Server Requirements

Yellowfin's server requirements are largely dependent on the types of reports run, the browsing habits of concurrent users, and the number of background jobs that have been scheduled to run. It is important to provision an environment that is capable of delivering a responsive environment for users based on these factors.

A Yellowfin environment can be scaled both vertically (more processing power on a single server) or horizontally, by deploying the application server in a cluster of many nodes. The Yellowfin Clustering Guide can provide more information how to configure a clustered Yellowfin environment.

The server requirements below are based on providing Yellowfin users with a responsive application user experience, however, any Yellowfin functions that query a data source, such as generating a report, loading filter values or caching results to a table, are susceptible to the performance of systems outside of the Yellowfin environment. Queries to slow external systems, can give the impression that Yellowfin itself is slow. It is recommended that external data sources be provisioned adequately for the number of data source requests that a number of concurrent Yellowfin users could generate simultaneously.

Functional Application Server Requirements

Yellowfin requires a minimum specification to be functional. The Yellowfin service will start on the following server specification:

Requirement	Minimum Functional Specification
Processor	1 x Single Core 1GHz 32-bit CPU or equivalent
RAM	2 GB (1.4 GB allocated to Yellowfin)
Hard Disk	1 GB Free Space
Operating System	Any operating system that can support a full 1.7 Java Virtual Machine (JVM)
Database	Local database on the same server

Note: This specification is only recommended for a single concurrent user. Use of some functions (map generation, Assisted Insights), and reports on large volumes of data, may slow the machine and cause Yellowfin to use more memory than available. 32-bit machines are not recommended, as it enforces a hard limit on the amount of memory that can be allocated to Yellowfin.

Recommended Application Server Requirements

The recommended server configuration below would suit an environment up to roughly 25 concurrent users with average content complexity.

Requirement	Recommended Minimum Specification
Processor	1 x Quad Core (8 Thread) 3GHz 64-bit CPU or equivalent
RAM	8 GB (7 GB allocated to Yellowfin)
Hard Disk	5 GB HDD Free Space
Operating System	Windows Server Red Hat Enterprise Linux, SUSE Linux Enterprise Server, or Ubuntu Server LTS.
Java	JRE 1.7 Minimum
Web Application Server	Tomcat
Web Server	Tomcat

Note: The specifications above are for a dedicated Yellowfin Server, with no other significant software running on the server other than the operating system. Running a database or other software on the same server would require additional RAM and CPU to meet the recommended minimum specification.

Recommended Repository Database Requirements

Yellowfin requires a database for storing metadata for the content and users that are in Yellowfin. It is recommended that this database reside on a separate server to where the Yellowfin application resides.

Requirement	Recommended Minimum Specification
Processor	1 x Dual Core (4 Thread) 3 GHz 64-bit or equivalent
RAM	4 GB
Hard Disk	15 GB (preferably SSD or RAID based storage)
Database	Yellowfin requires one of the following databases to use as an application configuration database: • DB2 Universal Database 8.1 or later • Oracle Database 9+ • PostgreSQL 8+ • SQL Server 2000+ • Sybase ASE, ASA, IQ • Ingres • MySQL 5 • Cache' DB • HSQL (Not for Production Systems) • TiDB (Beta)

Reporting Database Requirements

In many cases a reporting database may exist prior to Yellowfin being provisioned. This may be a transactional database or data warehouse. In some environments, there may be multiple data sources that a single instance of Yellowfin will connect to. It is important that this database system can handle the queries that Yellowfin will generate. It is also important to understand that a single Yellowfin dashboard, with 5 reports, will generate 5 concurrent database queries on a reporting database. Ensuring these queries can be completed quickly will ensure that the dashboard loads in a reasonable time.

The requirements are different based on the type of database system in use, and the amount of data in the system. For example, a MySQL instance with 10,000 rows of data, will provide much faster query times than a MySQL instance with 10,000,000 rows of data on the same hardware.

High-speed columnar databases such as HP Vertia, Sybase IQ and Actian Vector will provide much faster query times on the same hardware as a relational database with the same amount of data.

When reporting against a transactional system, it is important that columns are indexed to support reporting. Indexes for transactions are usually on ID columns, whereas report queries will filter by dimensional columns.

Client Requirements

The client machine is where a user will connect to Yellowfin from. Users will connect to Yellowfin through their web browser. Some Yellowfin reports can be large and it requires memory and processing power to render this in a browser. Yellowfin also makes extensive use of JavaScript. This code is run in the browser and requires some processing power to execute.

It is difficult to recommend a specification for a client machine, as each user will have different programs (with different memory and CPU requirements) running on their desktop computer simultaneously. The following can be used as a guide, but it assumes that there are no other resource intensive processes running on the computer.

Requirement	Recommended Minimum Specification
Client Processor	1 x 2Ghz Dual Core (4 thread) CPU or equivalent
Client RAM	4 GB
Web Browser	Supported browsers include: Internet Explorer 11+ Microsoft Edge Firefox 2+ Opera 8+ Safari 2+ Chrome
PDF Reader	A PDF reader such as Adobe Acrobat Reader for viewing PDF files. This reader is only required if users export Yellowfin reports to PDF.

Server Requirements Concurrent Users

The following information is given based on benchmarks using Yellowfin in a basic scenario with **moderate** usage rates. Yellowfin recommends that you conduct your own benchmarking in an initial phase of your deployment to better understand hardware requirements based on your report content and user habits.

Recommended minimum specifications based on the number of **concurrent** users and minimum background task usage:

Number of users	CPU Requirements	RAM Requirements
Developer / Demonstration	1 x 2 GHz Dual Core (4 Thread) or equivalent	2 GB (1.4 allocated to Yellowfin)
25 or Less Concurrent Users	1 x 3 GHz Quad Core (8 Thread) or equivalent	8 GB (7 allocated to Yellowfin)
50 Concurrent Users	1 x 3 GHz 8 Core (16 Thread) or equivalent	16 GB (15 allocated to Yellowfin)
150 Concurrent Users	1 x 3 GHz 16 Core (32 Thread) or equivalent	32 GB (30 GB allocated)

Note: The table above shows single server requirements. Yellowfin can be deployed as a cluster to spread the workload across multiple smaller servers. For example, 150 users could be handled by 4 Quad Core servers in a cluster, rather than a single 16 core machine.

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Next topic: Estimating capacity requirements