

Hyperledger Fabric

What's new in v1.4

v1.4 的新功能

Hyperledger Fabric has matured since the initial v1.0 release, and so has the community of Fabric operators and developers. The Fabric developers have been working with network operators and application developers to deliver v1.4 with a focus on production operations and developer ease of use. The two major release themes for Hyperledger Fabric v1.4 revolve around these two areas:

自从最初的 v1.0 版本发布以来, HyperledgerFabric 已经成熟了, Fabric 操作人员和开发人员的社区也是如此。Fabric 开发人员一直与网络运营商和应用程序开发人员合作, 以交付 v1.4, 重点关注生产操作和开发人员的易用性。Hyperledger Fabric v1.4 的两个主要版本主题围绕这两个领域展开:

- **Serviceability and Operations:** As more Hyperledger Fabric networks get deployed and enter a production state, serviceability and operational aspects are critical. Fabric v1.4 takes a giant leap forward with logging improvements, health checks, and operational metrics. Along with a focus on stability and fixes, Fabric v1.4 is the recommended release for production operations. Future fixes will be delivered on the v1.4.x stream, while new features are being developed in the v2.0 stream.
- **Improved programming model for developing applications:** Writing decentralized applications has just gotten easier. Programming model improvements in the Node.js SDK and Node.js chaincode makes the development of decentralized applications more intuitive, allowing you to focus on your application logic. The existing npm packages are still available for use, while the new npm packages provide a layer of abstraction to improve developer productivity and ease of use.
- **可用性和操作:** 随着越来越多的 Hyperledger Fabric 网络部署并进入生产状态, 可用性和操作方面至关重要。Fabric v1.4 在日志记录改进、健康检查和操作指标方面取得了巨大的进步。除了关注稳定性和修复之外, Fabric v1.4 是生产操作的推荐版本。将来的修复将在 v1.4.x 流上提供, 而新功能将在 v2.0 流中开发。
- **用于开发应用程序的改进编程模型:** 编写分散的应用程序变得更加容易。node.js sdk 和 node.js chaincode 中的编程模型改进使去中心化应用程序的开发更加直观, 使您能够专注于应用程序逻辑。现有的 NPM 包仍然可以使用, 而新的 NPM 包提供了一个 layer

一、Serviceability and operations improvements

一、可用性和操作改进

The Operations Service: The new RESTful operations service provides operators with three services to monitor and manage peer and orderer node operations:

操作服务：新的 restful 操作服务为操作员提供三个服务来监视和管理对等节点和订购方节点操作

- The logging `/logspec` endpoint allows operators to dynamically get and set logging levels for the peer and orderer nodes.
- The `/healthz` endpoint allows operators and container orchestration services to check peer and orderer node liveness and health.
- The `/metrics` endpoint allows operators to utilize Prometheus to pull operational metrics from peer and orderer nodes. Metrics can also be pushed to StatsD.
- 这登录/logspec 端点允许操作员动态获取和设置对等节点和排序器节点的日志级别。
- /healthz 端点允许操作员和容器编排服务检查对等节点和排序器节点的活动性和运行状况。
- /metrics 端点允许操作员利用 prometheus 从对等节点和订购方节点提取操作度量。也可以将度量推送到 statsd。

二、Improved programming model for developing applications

二、用于开发应用程序的改进编程模型

The new Node.js SDK and chaincode programming model makes developing decentralized applications easier and improves developer productivity. New documentation helps you understand the various aspects of creating a decentralized application for Hyperledger Fabric, using a commercial paper business network scenario.

新的 node.js sdk 和 chaincode 编程模型使开发分散的应用程序更加容易，提高了开发人员的工作效率。新文档帮助您了解使用商业票据业务网络场景为 Hyperledger Fabric 创建分散应用程序的各个方面。

- **The scenario:** Describes a hypothetical business network involving six organizations who want to build an application to transact together that will serve as a use case to describe the programming model.
- **Analysis:** Describes the structure of a commercial paper and how transactions affect it over time. Demonstrates that modeling using states and transactions provides a precise way to understand and model the decentralized business process.
- **Process and Data Design:** Shows how to design the commercial paper processes and their related data structures.
- **Smart Contract Processing:** Shows how a smart contract governing the decentralized business process of issuing, buying and redeeming commercial paper should be designed.
- **Application** Conceptually describes a client application that would leverage the smart contract described in **Smart Contract Processing**.
- **Application design elements:** Describes the details around contract namespaces, transaction context, transaction handlers, connection profiles, connection options, wallets, and gateways.
- **场景:** 描述一个假设的业务网络，其中包含六个组织，他们希望构建一个应用程序来一起进行交易处理，这将作为描述编程模型用例。
- **分析:** 描述商业票据的结构以及交易如何随时间而影响它。演示了使用状态和交易提供了精确的方法去理解和构建分散式业务流程。
- **流程和数据设计:** 展示如何设计商业票据流程及其相关的数据结构。
- **智能合约处理:** 显示如何设计智能合约来管理商业票据发行、购买和赎回的分散业务流程。
- **应用程序**在概念上描述了一个客户机应用程序，它将利用智能合约处理中描述的智能合约。
- **应用程序设计元素:** 描述关于契约名称空间、交易上下文、交易处理程序、连接配置文件、连接选项、钱包和网关的详细信息。

And finally, a tutorial and sample that brings the commercial paper scenario to life:

最后，一个教程和示例将商业票据场景带到了现实中：

- **Commercial paper tutorial** ([link](#))
- 商业票据教程 ([链接](#))

三、New tutorials

三、新教程

- **Writing Your First Application:** This tutorial has been updated to leverage the improved Node.js SDK and chaincode programming model. The tutorial has both JavaScript and Typescript examples of the client application and chaincode.
- **Commercial paper tutorial** As mentioned above, this is the tutorial that accompanies the new Developing Applications documentation.
- **Upgrading to the Newest Version of Fabric:** Leverages the network from **Building Your First Network** to demonstrate an upgrade from v1.3 to v1.4. Includes both a script (which can serve as a template for upgrades), as well as the individual commands so that you can understand every step of an upgrade.
- **编写您的第一个应用程序:** 本教程已更新, 以利用改进的 node.js sdk 和 chaincode 编程模型。本教程提供了客户端应用程序和链代码的 javascript 和 typescript 示例。
- **商业票据教程**如上所述, 这是新开发应用程序文档附带的教程。
- **升级到最新版本的结构:** 利用网络构建第一个网络, 演示从 v1.3 升级到 v1.4。包括一个脚本（可以作为升级的模板）和单个命令, 以便您了解升级的每个步骤。

四、Private data enhancements

四、私有数据增强

Private Data: The Private data feature has been a part of Fabric since v1.2, and this release debuts two new enhancements:

私有数据: 私有数据功能自 v1.2 以来一直是结构的一部分, 本版本推出了两个新的增强功能:

- **Reconciliation,** which allows peers for organizations that are added to private data collections to retrieve the private data for prior transactions to which they now are entitled.
- **Client access control** to automatically enforce access control within chaincode based on the client organization collection membership without having to write specific chaincode logic.
- **对帐,** 允许添加到私有数据集合的组织对等方检索他们现在有权进行的先前交易的私有数据。
- **客户机访问控制,** 根据客户机组织集合成员身份在链码内自动执行访问控制, 而不必编写特定的链码逻辑。

五、Release notes

五、发行说明

The release notes provide more details for users moving to the new release, along with a link to the full release change log.

发行说明为用户提供了更多关于新版本的详细信息，以及完整版本更改日志的链接。

- [Fabric release notes](#). (link)
- [Fabric CA release notes](#). (link)
- *Fabric* 发行说明。 ([连接](#))
- *Fabric CA* 发行说明。 ([连接](#))