The Hyperledger Fabric is a permissioned blockchain trying to solve some of the bottlenecks with the more traditional Blockchains, or at least try to offer some different features. With adaptable consensus mechanisms, a more general programming language for smart contracts Hyperledger Fabric uses a different Blockchain architecture to ensure more flexibility, scalability, and confidentiality, as well as resiliency. This makes it e.g. more relevant for companies that do not want complete transparency for all cases. Also, they do not want much energy and capital locked up in mining for the security of the Ledger.

The Linux Foundation founded the Hyperledger project in 2015 to advance cross-industry blockchain technologies. where the Hyperledger Fabric differs from other blockchains is where it is private and permissioned - the members in a hyper ledger fabric network are enrolled through a trusted membership service provider (MSP). Hyperledger Fabric also offers several plugin options, e.g. the ledger data can be stored in multiple formats, consensus mechanisms can be swapped in and out, and different MSPs are supported. Another feature with HLF is the ability to create channels, allowing groups of participants to create a separate ledger transaction. This is important in networks where some participants might be competitors. The ledger sub-system has two components: the world state, and the transaction log. Every participant has a copy of the ledger for each HLF network they belong to. The world state describes the state at a given point in time. The transaction log is the updated history of the world-state, so to say. The ledger is a combination of the two. the ledger has a replaceable data store for the world state, a LevelDB key-value store DB

smart contracts on Hyperledger Fabric is written in something called chaincode, and are invoked by apps external to the blockchain when the app need to interact with the ledger. in most cases, the chaincode interacts only with the DB component of the ledger, the world state (with queries), and not witht the transaction log. the privacy feature of the channel is one appealing feature with HLF

hyper ledger fabric uses different consensus mechanisms for different use. It depends on the trust level as well as the need for time assurances for the chain.