Create a Hyperledger Fabric Network

Our decentralized application (dapp) will facilitate the management of a track-and-trace supply chain. This supply chain has two different members:

- The **retailer**, who labels products and sells them to consumers
- The **supplier**, who manufactures, warehouses, and ships the products to retailers

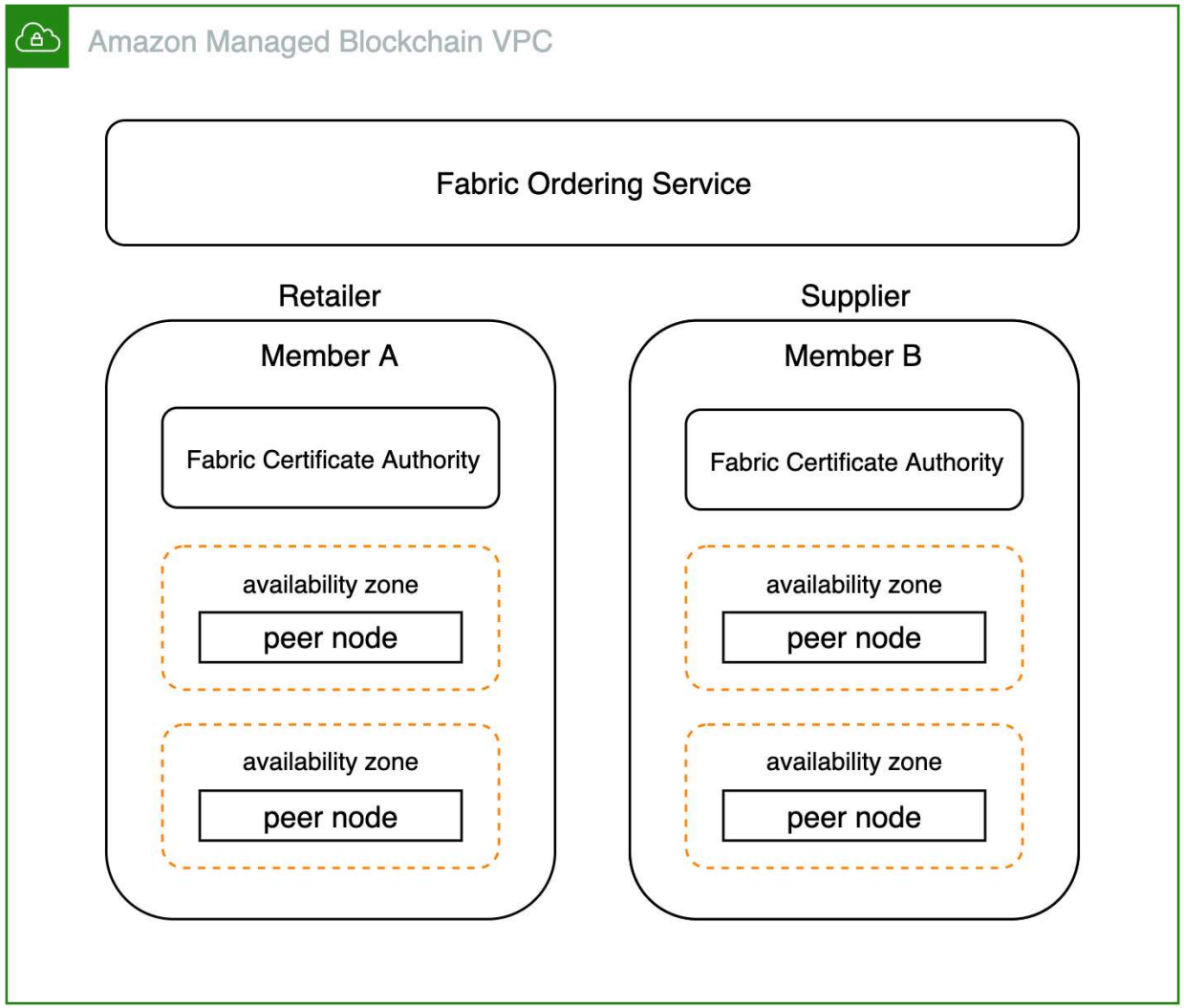
To keep things simple for training purposes, the network will be limited to these two members, but once you've learned the concepts in this workshop, it will be easy to build applications that support additional members.

Amazon Managed Blockchain

Amazon Managed Blockchain makes it easy to deploy a blockchain network consisting of various members. This module will show you how to do this in the AWS Management Console for the highest degree of simplicity. However, you can achieve all of these steps using three methods:

- Using the AWS Management Console
- Using the AWS command line interface (CLI)
- Using AWS CloudFormation

The following architectural diagram shows the infrastructure that will be deployed during this module. The Fabric ordering service ensures that transactions have been endorsed properly by the designated member peer nodes and produces new blocks of transactions in a deterministic order, broadcasting them to each peer to be recorded in distributed ledgers. Each member in the consortium has its own certificate authority for managing the identities of those who are authorized to access the network, as well as peer nodes, which endorse transactions and store blockchain data. The peer nodes are in separate availability zones for high availability and failover purposes. This infrastucture is managed by AWS and accessed by each member over a VPC endpoint using AWS PrivateLink.



If you're doing this workshop in a group setting, please divide the class into groups of two, with one member taking the role of retailer and the other the role of supplier.

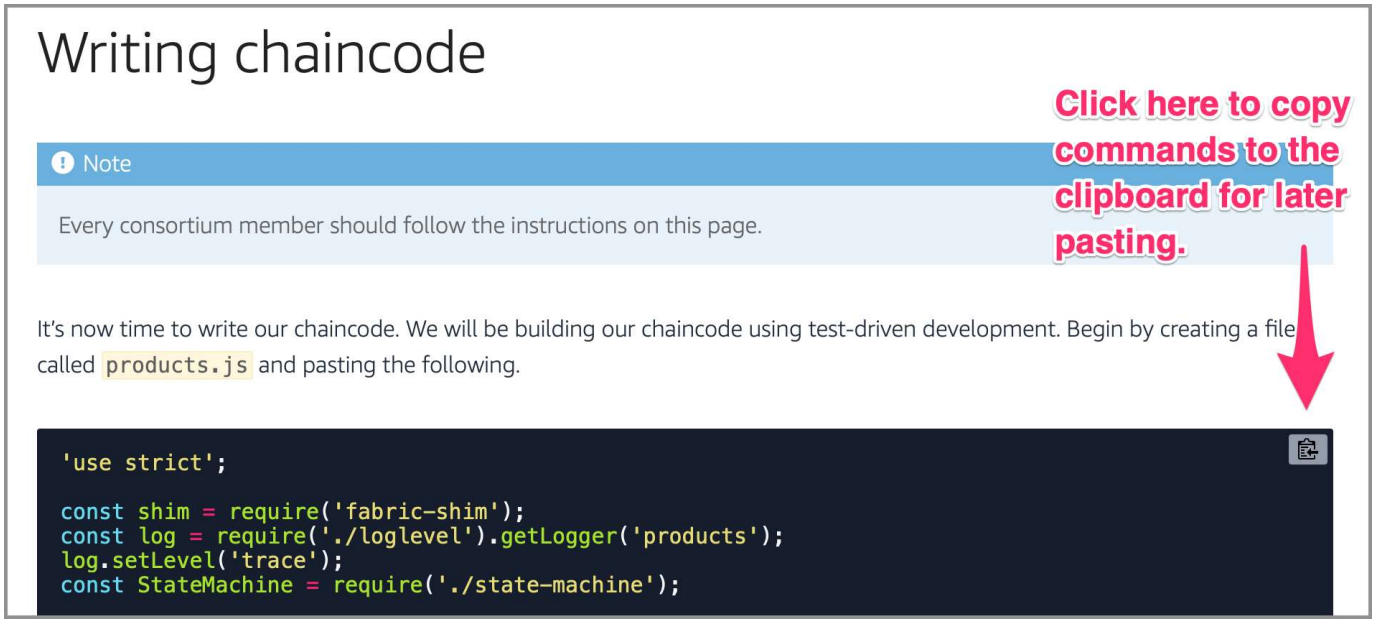
If you're working through this module on your own, you will need to have access to two different AWS accounts, either created manually or as part of AWS Organizations. This tutorial may be helpful for setting up a convenient means of signing into several organizational accounts through a single portal.

Our philosophy: "Nothing up my sleeve"

In building this workshop, the authors have striven to make everything as clear and accessible as possible. We have experienced workshops and tutorials where too much is hidden in "magic" that occurs behind the scenes. That is, much of the functionality required to make things work occurs automatically in source code that must be downloaded prior to the course and is often deliberately obscured from the learner.

Instead, our philosophy in building this workshop will be to show the learner all necessary steps to build the system from scratch, and to provide beautiful syntax-highlighted source code at the stage where they are used to build the final solution. Everything is front-and-center for easy study, and the user must put all the pieces in place for the solution to function.

We have also observed that text editing can be a common source of failures and mistakes during hands-on laboratories. A convenient link is provided to facilitate copying and pasting the commands and files where they are needed (see example below).



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