**JobRunner and FloorManager FileMaker Server and Workstation Requirements**

Both JobRunner and FloorManager run on Claris’s FileMaker platform. Below are system requirements for running either JobRunner, FloorManager, or both applications. Systems that deviate below the requirements will result in loss of optimal performance. All requirements are based on use [Claris FileMaker’s baseline recommendations](https://support.claris.com/s/article/Claris-FileMaker-19-Technical-Specifications?language=en_US), internal testing, and real world production performance review. We recommend the use of name brand equipment, designed for business use, with a 3-year extended onsite warranty.

**Bare Metal (non-virtualized) Server Requirements:**

|  |  |  |  |
| --- | --- | --- | --- |
|   | **Small** | **Medium** | **Large** |
| **Operating System** | Windows Server 2019 Standard Edition (with Desktop Experience)Windows Server 2019 Datacenter (with Desktop Experience)\*Windows Server 2016 Standard Edition (with Desktop Experience)Windows Server 2016 Datacenter (with Desktop Experience)\*\*Windows Server Datacenter is compatible with FileMaker Server 19, but has not been fully tested. |
| **CPU** | Processors: 1Physical Cores: 6Total Threads: 12Cache: 12MCPU Frequency: 3.2GHzRecommendation: Intel Xeon E-2356G | Processors: 1Physical Cores: 6Total Threads: 12Cache: 12MCPU Frequency: 3.5GHzRecommendation: Intel Xeon E-2386 or E-2356 | Processors: 2Physical Cores: 16 (2x8)Total Threads: 32 (2x16)Cache: 12MCPU Frequency: 3.5GHz Recommendation: Intel Xeon Gold 5315Y or E-2388 |
| **RAM** | 32GB DDR4-3200 | 32GB DDR4-3200 | 32GB DDR4-3200 |
| **OS Drive** | 500GB Enterprise Grade NVMe SSD | 1TB Enterprise Grade NVMe SSD | 1TB Enterprise Grade NVMe SSD |
|  | \*OS Drive must always have a minimum of 20% free drive space. |
| **Storage Drive** | 1TB SATA 7200RPM HDD | 2TB SATA 7200RPM HDD | 4TB SATA 7200RPM HDD |
| **Network** | 1 Gigabit Ethernet NIC | 1 Gigabit Ethernet NIC | 1 Gigabit Ethernet NIC |
| **RAID Configuration** | 1, 5, 10 | 1, 5, 10 | 1, 5, 10 |

**Server Virtualization Requirements**

For optimal performance, a non-virtualized environment is preferred to a virtualized environment. Virtualization’s resource overhead reduces available hardware resources to the FileMaker server. That said, FileMaker server virtualization is supported. As a reminder, servers that deviate below these requirements will result in loss of optimal performance.

**Virtualized Server Requirements:**

|  |  |  |  |
| --- | --- | --- | --- |
|   | **Small** | **Medium** | **Large** |
| **Hypervisor** | VMWare ESXi 7.0u2\*We do not support other hypervisors such as Microsoft Hyper-V, Proxmox, or VMWare ESXi editions below 7.0u2.  |
| **Operating System** | Windows Server 2019 Standard Edition (with Desktop Experience)Windows Server 2019 Datacenter (with Desktop Experience) \*Windows Server 2016 Standard Edition (with Desktop Experience)Windows Server 2016 Datacenter (with Desktop Experience) \*\*Windows Server Datacenter is compatible with FileMaker Server 19, but has not been fully tested. |
| **CPU** | Processors: 1Physical Cores: 6Total Threads: 12Cache: 12MCPU Frequency: 3.2GHzRecommendation: Intel Xeon E-2356G | Processors: 1Physical Cores: 6Total Threads: 12Cache: 12MCPU Frequency: 3.5GHzRecommendation: Intel Xeon E-2386 or E-2356 | Processors: 2Physical Cores: 16 (2x8)Total Threads: 32 (2x16)Cache: 12MCPU Frequency: 3.5GHz Recommendation: Intel Xeon Gold 5315Y or E-2388 |
| **vCPUVM Dedicated** | 8  | 10  | 12  |
| **RAMVM Dedicated** | 32GB DDR4-3200  | 32GB DDR4-3200 | 32GB DDR4-3200 |
| **OS DriveVM Dedicated** | 500GB Enterprise Grade NVMe SSD | 1TB Enterprise Grade NVMe SSD | 1TB Enterprise Grade NVMe SSD |
|  | \*OS Drive must always have a minimum of 20% free drive space.\*Virtual Disk Configuration should be Thick Provision Lazy Zeroed |
| **Storage DriveVM Dedicated** | 1TB SATA 7200RPM HDD | 2TB SATA 7200RPM HDD | 4TB SATA 7200RPM HDD |
| **Network** | 1 Gigabit Ethernet NIC | 1 Gigabit Ethernet NIC | 1 Gigabit Ethernet NIC |
| **RAID Configuration** | 1, 5, 10 | 1, 5, 10 | 1, 5, 10 |

**Server Firewall Requirements**:

From [Claris](https://support.claris.com/s/article/Ports-used-by-FileMaker-Server-17-and-later?language=en_US), these are the firewall requirements for the JobRunner and FloorMaker applications to operate. FileMaker Server requires a web server in all deployments. The web server serves web publishing clients, hosts the web-based Admin Console application, and handles some data transfer tasks. FileMaker Server requires that port 80 is available for web connections and port 443 is available for secure web connections. These ports are used by FileMaker Server even if web publishing is disabled. If the FileMaker Server installer detects existing websites using these ports, you must disable those websites and make the ports available.

Ports marked as “Available” are used locally on the FileMaker Server. These ports must not be used for anything else but do not need to be opened by the firewall.

|  |  |  |  |
| --- | --- | --- | --- |
| **Port number** | **Used by** | **Open/ available** | **Purpose** |
| 80 | Workstations | Open | HTTP |
| 80 | FileMaker Server, Workstations | Open | Progressive downloading of container data to all clients, redirects to port 16000 for Admin Console |
| 443 | Workstations | Open | HTTPS |
| 443 | FileMaker Server, Workstations | Open | HTTPS: Uploading databases from FileMaker Pro, inserting data in externally stored container fields from all clients, and authenticating FileMaker Pro clients using a User Connections License."Used for remote access to Admin Console for FileMaker Server 19.4.1 |
| 1895 | FileMaker Server, Workstations | Available | FileMaker internal |
| 2399 | FileMaker Server, Workstations | Open | ODBC and JDBC sharing. Port 2399 only needs to be open to support ODBC and JDBC clients. |
| 3000 | FileMaker Server | Available | FileMaker internal |
| 5003 | FileMaker Server, Workstations | Open | Hosting databases for FileMaker Pro and FileMaker Go clients |
| 5013 | FileMaker Server | Available | FileMaker internal |
| 5015 | FileMaker Server | Available | FileMaker internal |
| 8989 | FileMaker Server | Available | FileMaker internal |
| 8998 | FileMaker Server | Available | FileMaker internal |
| 9889 | FileMaker Server | Available | FileMaker internal |
| 9898 | FileMaker Server | Available | FileMaker internal |
| 16000 | FileMaker Server | Open | Used for both Admin Console (in FileMaker Server 19.3 and earlier) and internal communication with Secondary machine. It should be exposed to internet/public for Admin Console remote access. |
| 16001 | FileMaker Server | Available | Used for local access to Admin Console |
| 16002 | FileMaker Server | Open | FileMaker Internal, Port 16002 must be open on the Primary machine, open in the firewall, and available on the Secondary machines |
| 16004 | FileMaker Server | Available | FileMaker internal |
| 16020 | FileMaker Server | Available | FileMaker internal |
| 16021 | FileMaker Server | Available | FileMaker internal |
| 50003 | FileMaker Server | Available | FileMaker Server service  |
| 50004 | Primary machine | Available | FileMaker Script Engine |

**Workstation Requirements**:

The JobRunner and FloorMaker user platform must run on individual workstations separate from the FileMaker server. As a reminder, workstations that deviate below these requirements will result in loss of optimal performance.

|  |  |  |
| --- | --- | --- |
|  | **Windows Workstations** | **Mac Workstations** |
| **Operating System** | Windows 11 Enterprise and Pro Editions (64-bit only)Windows 10 Enterprise and Pro Editions (21H2 64-bit only) | macOS Monterey 12.0macOS Big Sur 11.0macOS Catalina 10.15 |
| **CPU** | Processor Type: Intel i5Base Processor Speed: 2GHz or greater | Processor Type: Intel i5, Mac M1\*Base Processor Speed: 2GHz or greater\*M2 chip has not been approved. |
| **Memory** | 8GB DDR4 or greater | 8GB DDR4 or greater |
| **Hard Drive** | 250GB\* \*70GB must always be free on the operating system partition. SSD drive type is preferred but not mandatory. | 250GB\*\*70GB must always be free on the operating system partition. SSD drive type is preferred but not mandatory. |
| **Network** | 1GB Network Interface | 1GB Network Interface |