This topic describes scenarios for using Web App Service (Web+).

Common web applications

Web+ supports multiple deployment modes for web applications. Web+ supports standalone deployment with minimal configuration, which is suitable for small-scale test scenarios. It also supports distributed deployment with a complex configuration, which is suitable for large-scale production scenarios.

- In standalone deployment mode, the reverse proxy, application, and database are all deployed on the same server to maximize resource usage and reduce the cost.
- In distributed deployment mode, the resources for applications can be scaled in or out elastically, and requests are load-balanced through Server Load Balancer (SLB). In this mode, databases are deployed in Relational Database Service (RDS) to ensure robust performance and high availability. In addition, the static resources that applications use are distributed through Content Delivery Network (CDN) to speed up the access to resources.

Flexible application deployment

The configuration requirements of an application may vary with deployment environments. In development and testing environments, applications have low requirements for system performance and availability. Therefore, you can use the standalone deployment mode to reduce the cost. In staging and production environments, however, applications need to be deployed in distributed deployment mode to meet the service capability requirements. Web+ flexibly supports both application deployment modes.

Automated and fully managed environments

There is no need to concern yourself with the management and configuration of the underlying infrastructure. Web+ automatically manages the system resources and software environments according to the resource requests that you submit. Web+ saves you from the hassles of purchasing, configuring, scaling, and releasing resources.

In-depth integration of Alibaba Cloud services

Relying on various infrastructure services that Alibaba Cloud provides, including Elastic Compute Service (ECS), RDS, Object Storage Service (OSS), SLB, CloudMonitor, and CDN, Web+ allows you to build a cloud-native web application system quickly.

Recommended services: ECS, OSS, RDS, SLB, and CDN

Mobile applets

Web+ allows you to deploy back-end applications of mobile applets. A mobile applet consists of the front-end application and the back-end application, which are strictly separate. The front-end application runs in the host application on a mobile phone, and the back-end application runs on the infrastructure provided by a cloud vendor. By using Web+, you can easily manage the back-end application of a mobile applet. Within a project team, you can share a configuration template or submit it to a remote repository. All team members can use the configuration template to create a deployment environment with the same configuration quickly.

Develop back-end applications in any supported languages

You can develop back-end applications of mobile applets in any supported languages, including but not limited to Java, Python, Node.js, PHP, Ruby, and Go. You can also use Docker images or plug-ins to build your own runtime environment.

Infrastructure as code

Wpfile, the configuration description file of Web+, can be managed and distributed along with the application code. Any users who have access to the file can use the Web+ console or command-line interface (CLI) to create a deployment environment with the same configuration.

Create deployment environments on demand

The deployment environments used for product development and testing are unstable. Once an issue occurs, the most cost-effective solution is to rebuild the deployment environments. Web+ allows you to rebuild deployment environments or create new ones at any time. In addition, you can release infrequently used resources in Web+ at any time to reduce the resource cost.

Recommended services: ECS, OSS, RDS, SLB, and Log service

Open-source applications

By using a CLI tool to integrate Web+ with a continuous integration or continuous delivery (CI/CD) system, developers can quickly build, test, accept, and publish their open-source applications. By providing the configuration description file Wpfile, maintainers can help users configure and initialize the open-source applications. Different runtime environments are required to run different applications. With the plug-in system of Web+, maintainers can develop plug-ins to use any third-party components as required, without needing to wait for official support from Web+.

End-to-end process from development to delivery

Web+ can help developers, testers, publishers, and users resolve their issues related to environment deployment. Web+ can help them generate deliverables from code or generate final usable systems from the deliverables.

More flexible component dependency

Open-source application maintainers can use the plug-in system that Web+ provides to develop plug-ins to support the resources and runtime environments that applications require. These plug-ins can be kept for private use or contributed to the community as new open-source projects.

Open-source application ecosystem

With the concerted efforts of Web+, open-source application maintainers, and the entire open-source community, Web+ has been dedicated to creating an open ecosystem that allows users to experience open-source applications quickly.

Recommended services: ECS, OSS, RDS, SLB

3.Benefits

As a fully managed platform for deploying applications, Web App Service (Web+) provides a variety of benefits.

Fully managed application platform

Web+ is a fully managed platform for deploying applications. That is, you do not need to purchase or configure underlying resources and runtime environments. You only need to upload application deployment packages and submit resource requirements. Web+ automatically creates and orchestrates all resources for you.

Multi-language ecosystem

Web+ supports various mainstream programming languages, such as Java, Node.js, PHP, Go, Python, and Ruby (coming soon). In addition, you can use Docker images to configure custom runtime environments for use in special scenarios, or develop plug-ins to support more programming languages.

Multiple access methods

You can access Web+ in a variety of methods. You can use the Web+ console to manage applications and deployment environments on a graphical user interface (GUI). You can use the command-line interface (CLI) to run commands to interact with Web+. You can also use shell scripts to combine basic commands to reusable toolkits suitable for specific scenarios. In addition, you can use the API or the SDKs for various programming languages to integrate Web+ with any third-party systems, such as a continuous integration or continuous delivery (CI/CD) system or an application marketplace.

Open platform and tools

Web+ provides the plug-in system and configuration specifications for you to build an open platform and a tool ecosystem. Web+ supports resource plug-ins and software plug-ins. Resource plug-ins provide access to various types of infrastructure services, such as databases, caches, log services, and application performance monitoring (APM) systems. Software plug-ins allow you to install specified libraries and software in the operating system to support custom programming languages or application runtimes. In addition, Web+ provides the configuration description file Wpfile. You can use Wpfile to customize the configurations of plug-ins.

Enhancement of developer productivity

Web+ configures and manages infrastructure for you and helps you manage technology stacks of applications so you do not need to spend time maintaining them. Web+ frees you from time-consuming tasks such as the management and configuration of servers, databases, load balancers, firewalls, and networks, so that you can focus on developing code. Web+ allows you to build an application deployment environment with no server management or configuration. Within a project team, an operations and maintenance (O&M) engineer can adjust the deployment configuration information and distribute the configuration description file to developers and testers through file sharing or a code repository. In this way, the deployment environment can be replicated quickly. In open-source scenarios, you can use the public configuration description file distributed by Web+ or an open-source application provider to build a trial or production environment for an open-source application quickly.

Excellent resource control

You can customize the most appropriate Alibaba Cloud resources based on application deployment requirements. The resources include Elastic Compute Service (ECS) instances, databases, Server Load Balancer (SLB) instances, and networks. After you customize the required resources, Web+ manages and configures these resources for you.

Easy O&M and monitoring

Web+ provides built-in environment monitoring capabilities. You can check the health status and performance of deployment environments in real time in the console or CLI. In addition, you can check and download environment logs in real time in the console or on the local terminal. This helps you resolve issues encountered during the startup and running of applications. Web+ provides diagnostic features for different programming languages to help you resolve performance issues and various thorny issues.

4.Concepts

Web App Service (Web+) enables you to create an application and deploy it in an environment on which the application depends. Before you create and deploy an application in Web+, familiarize yourself with the key concepts of Web+.

Application

A Web+ application is a service that is designed to provide specific business features. An application consists of the deployment environment, deployment package version, and deployment environment configuration. Each application has its own business features.

Deployment package version

In Web+, a deployment package version specifically identifies an application deployment package. A deployment package version points to a deployment package that contains deployable code, for example, a Tomcat WAR file. The deployment package version is an integral part of an application. An application can have multiple deployment package versions. Each deployment package version is unique. In a deployment environment, you can deploy any deployment package version that is uploaded to an application, or upload and deploy a new deployment package version. You can upload multiple deployment package versions to an application, deploy them to run the application in different deployment environments, and then test their differences.

Deployment environment

A deployment environment is a collection of cloud resources that are required to run an application. Only one application version can be deployed in each deployment environment. However, you can simultaneously run the same application version or different application versions in multiple deployment environments.

Deployment environment configuration

When you create a deployment environment, Web+ pre-configures the resources that are required to run your target application in the deployment environment. Web+ provides three pre-configuration modes: low cost, high availability, and custom. If you select the custom mode, you can customize the resources and software in the deployment environment as needed. The parameters and configuration in a deployment environment define how the environment and its resources work. When you update the configuration of a deployment environment, Web+ automatically redeploys the application in the deployment environment.

Deployment environment configuration template

A configuration template is a resource set template for a deployment environment. You can create and modify a deployment environment in the Web+ console or by using the command-line interface (CLI), and then save the deployment environment as a configuration template. Based on the configuration template, you can quickly create and configure a deployment environment.

Technology stack

A technology stack is a combination of the operating system, programming language, and application server. Currently, Web+ provides 15 technology stack versions for the following technology stack platforms:

- Tomcat:
  - Tomcat 8.5 / Java 8 / Aliyun Linux 2.1903

- *Tomcat 8.5 / Java 8 / Aliyun Linux 2.1903*
- *Tomcat 8.5 / Dragonwell 8 / Aliyun Linux 2.1903*

- **Java**:
  - *Java 8 / Aliyun Linux 2.1903*
  - *Dragonwell 8 / Aliyun Linux 2.1903*

- **Node.js**:
  - *Node.js 8.16.0 / Aliyun Linux 2.1903*
  - *Node.js 10.16.0 / Aliyun Linux 2.1903*

- **Go**: *Go 1.12.7 / Aliyun Linux 2.1903*
- **PHP**: *PHP 7.3 / Aliyun Linux 2.1903*
- **Python**:
  - *Python 3.7.4 / Aliyun Linux 2.1903*
  - *Python 2.7.16 / Aliyun Linux 2.1903*

- **ASP.NET Core**:
  - *ASP.NET Core 2.2 / Aliyun Linux 2.1903*
  - *ASP.NET Core 3.0 / Aliyun Linux 2.1903*
  - *ASP.NET Core 3.1 / Aliyun Linux 2.1903*

- **Ruby**: *Ruby 2.6.3 / Aliyun Linux 2.1903*
- **Native**: *Native / Aliyun Linux 2.1903*

5.Supported regions

A region is a place where a data center resides. The region of a resource cannot be changed after the resource is created.

Select a region

The following table lists the regions supported by Web App Service (Web+), their region IDs, and the corresponding cities.

Regions supported by Web+

Region	City	Region ID
China (Shanghai)	Shanghai	cn-shanghai
Singapore	Singapore	ap-southeast-1
India (Mumbai)	Mumbai	ap-south-1
Australia (Sydney)	Sydney	ap-southeast-2
China (Hong Kong)	Hong Kong	cn-hongkong

When choosing a region, consider the following factors:

- Geographic location

  Choose a region based on the geographic locations of you and your target users.

  - Regions in Mainland China

    In general, we recommend that you choose the data center closest to your target users so that they have fast access. Alibaba Cloud's data centers of the regions in Mainland China are similar to each other in terms of infrastructure, BGP network quality, service quality, ECS operation and configuration. The regions offer BGP backbone network lines covering all provinces, autonomous regions, and municipalities to guarantee fast, stable access within Mainland China.

  - Regions outside Mainland China

    Regions outside Mainland China offer access at international bandwidth, targeting areas outside Mainland China. Users in Mainland China that access services deployed in these regions may experience high latency. Therefore, we do not recommend deploying services in regions outside Mainland China if users from Mainland China require access.

    - If you have business operations in China (Hong Kong) or Southeast Asia, choose the region China (Hong Kong), Singapore, Malaysia (Kuala Lumpur), or Indonesia (Jakarta).
    - If you have business operations in India, choose the region India (Mumbai).
    - If you have business operations in Australia, choose the region Australia (Sydney).

- Intranet communication between Alibaba Cloud products across regions

  Intranet communication between Alibaba Cloud products that are not in the same region is not supported, which means:

  - ECS instances and other products, such as ApsaraDB for RDS and OSS instances, cannot communicate with one another over the intranet if they are in different regions.

- Server Load Balancer cannot be deployed for ECS instances in different regions.

- Resource pricing

  The price of resources may vary according to the region. For details, see the product pricing page.

- Business license filing

  When you choose a region, consider the special requirements of some areas. If you have purchased an ECS instance in Mainland China and used it for a web server, complete business license filing first.

  To complete business license filing, pay attention to the following points:

  - If your company is located in Beijing, choose the **China (Beijing)** region for the ECS instance you have purchased.

  - If your company is located in Guangdong, choose the **China (Shenzhen)** region for the ECS instance you have purchased.

  ⑦ **Note**   The communications administrations in different provinces, autonomous regions, and municipalities have different approval requirements for business license filing. In case of any change, the information published on the business license filing website of your local administration prevails.