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FACULTAD DE INGENIERÍA
ESCUELA DE CIENCIAS Y SISTEMAS
LAB. SOFTWARE AVANZADO
AUX. DIEGO MOLINA

DOCUMENTACIÓN PRÁCTICA

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5 DE MARZO DE 2024, GUATEMALA

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Definir Docker y sus componentes

Docker

Docker es una solución de plataforma como servicio (PaaS) freemium que ayuda en la creación, operación y mantenimiento de contenedores para el desarrollo y prueba de software aislado, mediante la creación de un entorno de sistema operativo virtualizado. Los contenedores de Docker contienen todo el código necesario, bibliotecas, herramientas del sistema y tiempo de ejecución para ejecutar una aplicación de manera consistente en cualquier entorno.

Componentes de Docker

The Docker Engine

Es el componente central esencial de Docker, que se instala en la computadora host. Incluye un sistema de ejecución ligero y una tecnología cliente-servidor para crear y gestionar contenedores. Este motor consta de tres partes: el servidor (Docker daemon), la API REST y la interfaz de línea de comandos (CLI).

Docker Images

Son los bloques de construcción para los contenedores. Las imágenes de Docker son archivos inmutables de solo lectura que contienen el código fuente, bibliotecas, herramientas y dependencias necesarias para ejecutar una aplicación. Las imágenes se utilizan para crear contenedores.

Dockerfile

Es un script con instrucciones sobre cómo construir una imagen de Docker. Contiene información sobre el sistema operativo, lenguajes, variables de entorno, ubicaciones de archivos, puertos de red y otros detalles necesarios para ejecutar la imagen. Se utilizan comandos en grupos, y estos grupos se ejecutan automáticamente.

The Docker Hub

Es un extenso archivo basado en la nube de imágenes de contenedores de Docker. Contiene más de 100,000 imágenes producidas por iniciativas de código abierto, empresas de software y la comunidad de Docker. Los desarrolladores pueden mantener sus imágenes de contenedores en Docker Hub, ya sea de forma privada o pública.

Docker Volumes

Permiten preservar datos generados por un contenedor que ya está en funcionamiento. Los volúmenes de Docker son una opción superior a agregar capas adicionales a una imagen. Con esta función, los usuarios pueden almacenar datos, transferirlos entre contenedores y montarlos en otros nuevos.

Docker Compose

Facilita la creación y prueba de aplicaciones multi-contenedor. Selecciona los servicios a incluir en la aplicación y genera un archivo YAML que describe la configuración de la aplicación. Docker Compose es una herramienta útil para ejecutar y gestionar varios contenedores simultáneamente.

Docker Desktop

Anteriormente conocido como Docker para Windows y Docker para Mac. Permite crear y operar contenedores en Windows o Mac en cuestión de minutos. Incluye componentes como Kubernetes, Docker Compose y Docker CLI client.

Docker Containers

Son instancias activas y operativas de imágenes de Docker. Mientras que las imágenes de Docker son archivos de solo lectura, los contenedores contienen contenido ejecutable transitorio. Los usuarios pueden interactuar con ellos y los administradores pueden cambiar sus parámetros utilizando comandos de Docker. Los contenedores pueden ser regulados en cuanto a su almacenamiento, red y otros subsistemas fundamentales.

Definir Kubernetes y sus componentes

Kubernetes

Kubernetes es una plataforma portable y extensible de código abierto para administrar cargas de trabajo y servicios. Kubernetes facilita la automatización y la configuración declarativa. Tiene un ecosistema grande y en rápido crecimiento. El soporte, las herramientas y los servicios para Kubernetes están ampliamente disponibles.

Componentes del Plano de Control

Los componentes que forman el plano de control toman decisiones globales sobre el clúster (por ejemplo, la planificación) y detectan y responden a eventos del clúster, como la creación de un nuevo pod cuando la propiedad réplicas de un controlador de replicación no se cumple.

Estos componentes pueden ejecutarse en cualquier nodo del clúster. Sin embargo, para simplificar, los scripts de instalación típicamente se inician en el mismo nodo de forma exclusiva, sin que se ejecuten contenedores de los usuarios en esos nodos. El plano de control se ejecuta en varios nodos para garantizar la alta disponibilidad.

kube-apiserver

El servidor de la API es el componente del plano de control de Kubernetes que expone la API de Kubernetes. Se trata del frontend de Kubernetes, recibe las peticiones y actualiza acordemente el estado en etcd.

La principal implementación de un servidor de la API de Kubernetes es kube-apiserver. Es una implementación preparada para ejecutarse en alta disponibilidad y que puede escalar horizontalmente para balancear la carga entre varias instancias.

etcd

Almacén de datos persistente, consistente y distribuido de clave-valor utilizado para almacenar toda la información del clúster de Kubernetes.

Si tu clúster utiliza etcd como sistema de almacenamiento, échale un vistazo a la documentación sobre estrategias de backup.

kube-scheduler

Componente del plano de control que está pendiente de los Pods que no tienen ningún nodo asignado y seleccione uno donde ejecutarlo.

Para decidir en qué nodo se ejecutará el pod, se tienen en cuenta diversos factores: requisitos de recursos, restricciones de hardware/software/políticas, afinidad y anti-afinidad, localización de datos dependientes, entre otros

kube-controller-manager

Componente del plano de control que ejecuta los controladores de Kubernetes.

Lógicamente cada controlador es un proceso independiente, pero para reducir la complejidad, todos se compilan en un único binario y se ejecuta en un mismo proceso.

Estos controladores incluyen:

- Controlador de nodos: es el responsable de detectar y responder cuándo un nodo deja de funcionar
- Controlador de replicación: es el responsable de mantener el número correcto de pods para cada controlador de replicación del sistema
- Controlador de endpoints: construye el objeto **Endpoints**, es decir, hace una unión entre los **Services** y los **Pods**
- Controladores de tokens y cuentas de servicio: crean cuentas y tokens de acceso a la API por defecto para los nuevos Namespaces.

cloud-controller-manager

cloud-controller-manager ejecuta controladores que interactúan con proveedores de la nube. El binario **cloud-controller-manager** es una característica alpha que se introdujo en la versión 1.6 de Kubernetes.

cloud-controller-manager sólo ejecuta ciclos de control específicos para cada proveedor de la nube. Es posible desactivar estos ciclos en **kube-controller-manager** pasando la opción **--cloud-provider= external** cuando se arranque el **kube-controller-manager**.

`cloud-controller-manager` permite que el código de Kubernetes y el del proveedor de la nube evolucionen de manera independiente. Anteriormente, el código de Kubernetes dependía de la funcionalidad específica de cada proveedor de la nube. En el futuro, el código que sea específico a una plataforma debería ser mantenido por el proveedor de la nube y enlazado a `cloud-controller-manager` al correr Kubernetes.

Los siguientes controladores dependen de alguna forma de un proveedor de la nube:

- Controlador de nodos: es el responsable de detectar y actuar cuándo un nodo deja de responder
- Controlador de rutas: para configurar rutas en la infraestructura de nube subyacente
- Controlador de servicios: para crear, actualizar y eliminar balanceadores de carga en la nube
- Controlador de volúmenes: para crear, conectar y montar volúmenes e interactuar con el proveedor de la nube para orquestarlos.

Componentes de Nodo

Los componentes de nodo corren en cada nodo, manteniendo a los pods en funcionamiento y proporcionando el entorno de ejecución de Kubernetes.

kubelet

Agente que se ejecuta en cada nodo de un clúster. Se asegura de que los contenedores estén corriendo en un pod.

El agente kubelet toma un conjunto de especificaciones de Pod, llamados PodSpecs, que han sido creados por Kubernetes y garantiza que los contenedores descritos en ellos estén funcionando y en buen estado.

kube-proxy

kube-proxy permite abstraer un servicio en Kubernetes manteniendo las reglas de red en el anfitrión y haciendo reenvío de conexiones.

Runtime de contenedores

El runtime de los contenedores es el software responsable de ejecutar los contenedores. Kubernetes soporta varios de ellos: Docker, containerd, cri-o, rktlet y cualquier implementación de la interfaz de runtime de contenedores de Kubernetes, o Kubernetes CRI.

Contratos de Servicios

Docker SLA

Docker Subscription Service Agreement

Last updated December 13, 2023

This Docker Subscription Service Agreement (“**Agreement**”), by and between the Customer identified on the applicable Order Form and Docker, Inc. (“**Docker**”), shall govern Customer’s initial purchase on the Effective Date (set forth on Customer’s initial Order Form) as well as any future purchases made by Customer which reference this Agreement. The parties hereby agree as follows:

1. **Definitions.** Capitalized terms shall have the meanings defined herein.

“**Add-on Services**” means those additional software or services that may be offered in the future as additional software or services at such prices as may be noted by Docker at that time.

“**AI Features**” shall mean features of the Docker Platform enabled by artificial intelligence that are designed to assist Users with analytics, automation, prediction, decision-making or other tasks.

“**Customer**” or “**you**” shall mean the entity you represent or, if that does not apply, to you individually.

“**Customer Data**” means all information, data, and other content, in any form or medium, that is submitted, posted, or otherwise transmitted by or on behalf of Customer in the course of using the Docker Platform. For avoidance of doubt, Customer Data does not include data and information related to Customer’s use of the Docker Platform that is used by Docker in an aggregate and/or anonymized manner, including to compile statistical and performance information related to the Docker Platform, or any other information reflecting the access and use of the Docker Platform by or on behalf of Customer or its Users (“**Usage Data**”).

“**Data Processing Agreement**” means Docker’s data processing agreement available at <https://www.docker.com/legal/data-processing-agreement>.

“**Docker Build Cloud**” means the Docker Cloud Service provided pursuant to the Cloud Service Addendum to this Agreement.

“**Docker Desktop**” means the downloadable object-code of the desktop client software component of the Docker Platform.

“**Docker Hub**” means the hosted repository component of the Docker Platform for finding and sharing container images.

“Docker Scout” means an added component of the Docker Platform used for providing insights and suggestions on improving software supply chain including aspects of security and vulnerability scanning.

“Docker Platform” or “Service” means the Docker subscription service software, and components thereof, ordered by Customer as set forth in an applicable Order Form, including Docker Desktop, Docker Hub, Docker Scout, Docker Build Cloud, and any Add-on Services, as well as any updates thereto. Except for certain third-party software expressly set forth in an applicable Order Form, the Docker Platform does not include Third-Party Products or content available in a registry or repository via the Docker Platform, which are instead subject to the corresponding third-party’s license or terms.

“Documentation” means the Docker Platform documentation made available by Docker on the Docker website at <https://docs.docker.com>.

“Evaluation Services” means software or services that are distributed or otherwise made available for Customer to try at its option, at no additional charge, and which are designated as beta, limited release, developer preview, non-production, proof of concept, evaluation, or that are similarly described in the corresponding Order Form, applicable Evaluation Services registration process or Documentation. The terms applicable to such Evaluation Services shall be set forth in an applicable Order Form or addendum to this Agreement.

“Fees” means the corresponding monetary amounts quoted for a non-free of charge subscription Service.

“Marketplace” means a third-party online marketplace such as Amazon Web Services, or other authorized platforms (each, a “Marketplace”) through which Customer completes a Service license purchase.

“Offering” means the level of service, components and features you have chosen from the Service description offerings described on the Pricing Page (Personal, Pro, Team, Business, and/or cloud Services).

“Open Source Software” means third-party software that is distributed or otherwise made available as “free software”, “open source software” or under a similar licensing or distribution model.

“Order Form” means the digital or physical ordering document identifying the products and related Fees as applicable for Customer’s purchases from Docker. Order Forms shall be deemed incorporated herein by reference.

“Pricing Page” means the Pricing and Subscriptions page which has a description of the Offering tier of the Service set forth at <https://www.docker.com/pricing>.

“Public Sector Customer” means solely with regard to United States Customers (1) any federal, national, supranational, state, provincial, Commonwealth, local or foreign or similar government, governmental subdivision, regulatory or administrative body or other governmental or quasi-government agency, tribunal, commission, court, judicial or arbitral body or other entity with competent jurisdiction; (2) any entity directly or indirectly owned or

controlled by the government or a government organization; (3) any entity created by law or decree; (4) any entity whose principal source of funds comes from the government; or (5) any department, agency, or instrumentality of a public international organization. The term also includes state, local, or public education entities created by the laws (including constitution or statute) of a state ("SLED"). It is within Docker's sole discretion to determine if an entity is considered a Public Sector Customer under the terms of this definition.

"Public Sector SSA" means the Public Sector Subscription Service Agreement applicable to United States Public Sector Customers, available at <https://www.docker.com/static/Docker-Public-Sector-SSA.pdf>

"Reseller" means a Docker authorized third-party reseller partner.

"Subscription Term" means the period of time set forth in the applicable Order Form during which Customer is authorized to use the Docker Platform.

"Third-Party Products" means optionable Web-based or downloadable software or services licensed by third-parties and that Docker may make available for Customer to use in conjunction with the Docker Platform. Except as otherwise specified in an Order Form, such Third-Party Products shall be subject to the corresponding third-party's license or terms, as applicable.

"User" means an individual authorized by Customer to log into or to otherwise use the Docker Platform for Customer's internal business purposes and in accordance with the terms of this Agreement and the applicable Order Form. For paid Offerings, Users may include but are not limited to employees, consultants, contractors, and agents of Customer or its affiliates subject at all times to the license restrictions of this Agreement.

2. License and Ownership.

2.1 Subject to the terms and conditions of the Agreement and the applicable Order Form, Docker hereby grants Customer a limited, non-exclusive, non-transferable, non-sublicensable license during the applicable Subscription Term for Customer to permit its Users to: (i) download, install, run, and use Docker Desktop and (ii) access and use Docker Hub, and otherwise access and use the Docker Platform, in accordance with the applicable Documentation for Customer's internal business purposes. Docker owns the Usage Data. Nothing herein will be construed as restricting or prohibiting Docker from utilizing the Usage Data in any way, including to optimize and improve the Docker Platform or related Docker services so long as the Usage Data remains aggregated and de-identified, or to enforce this Agreement.

2.2 The Docker Platform is made available for use or licensed, not sold. Customer acknowledges and agrees that this Agreement does not transfer to Customer any Docker or third-party intellectual property rights. Customer acknowledges and agrees that, as between Docker and Customer, Docker owns all right, title, and interest in and to the Docker Platform (including any improvements, modifications, and enhancements thereto), and Docker shall, notwithstanding any other term of this Agreement, remain the owner of the Docker Platform. All rights not expressly granted by Docker herein are reserved.

2.3 During the Subscription Term, Docker will provide support for the Docker Platform in accordance with the Service Level Agreement & Terms available at <https://www.docker.com/support/>, as applicable to the products and support purchased via an Order Form.

3. Subscription Term; Payment.

3.1 The length of the Subscription Term. The Subscription Term will automatically renew for additional 12-month periods unless a party provides at least 30 days' written notice prior to the end of the then-current term that such party does not wish to renew for the upcoming term. In the case of non-renewal by Customer, a notice as found at <https://www.docker.com/static/Docker-Notice-of-Non-Renewal.pdf>, must be signed and emailed to sales@docker.com no less than 30 days prior to the end of the Subscription Term. Upon renewal, Customer shall pay the subscription Fees set forth in the applicable renewal Order Form. All payment inquiries should be directed to receivables@docker.com.

3.2 For an Offering purchased or otherwise facilitated through our sales team, pricing and other relevant terms will be set forth in the applicable Order Form. Unless stated specifically otherwise on the Order Form, all payments to Docker are due within 30 days of the invoice from Docker to you. Late payments will bear interest at the rate of 1.5% per month (or the highest rate permitted by law, if less). In addition to any of Docker's other rights or remedies, Docker reserves the right to disable or suspend Customer's and its User's access to the Docker Platform for any failure by Customer to pay due invoices in accordance herein. All payment inquiries should be directed to receivables@docker.com.

3.3. For Customer's purchase of the Services is through a Marketplace or through a Reseller, Customer agrees to pay all fees according to the standard Docker price list found at each Marketplace or Reseller price, including all applicable charges specified for the Service (including any charges for use in excess of authorizations). The Docker price list is exclusive of any customs or other duty, tax, and similar levies imposed by any authority. Customer understands it will pay the applicable Marketplace or Reseller in lieu of paying Docker directly. Customer's acceptance of the Marketplace or Reseller pricing and terms and conditions shall bind Customer to the obligations of this Agreement and any applicable Order Form. If Customer purchases through a Marketplace or Reseller, Customer will be responsible for full payment of the fees for the Subscription Term, regardless of usage, payment or billing terms between Customer and the Marketplace or Reseller.

3.4 Except as otherwise expressly set forth in this Agreement, all payments by Customer hereunder are non-refundable and shall be made free and clear of and without reduction for all applicable withholding, sales or use, goods and services, value-added, consumption or other similar fees or taxes imposed by any government (other than taxes on the net income of Docker), which shall be paid by Customer. Accordingly, if you are required to withhold any taxes on the amounts payable to Docker hereunder, you shall pay Docker such additional amounts as are necessary to ensure receipt by Docker of the full amount that Docker would have received but for the deduction on account of such withholding. You shall provide Docker with official receipts issued by the appropriate governmental agency, or such other evidence as is reasonably requested by Docker to establish that such taxes have been paid. Where applicable law requires you to self-assess or reverse-charge any taxes, you shall be

responsible for complying with such law. In such a case, you undertake to provide Docker with your valid VAT registration number that is relevant to the Service provided under the terms of this Agreement. The amounts of any taxes required to be paid by Docker will be added to Docker's invoice, and you shall promptly remit such amounts to Docker, as the collection agent, upon invoice. Docker reserves the right to disable your access to the Service for any failure to pay or any late payment.

4. License Limitations; Use Restrictions.

4.1 General License Limitations.

(a) Customer's license to use the Docker Platform may subject to certain general restrictions and limitations depending on the Offering Customer has chosen, including but not limited to quantity of data stored, age of data stored, pull rate (defined as the number of requests per hour to download data from Docker Hub), the number of image autobuilds or the number of collaborators on an account, as set forth on the applicable Order Form or Documentation.

(b) Customer agrees that it is responsible for Customer's and its Users' conduct while accessing or using the Docker Platform and for any consequences thereof. Customer agrees to use the Docker Platform only for purposes that are legal, proper and in accordance with this Agreement, the Order Form, and any applicable laws or regulations. Customer and its Users shall not, and shall not encourage any third party to: (i) modify, adapt, alter, translate, or create derivative works of the Docker Platform; (ii) reverse-engineer, decompile, disassemble, or attempt to derive the source code for the Docker Platform, in whole or in part, except to the extent that such activities are permitted under applicable law; (iii) distribute, license, sublicense, lease, rent, loan, or otherwise transfer the Docker Platform to any third party other than to Users; (iv) remove, alter, or obscure in any way the proprietary rights notices (including copyright, patent, and trademark notices and symbols) of Docker or its licensors or suppliers contained on or within any copies of the Docker Platform; (v) use the Docker Platform for the purpose of creating a product or service competitive with the Docker Platform; (vi) remove, minimize, block or modify any notices of Docker or its licensors or suppliers in the Docker Platform; or (vii) use the Docker Platform other than as described in the applicable Documentation or for any unlawful purpose. Customer acknowledges that while Customer is permitted to use Docker Desktop on a virtual machine, as of the Effective Date of this Agreement, such use is an unsupported configuration.

(c) The Docker Platform may include an image vulnerability scanning feature that will scan the images that Customer specifies, which may be based upon code Customer authored or code of others, and may generate vulnerability reports or other information for Customer. The data that supports this feature may be provided by a third party and Customer agrees and understands that any reports or other information that Customer receives from Docker (directly or indirectly) about possible vulnerabilities are not guaranteed to be comprehensive, and there can be no assurance that every fault or vulnerability is discovered in a particular image. Customer agrees that the Docker Platform should not be used as the basis to deploy systems that must be hardened or highly secure, or involve mission-critical business operations, the operation of nuclear facilities, aircraft navigation, important communication systems, medical devices, air traffic control devices, real time control systems or other

situations in which an inaccuracy or error in a report or in the service could lead to death, personal injury, or physical property or environmental damage.

4.2 Specific License Limitations – Docker Desktop.

(a) The Docker Desktop component of the Service at the level of the Personal Offering (as described on the Pricing Page) is further restricted to: (i) your “Personal Use”, (ii) your “Educational Use”, (iii) your use for a non-commercial open source project, and (iv) your use in a “Small Business Environment”.

(b) For purposes of this Section 4.2: (i) “Personal Use” is the use by an individual developer for personal use to develop free or paid applications, (ii) “Educational Use” is the use by members of an educational organization in a classroom learning environment for academic or research purposes or contribution to an open source project and (iii) a “Small Business Environment” is a commercial undertaking with fewer than 250 employees and less than US \$10,000,000 (or equivalent local currency) in annual revenue; and (iv) with the exception of Educational Use, Government Entities are prohibited from using the Docker Desktop component of the Service at the level of the Personal Offering. “Government Entities” means (1) any federal, national, supranational, state, provincial, Commonwealth, local or foreign or similar government, governmental subdivision, regulatory or administrative body or other governmental or quasi-governmental agency, tribunal, commission, court, judicial or arbitral body or other entity with competent jurisdiction; (2) any entity directly or indirectly owned or controlled by the government or a government organization; (3) any entity created by law or decree; (4) any entity whose principal source of funds comes from the government; or (5) any department, agency, or instrumentality of a public international organization. It is within Docker’s sole discretion to determine if an entity is considered a Government Entity under the terms of this definition.

4.3 Use Restrictions. Customer and its Users may not and may not allow any third party to:

1. Send, upload, distribute, or disseminate or offer to do the same with respect to any defamatory, harassing, abusive, fraudulent, obscene or otherwise objectionable content;
2. Distribute malware, viruses, worms, defects, Trojan horses, corrupted files, hoaxes, or any other items of a destructive or deceptive nature;
3. Impersonate another person (via the use of an email address or otherwise) or otherwise misrepresent yourself or the source of any content;
4. Upload, post, transmit or otherwise make available through the Service any content that infringes any patent, trademark, copyright, trade secret or other proprietary right of any third party;
5. Upload, post, transmit or otherwise make available through images any Personally Identifiable Information (PII), trade secrets or sensitive or confidential information in violation of contractual, professional or other similar obligations.
6. Download any content posted by another user that you know, or reasonably should know, that cannot be legally distributed in such a manner;
7. Submit content that falsely expresses or implies that such content is sponsored or endorsed by Docker;
8. Interfere with other users’ enjoyment of the Service;

9. Access the Docker Platform for the purpose of developing or operating products or services intended to be offered to third parties in competition with the Services or exploit the Service for any unauthorized commercial purpose, including without limitation mirroring or replicating content for a commercial service;
10. Modify, adapt, translate, or reverse engineer any portion of the Service, unless authorized by Docker;
11. Remove any copyright, trademark or other proprietary rights notices contained in or on the Docker Platform or any content posted thereon;
12. Reformat or frame any portion of the web pages that are part of the Docker Platform's administration display;
13. Use the Docker Platform in connection with illegal peer-to-peer file sharing;
14. Display any content on the Docker Platform that contains any hate related or violent content or contains any other material, products, or services that violate or encourage conduct that would violate applicable laws;
15. Use any robot, spider, site search/retrieval application, or other device to retrieve or index any portion of the Docker Platform or the content posted thereon or to collect information about its users for any unauthorized purpose;
16. Create user accounts under fraudulent pretenses;
17. Use a service account or a Docker account created under a personal or other email domain not authorized by the Customer pursuant to this Agreement and an applicable Order Form;
18. Use the Docker Platform, or any interfaces provided with the Docker Platform, to access any Docker product or service in a manner that violates this Agreement;
19. Mine cryptocurrency using computing resources of the Docker Platform or any other Docker computing resources; or load cryptocurrency mining code, scripts or malware into any Docker Platform or any other Docker computing resources.

4.4 Usernames.

(a) Docker reserves the right to reclaim usernames on behalf of businesses or individuals that hold legal claims or trademarks to those usernames. Users of business names and/or logos that may be considered misleading to others may be permanently suspended. Docker also reserves the right to reclaim usernames using Docker trademarks or usernames that violate our trademark guidelines, available at <https://www.docker.com/legal/trademark-guidelines/>, which are hereby incorporated into this Agreement by reference.

(b) Customer and its Users shall not engage in username squatting. Users with an account that is inactive for more than 6 months may be terminated at Docker's discretion and without further notice. Docker takes into account several factors when determining what conduct is considered to be username squatting including, without limitation: (i) the number of accounts created; (ii) creating accounts for the purpose of preventing others from using those account names; and (iii) creating accounts for the purpose of selling those accounts. Customer and its Users shall not buy or sell usernames.

5. Customer Data.

Docker acknowledges that, as between Docker and Customer, Customer owns all right, title, and interest, including all intellectual property rights, in and to Customer Data. Customer hereby grants to Docker a non-exclusive, royalty-free, worldwide license to reproduce, distribute, and otherwise use and display the Customer Data solely as may be necessary for Docker to provide the Docker Platform including updates and upgrades thereto. Customer shall have sole responsibility for the accuracy, quality, integrity, legality, reliability, and completeness of all Customer Data. In the event Customer Data includes any personal information, Docker will process such information in accordance with its Data Processing Agreement.

6. AI Features.

Customer's use of AI Features where available, will be solely at Customer's discretion. The Service may be used without enabling the AI Features except as otherwise specified in the Documentation. Docker will not use Customer's Data to train artificial intelligence models without the Customer's express consent at the Administrator-level of authority.

7. Open Source Software.

Any part of the Docker Platform that contains or utilizes Open Source Software is distributed and made available under the terms of the open source license agreements referenced in the applicable distribution or the applicable help, notices, about or source files or Documentation. Copyrights and other proprietary rights to the Open Source Software are held by the copyright holders identified in the applicable distribution or the applicable help, notices, about or source files or Documentation. The Docker Platform shall not include any code licensed under any "viral" or "copyleft" license.

8. Records and Audit.

Customer shall establish and maintain complete and accurate records related to Customer and its Users use of the Docker Platform, and any such other information as reasonably necessary for Docker to verify compliance with the terms of this Agreement and any applicable Order Form. Upon at least ten (10) days' prior notice to Customer, Docker or its representative may inspect such records to confirm Customer's compliance with the terms of this Agreement and any applicable Order Form. If Customer's records or Docker's Docker Platform records reveal that Customer or Customer's Users have exceeded their permitted use of the Docker Platform, Docker may invoice Customer for any past or ongoing underpaid amounts resulting from such excess use and Customer will promptly pay Docker such amounts upon receipt of invoice. This remedy is without prejudice to any other remedies available to Docker at law or equity or under this Agreement. To the extent Docker is obligated to do so, Docker may share audit results with certain of its third-party licensors or assign the audit rights specified herein to such licensors.

9. Term and Termination.

This Agreement commences on the Effective Date and will remain in effect until it is terminated in accordance with the terms herein. Either party may terminate this Agreement and any Order Form if the other party materially breaches the terms and conditions of this Agreement and fails to cure such breach within 30 days of receiving written notice thereof. If

there are no outstanding Order Forms, either party may terminate this Agreement upon at least 30 days' prior written notice to the other party. Upon the expiration or termination of this Agreement or an applicable Order Form, the license to the Docker Platform will automatically terminate and Customer will discontinue all use of the Docker Platform. Sections 4.4, 5, 8, 10, 11, 13, and 15 shall survive any termination or expiration of this Agreement or any Order Form.

10. Feedback.

Upon submitting any Customer or User suggestions, proposals, ideas, recommendations, bug reports, ideas, improvements or other feedback regarding Docker's products and services ("**Feedback**"), Customer grants to Docker a royalty-free, fully paid, sub-licensable, transferable, non-exclusive, irrevocable, perpetual, worldwide right and license to make, use, sell, offer for sale, import, and otherwise exploit feedback (including by incorporation of such feedback into the Docker Desktop, Docker Hub, the Docker Platform, and any other Docker services) without restriction. Feedback expressly excludes any Customer Confidential Information and Customer Data.

11. Confidentiality.

11.1 Definition. "**Confidential Information**" means any information disclosed by one party ("**Discloser**") to the other ("**Recipient**"), directly or indirectly, in writing, orally or by inspection of tangible objects, which is designated as "Confidential," "Proprietary" or some similar designation, or learned by Recipient under circumstances in which such information would reasonably be understood to be confidential.

11.2 Exceptions. The confidentiality obligations in this Section 10 shall not apply with respect to any information which Recipient can demonstrate: (a) was in the public domain at the time it was disclosed to Recipient or has become in the public domain through no act or omission of Recipient; (b) was known to Recipient, without restriction, at the time of disclosure as shown by the files of Recipient in existence at the time of disclosure; (c) was disclosed by Recipient with the prior written approval of Discloser; (d) was independently developed by Recipient without any use of Discloser's Confidential Information; or (e) became known to Recipient, without restriction, from a source other than Discloser without breach of this Agreement by Recipient and otherwise not knowingly in violation of Discloser's rights.

11.3 Restrictions on Use and Disclosure. Recipient agrees not to use Discloser's Confidential Information or disclose, distribute, or disseminate Discloser's Confidential Information except in furtherance of the performance of its obligations or enforcement of its rights hereunder or as otherwise expressly agreed by Discloser in writing. Recipient agrees to restrict access to such Confidential Information to those employees, agents, contractors, or consultants of Recipient who need to know such Confidential Information for performing as contemplated hereunder and are bound by confidentiality obligations no less protective than those contained in this Agreement. Recipient shall exercise the same degree of care to prevent unauthorized use or disclosure of Discloser's Confidential Information to others as it takes to preserve and safeguard its own information of like importance, but in no event less than reasonable care.

11.4 Compelled Disclosure. If Recipient is compelled by a court or other competent authority or applicable law to disclose Confidential Information of Discloser, it shall, to the extent permitted by applicable law, give Discloser prompt written notice and shall provide Discloser with reasonable cooperation at Discloser's expense so that Discloser may take steps to oppose such disclosure or obtain a protective order. Recipient shall not be in breach of its obligations in this Section 11 if it makes any legally compelled disclosure provided that Recipient meets the foregoing notice and cooperation requirements.

11.5 Injunctive Relief. Recipient acknowledges that breach of the confidentiality obligations may cause irreparable harm to Discloser, the extent of which may be difficult to ascertain. Accordingly, Recipient agrees that Discloser may be entitled to seek immediate injunctive relief in the event of breach of an obligation of confidentiality by Recipient, and that Discloser shall not be required to post a bond or show irreparable harm in order to obtain such injunctive relief.

11.6 Return of Confidential Information. As between the parties, Confidential Information shall remain the property of the Discloser. At any time, upon Discloser's reasonable request, Recipient shall promptly (and in any event within 30 days) return to Discloser or destroy, at the election of the Discloser, any Confidential Information of the Discloser in Recipient's possession. In addition, within 30 days after termination of this Agreement, Recipient shall (i) promptly return all tangible materials containing such Confidential Information to Discloser, (ii) remove all Confidential Information (and any copies thereof) from any computer systems of the Recipient and confirm in writing that all materials containing Confidential Information have been destroyed or returned to Discloser, as applicable, by Recipient. Recipient shall cause its affiliates, agents, contractors, and employees to comply with the foregoing.

12. Security

Docker will maintain reasonable administrative, physical, and technical security measures consistent with applicable law and current prevailing security practices and that are intended to protect against the loss, misuse, unauthorized access, alteration or disclosure of Customer's Data or the Docker Platform. Such additional measures will include compliance with the Security and Privacy Guidelines available at <https://www.docker.com/trust/>. Docker shall notify Customer of any confirmed security breach as soon as reasonably possible thereafter but in any event within seventy-two (72) hours of a breach involving Customer Data.

13. Warranty Disclaimer.

EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, CUSTOMER UNDERSTANDS AND AGREES THAT USE OF THE DOCKER PLATFORM IS AT CUSTOMER'S SOLE RISK AND THAT THE DOCKER PLATFORM AND DOCUMENTATION IS PROVIDED "AS IS" AND "AS AVAILABLE." DOCKER, ITS SUBSIDIARIES, AND ITS AFFILIATES MAKE NO EXPRESS WARRANTIES AND DISCLAIM ALL IMPLIED WARRANTIES REGARDING THE DOCKER PLATFORM, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT, TOGETHER WITH ANY AND ALL WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE IN TRADE. NO ADVICE OR INFORMATION, WHETHER ORAL OR WRITTEN, OBTAINED FROM

DOCKER OR ELSEWHERE SHALL CREATE ANY WARRANTY NOT EXPRESSLY STATED IN THIS AGREEMENT. WITHOUT LIMITING THE GENERALITY OF THE FOREGOING, DOCKER AND ITS SUBSIDIARIES AND AFFILIATES DO NOT REPRESENT OR WARRANT TO CUSTOMER THAT: (A) CUSTOMER'S USE OF THE DOCKER PLATFORM WILL MEET CUSTOMER'S REQUIREMENTS, OR (B) CUSTOMER'S USE OF THE DOCKER PLATFORM WILL BE UNINTERRUPTED, TIMELY, SECURE OR FREE FROM ERROR. NOTWITHSTANDING THE FOREGOING, NOTHING HEREIN SHALL EXCLUDE OR LIMIT DOCKER'S WARRANTY OR LIABILITY FOR LOSSES WHICH MAY NOT BE LAWFULLY EXCLUDED OR LIMITED BY APPLICABLE LAW. CUSTOMER UNDERSTANDS AND ACKNOWLEDGES THAT THE DOCKER PLATFORM IS NOT DESIGNED, INTENDED OR WARRANTED FOR USE IN HAZARDOUS ENVIRONMENTS REQUIRING FAIL-SAFE CONTROLS, INCLUDING WITHOUT LIMITATION, OPERATION OF NUCLEAR FACILITIES, AIRCRAFT NAVIGATION OR COMMUNICATION SYSTEMS, AIR TRAFFIC CONTROL, AND LIFE SUPPORT OR WEAPONS SYSTEMS. DOCKER DOES NOT WARRANT ANY THIRD PARTY PRODUCTS OR SERVICES.

14. Indemnification.

14.1 By Docker. Subject to the limitation on liability set forth in Section 15, Docker shall defend at its own expense any legal action brought against you to the extent that it is based on a claim or allegation that the Service (excluding any Open Source Software) infringes a U.S. patent or copyright of a third party, and Docker will pay any costs and damages awarded against you in any such action, or agreed to under a settlement signed by Docker, that are attributable to any such claim but shall not be responsible for any compromise made or expense incurred without Docker's consent. Such defense and payments are subject to the conditions that you (a) give Docker prompt written notice of such claim, (b) tender to Docker sole control of the defense and settlement of the claim, and (c) reasonably cooperate with Docker when requested in connection with the defense and settlement of the claim. Docker will have no liability to so defend and pay for any infringement claim to the extent it (i) is based on modification of the Service other than by Docker, with or without authorization; (ii) results from your failure to use an updated version of the Service; or (iii) is based on the combination or use of the Service with any software (including, without limitation, Open Source Software), program or device not provided by Docker if such infringement would not have arisen but for such use or combination; or (iv) results from use of the Service by you after the license was terminated.

14.2 Limitation on Infringement Claims. Docker will have no liability to Customer Indemnitees or any obligations under this Section 14 to the extent a claim arise out of: (a) the modification of any portion of the Docker Platform by any party other than Docker or its authorized representatives; (b) the combination, operation, or use of any Docker Platform with other product(s), data, third party software, or services where the Docker Platform would not by itself be infringing; (c) the continued use of the allegedly infringing Docker Platform after being notified of the infringement claim or after being provided a modified version of the Docker Platform by Docker to address any alleged infringement; or (d) the failure to use the Docker Platform in accordance with the applicable Documentation or outside the scope of the rights granted under this Agreement. Should the Docker Platform, or the operation thereof, become or in Docker's opinion be likely to become, the subject of

such claim described in Section 14.1, Docker may, at its option and expense, (i) procure the right for Customer to continue using the Docker Platform, or (ii) replace or modify the Docker Platform so that it becomes non-infringing. If neither (i) or (ii) are reasonably practicable, Docker may terminate the applicable Order Form and refund to Customer any pre-paid, unused Fees paid by Customer corresponding to the unused period of the Subscription Term. **THIS SECTION 14 STATES DOCKER'S SOLE AND EXCLUSIVE LIABILITY, AND CUSTOMER'S SOLE AND EXCLUSIVE REMEDY, WITH RESPECT TO INFRINGEMENT OR MISAPPROPRIATION OF INTELLECTUAL PROPERTY RIGHTS OF ANY KIND.**

14.3 By Customer. Customer shall defend and hold Docker and its affiliates, officers, directors, agents, and employees ("**Docker Indemnitees**") harmless against any third party claims and actions arising from (a) an allegation that Customer Data infringes the intellectual property rights of any third party, and (b) any use by Customer or its Users of the Docker Platform in violation of the license restrictions or violation of applicable laws, rules or regulations in connection with the Docker Platform, and shall indemnify the Docker Indemnitees against any damages, judgments, litigation costs including any reasonable attorneys' fees.

14.4 Procedure. The party seeking indemnification will notify the indemnifying party promptly of any claim or action covered by this Section 14. The parties agree to reasonably cooperate during such proceedings. The indemnifying party will have the right to defend any such claim and will have control over the litigation, negotiation, and settlement of any such claim, provided it will not make any settlement of a claim that results in any liability or imposes any obligation on the indemnified party without the prior written consent of such party, which will not be unreasonably withheld. The indemnified party may, at its sole expense, participate in the defense of any claim.

15. Limitation of Liability.

15.1 Exclusion of Damages. **TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, CUSTOMER EXPRESSLY UNDERSTANDS AND AGREES THAT DOCKER, ITS SUBSIDIARIES AND AFFILIATES, AND ITS LICENSORS SHALL IN NO EVENT BE LIABLE TO CUSTOMER FOR ANY INCIDENTAL, INDIRECT, SPECIAL, PUNITIVE OR CONSEQUENTIAL DAMAGES (INCLUDING WITHOUT LIMITATION LOSS OF PROFITS, GOODWILL, LOSS OF USE, LOST DATA, FAILURE OF SECURITY MECHANISMS, OR INTERRUPTION OF BUSINESS) ARISING FROM THIS AGREEMENT, WHETHER UNDER THEORY OF CONTRACT, TORT, INCLUDING NEGLIGENCE, OR OTHERWISE, EVEN IF CUSTOMER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES IN ADVANCE.**

15.2 Liability Cap. **THE TOTAL LIABILITY OF DOCKER ARISING OUT OF OR RELATED TO THIS AGREEMENT WILL NOT EXCEED THE AMOUNTS PAID BY CUSTOMER FOR THE RELEVANT SERVICE UNDER THE APPLICABLE ORDER FORM IN THE TWELVE (12) MONTH PERIOD IMMEDIATELY PRECEDING THE EVENT GIVING RISE TO THE LIABILITY.**

16. Export Restrictions.

Customer understands that the Docker Platform is subject to United States export controls administered by the United States Department of Commerce and the United States Department of Treasury Office of Foreign Assets Control. Customer acknowledges and agrees that the Docker Platform may not be used, transferred or otherwise exported or re-exported to countries as to which the United States, maintains an embargo (collectively, “**Embargoed Countries**”), or to or by a national or resident thereof, or any person or entity on the U.S. Department of Treasury’s List of Specially Designated Nationals or the U.S. Department of Commerce’s Entity List, Denied Persons List, or Unverified List, or the U.S. Department of State’s Nonproliferation Sanctions list (collectively, “**Designated Nationals**”). The lists of Embargoed Countries and Designated Nationals are subject to change without notice. By using the Docker Platform, Customer represents and warrants that Customer is not located in, under the control of, or a national or resident of an Embargoed Country or Designated National. Customer agrees to comply with all United States export laws and assumes sole responsibility for obtaining United States government export licenses to export or re-export as may be required. Customer will defend, indemnify, and hold Docker and its licensors harmless from and against any liabilities arising from Customer’s or any of its officers, directors, employees, agents, or representatives violation of such laws or regulations.

17. U.S. Public Sector Users.

Any Public Sector Customers are subject to the Public Sector SSA.

18. Governing Law and Jurisdiction.

The Agreement and all of its Order Forms will be governed as follows:

For Docker Personal and any other no-fee Offering accounts:

Governing law:	Courts with exclusive jurisdiction:
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The laws of the State of California and controlling United States federal law.	The state and federal courts located within the county of Santa Clara, California. Any dispute, controversy or claim arising under, out of or relating to this Agreement, will be finally determined by arbitration conducted by JAMS (or, if unavailable, then such other similar group that can provide former judges as arbiters) in accordance with the Rules of Arbitration of the International Chamber of Commerce applicable to commercial disputes by a single arbiter who is (a) fluent in written and spoken English, the language governing this Agreement, and (b) skilled and experienced with cloud or internet services. The place of such arbitration will be in Santa Clara County, California, U.S.A. The judgment of the arbitrator will be final, non-appealable (to the extent not inconsistent with applicable law) and binding upon the parties, and may be entered in any court of competent jurisdiction. The foregoing does not limit or restrict either party from seeking injunctive or other equitable relief from a court of competent jurisdiction.
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For all Offering accounts subject to a fee the Agreement will be governed as follows based on the Customer's place of domicile:

Customer's domicile:	Governing law:	Courts with exclusive jurisdiction:
In the Americas, Asia Pacific, India, Israel and any other region other than as specified below.	The laws of the State of California and controlling United States federal law.	The state and federal courts located within the county of Santa Clara, California. Any dispute, controversy or claim arising under, out of or relating to this Agreement, will be finally determined by arbitration conducted by JAMS (or, if unavailable, then such other similar group that can provide former judges as arbiters) in accordance with the Rules of Arbitration of the International Chamber of Commerce applicable to commercial disputes by a single arbiter who is (a) fluent in written and spoken English, the language governing this Agreement, and (b) skilled and experienced with cloud or internet services. The place of such arbitration will be in Santa Clara County, California, U.S.A. The judgment of the arbitrator will be final, non-appealable (to the extent not inconsistent with applicable law) and binding upon the parties, and may be entered in any court of competent jurisdiction. The foregoing does not limit or restrict either party from seeking injunctive or other equitable relief from a court of competent jurisdiction.
In the European Union, the European Economic Area, Switzerland, Africa or the Middle East (other than Israel).	The laws of the Netherlands.	The courts of Utrecht, albeit not until the parties have pursued the IT Mediation Regulations of the Stichting Geschillenoplossing Automatisering (SGOA) in The Hague. The parties agree to participate in the mediation in good faith, and to share its costs equally.

In the United Kingdom.	The laws of England and Wales.	Any dispute arising out of or in connection with this contract, including any question regarding its existence, validity or termination, shall be referred to and finally resolved by arbitration under the London Court of International Arbitration (LCIA) Rules, which Rules are deemed to be incorporated by reference into this clause.
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The number of arbitrators shall be one.

The seat, or legal place, of arbitration shall be London.
The language to be used in the arbitral proceedings shall be English.

The parties agree that the Uniform Computer Information Transactions Act and the United Nations Convention on the International Sale of Goods will not apply to this Agreement.

19. Miscellaneous.

19.1 Assignment. Neither party may assign any of its rights or obligations under this Agreement, whether by operation of law or otherwise, without the prior written consent of the other party (not to be unreasonably withheld), provided that Docker may assign this Agreement, without Customer's consent, to an affiliate or in connection with a merger, acquisition, corporate reorganization, or sale of all or substantially all of its assets.

19.2 Legal Notices. Any notices hereunder must be in writing. Docker may provide notice to Customer through Customer's signup email address, the address provided in the applicable Order Form, customer's account or in-product notifications. Customer agrees that any electronic communication will satisfy any applicable legal communication requirements, including that such communications be in writing. Any notice to Customer will be deemed given upon the first business day after Docker sends it. You will provide notice to us by mail to: Docker, Inc. **3790 El Camino Real Ste. 1052 Palo Alto, CA, 94306-3314**, Attn: Legal Department, with an email copy to Legal@docker.com.

19.3 Changes to the Terms. Docker may modify these terms from time to time, with notice to Customer in accordance with Section 19.2 (Legal Notices) or by posting the modified terms on our website. Together with notice, we will specify the effective date of the modifications.

19.4 Contractual Relationship. The parties are independent contractors. This Agreement shall not establish any relationship of partnership, joint venture, employment, franchise, or agency between the parties.

19.5 Integration and Order of Precedence. This Agreement, including all Order Forms, constitutes the entire agreement between Customer and Docker concerning the subject matter of this Agreement and it supersedes all prior and simultaneous proposals, agreements, understandings, or other communications between the parties, oral or written, regarding such subject matter. The terms of an Order Form will prevail over the general terms herein only if such Order Form expressly references this Agreement, the intent to

prevail over this Agreement, and is signed by authorized signatories of both Docker and Customer. Section headings are for convenience only and shall not affect interpretation of the relevant section. No provision of any purchase order or other form employed or provided by Customer will supersede the terms and conditions of this Agreement, and any such document relating to this Agreement shall be for administrative purposes only and shall have no legal effect. If any provision of this Agreement is held invalid or unenforceable, the remainder of this Agreement will continue in full force and effect.

19.6 Force Majeure. Except for the inability to meet financial obligations, neither party will be liable for failures or delays in performance due to causes beyond its reasonable control, including, but not limited to, any act of God, fire, earthquake, flood, storm, natural disaster, computer-related attacks, hacking, internet service provider failures or delays, accident, pandemic, labor unrest, civil disobedience, act of terrorism or act of government (each a “Force Majeure Event”). The parties agree to use their best efforts to minimize the effects of such failures or delays. For the avoidance of doubt, Customer understands that the Docker Platform may not be provided in countries listed in the Office of Foreign Assets Control sanction list and Customer’s access to the Docker Platform may be restricted in such countries. Such prohibitions shall not constitute a Force Majeure.

19.7 Non-waiver. No waiver will be implied from conduct or failure to enforce or exercise rights under this Agreement, nor will any waiver be effective unless in a writing signed by a duly authorized representative on behalf of the party claimed to have waived.

19.8 Third-party Beneficiaries. Nothing in this Agreement shall confer, or is intended to confer, on any third party any benefit or the right to enforce any term of this Agreement.

Cloud Service Addendum

This Cloud Service Addendum (“CSA”) supplements and is incorporated into the Docker Subscription Service Agreement (“Agreement”) by and between Docker and Customer and is applicable solely to Customer’s use of the Docker Cloud Service. Defined terms used but not defined in this CSA shall have the same meaning set forth in the Agreement.

Additional Definitions. Capitalized terms shall have the meanings defined herein.

“Cloud Service” means the development, non-production, generally available software-as-a-service Docker Build Cloud Service, as set forth in the applicable Order Form.

“Administrator” or “Organization Owner” means an individual named User of the Docker Platform who has been designated by the Customer to have access to the Cloud Service with the authority to administer the Cloud Services.

“Build Minutes” means the number of minutes of access to the Cloud Service purchased by the Customer and/or included under the corresponding Service offering.

1. **Access to the Cloud Service.** Docker shall provide access and make the Cloud Service available to Customer for the duration of the Build Minutes specified in the corresponding Order Form. Customer understands and agrees that a Docker Hub

account is required in order to receive the corresponding access to the Cloud Service.

2. **Customer Data.** Customer grants to Docker, its Affiliates and applicable contractors a worldwide, limited-term license to host, copy, transmit and display Customer Data, as reasonably necessary for Docker to provide the Cloud Services in accordance with this Agreement. Customer will: (a) be solely responsible for the nature, quality and accuracy of the Customer Data, (b) ensure that the Customer Data complies with the terms of this Agreement and all applicable laws, (c) promptly handle and resolve any notices and claims relating to the Customer Data, and (d) ensure that it has the rights to the Customer Data necessary to grant Docker the rights contemplated by this Agreement. Docker has no liability to Customer or any third party as a result of: (i) any unauthorized disclosure or access to an Administrator's or User's account or Customer Data as a result of an Administrator's or User's, misuse of the Cloud Service or loss or theft of any Administrator or User password or username, except to the extent resulting from Docker's gross negligence or willful misconduct, (ii) any deletion, destruction, damage or loss of Customer Data caused by or at the direction of Customer, or (iii) Customer's failure to maintain adequate security or virus controls in any devices used to access the Cloud Services. Docker may delete Customer's usage history and data files older than 12 months or within 90 days of the termination of this Agreement.
3. **Usage Tracking and Reporting.** Customer may track their Build Minutes usage through its Docker account. Build Minutes are credited on a per-month basis and unused Build Minutes do not roll-over from one month to the next.
4. **Purchase of Additional Minutes.** If Customer exhausts their allotment of Build Minutes, Customer may purchase additional Build Minutes on a self-serve basis, as made available at Docker's website.

Google Cluster Kubernetes

During the Term of the agreement under which Google has agreed to provide Google Cloud Platform to Customer (as applicable, the "Agreement"), the Covered Service will provide a Monthly Uptime Percentage to Customer as follows (the "Service Level Objective" or "SLO"):

Covered Service	Monthly Uptime Percentage
Zonal Cluster (control plane)	99.5%
Regional Cluster (control plane)	99.95%
Autopilot Cluster (control plane)	99.95%
Autopilot Pods in Multiple Zones	99.9%
GKE Enterprise Autopilot Pods in Multiple Regions	99.99%

If Google does not meet the SLO, and if Customer meets its obligations under this SLA, Customer will be eligible to receive the Financial Credits described below. Monthly Uptime Percentage and Financial Credit are determined on a calendar month basis per cluster. This SLA states Customer's sole and exclusive remedy for any failure by Google to meet the SLO. Capitalized terms used in this SLA, but not defined in this SLA, have the meaning set forth in the Agreement. If the Agreement authorizes the resale or supply of Google Cloud Platform under a Google Cloud partner or reseller program, then all references to Customer in this SLA mean Partner or Reseller (as applicable), and any Financial Credit(s) will only apply for impacted Partner or Reseller order(s) under the Agreement.

Definitions

The following definitions apply to the SLA:

- **“Autopilot Pods in Multiple Zones”** means the compute capacity provisioned by the Google Kubernetes Engine Autopilot Service to schedule user pods, where pods are scheduled across two or more Zones in the same Region.
- **“GKE Enterprise Autopilot Pods in Multiple Regions”** means the compute capacity provisioned by the Google Kubernetes Engine Autopilot Service to schedule user pods, where pods are scheduled across two or more Regions in GKE Enterprise enabled clusters.
- **“Covered Service”** means:
 - Autopilot Pods in Multiple Zones; or
 - For each of Zonal Cluster (control plane), Regional Cluster (control plane), and Autopilot Cluster (control plane), the Kubernetes API provided by Customer's cluster(s), so long as the [minor version](#) of Google Kubernetes Engine deployed in the cluster is a minor version currently offered in the Stable or Regular Channels.
- **“Downtime”** means:
 - For Autopilot Pods in Multiple Zones and GKE Enterprise Autopilot Pods in Multiple Regions, loss of Autopilot Cluster (control plane) connectivity to all applicable running pod instances. This Downtime does not include issues related to Load Balancing and VPN tunneling, which are covered under the respective Compute Engine and Cloud VPN SLAs.
 - For Zonal Cluster (control plane), Regional Cluster (control plane), and Autopilot Cluster (control plane), loss of external connectivity or Kubernetes API access to all applicable running clusters with the inability to launch replacement clusters in any Zone. This Downtime does not include:
 - Scheduled Downtime;

- Loss of connectivity or other issues related to the underlying Compute Engine instances, such as Load Balancing and VPN tunneling, which are covered under the respective Compute Engine and Cloud VPN SLAs; or
 - Failure of Kubernetes nodes or the Kubernetes pods running on those nodes.
- **“Downtime Period”** means a period of five or more consecutive minutes of Downtime. Intermittent Downtime for a period of less than five minutes will not be counted towards any Downtime Periods.
- **“Financial Credit”** means the following:

Monthly Uptime Percentage			Percentage of monthly bill for the respective Covered Service that does not meet SLO and that will be credited to Customer's future monthly bills
Regional Cluster (control plane) or Autopilot Cluster (control plane)	Zonal Cluster (control plane)	Autopilot Pods in Multiple Zones	
99.0% to < 99.95%	99.0% to < 99.50%	99.0% to < 99.9%	10%
95.0% to < 99.0%	95.0% to < 99.0%	95.0% to < 99.0%	25%
< 95.0%	< 95.0%	< 95.0%	50%

- **“Monthly Uptime Percentage”** means total number of minutes in a month, minus the number of Downtime minutes suffered from all Downtime Periods in a month, divided by the total number of minutes in a month.
- **“Maintenance Window”** means a period of time when clusters are taken offline for maintenance tasks. This includes upgrading the Kubernetes APIs.
- **“Region”** means the applicable region described at <https://cloud.google.com/compute/docs/regions-zones>, as may be updated by Google from time to time.
- **“Regional Cluster (control plane)”** means a non-Autopilot cluster topology that consists of multiple replicas of the control plane, running in multiple Zones within a

given Region, as described at <https://cloud.google.com/kubernetes-engine/docs/concepts/regional-clusters>.

- **“Regular Channel”** means the Regular release channel described at <https://cloud.google.com/kubernetes-engine/docs/concepts/release-channels>.
- **“Scheduled Downtime”** means Downtime resulting from Google performing maintenance on the Covered Service during a Maintenance Window.
- **“Stable Channel”** means the Stable release channel described at <https://cloud.google.com/kubernetes-engine/docs/concepts/release-channels>.
- **“Zonal Cluster (control plane)”** means a non-Autopilot single-Zone cluster with a single control plane (master) running in one Zone as described at <https://cloud.google.com/kubernetes-engine/docs/how-to/creating-a-zonal-cluster>.
- **“Zone”** means the applicable zone described at <https://cloud.google.com/compute/docs/regions-zones/>, as may be updated by Google from time to time.

Customer Must Request Financial Credit

In order to receive any of the Financial Credits described above, Customer must [notify Google technical support](#) within 30 days from the time Customer becomes eligible to receive a Financial Credit. Customer must also provide Google with server log files showing loss of external connectivity errors and the date and time those errors occurred. If Customer does not comply with these requirements, Customer will forfeit its right to receive a Financial Credit. If a dispute arises with respect to this SLA, Google will make a determination in good faith based on its system logs, monitoring reports, configuration records, and other available information.

Maximum Financial Credit

The maximum aggregate number of Financial Credits issued by Google to Customer for all Downtime Periods in a single billing month will not exceed 50% of the amount due from Customer for the Covered Service for the applicable month. Financial Credits will be in the form of a monetary credit applied to future use of the Service and will be applied within 60 days after the Financial Credit was requested. Customer may not collect Financial Credits for the same episode of Downtime under both this SLA and another Google Cloud SLA.

SLA Exclusions

The SLA does not apply to any (a) features designated pre-general availability (unless otherwise set forth in the associated Documentation); (b) features excluded from the SLA (in the associated Documentation); (c) Customer clusters where the deployed minor version of Google Kubernetes Engine is not offered through the Stable or Regular Channels; or (d) errors: (i) caused by factors outside of Google's reasonable control; (ii) that resulted from

Customer's software or hardware or third party software or hardware, or both; (iii) that resulted from abuses or other behaviors that violate the Agreement; or (iv) that resulted from quotas applied by the system or listed in the Admin Console.