

# Oracle<sup>®</sup> Hospitality Materials Control Server Sizing Guide



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# Preface

This document provides information regarding Oracle Hospitality Materials Control system requirements.

## Audience

This document is intended for installers, technical support teams, product specialists, and others who are responsible for setting up Oracle Hospitality Materials Control.

## Customer Support

To contact Oracle Customer Support, access My Oracle Support at the following URL:

<https://support.oracle.com>

When contacting Customer Support, please provide the following:

- Product version and program/module name
- Functional and technical description of the problem (include business impact)
- Detailed step-by-step instructions to recreate
- Exact error message received and any associated log files
- Screenshots of each step you take

## Documentation

Oracle Hospitality product documentation is available on the Oracle Help Center at <http://docs.oracle.com/en/industries/hospitality/>

## Revision History

Date	Description of Change
June 2018	Initial publication.
June 2018	Updated compatible databases.
August 2018	Removed content unrelated to server sizing.
April 2019	Added Microsoft Windows Server 2016 support.
May 2019	Updated Database Server Compatibility.
August 2020	Updated Database Server Compatibility.

# 1

## System Requirements

### Purpose and Scope

This document contains hardware requirement and sizing guidelines for Oracle Hospitality Materials Control. The server configurations published in this document are based on the analysis of data collected in lab and production environments and designed to offer the best possible performance.

Due to the fact that many environments have nuances specific to them, these guidelines should be used as a minimum starting point when selecting server hardware. Once a system has gone live in a production environment, it may be necessary to modify the server configuration to account for local systems requirements.

This document is designed for installations that require up to 50 concurrent users. Larger systems that expect more than 50 concurrent database connections can require customized specifications and are not covered by this document. Contact your customer representative for consulting and project-specific systems design.

Oracle does not support systems that do not adhere to or exceed the recommendations and requirements outlined in this document. Any assistance or troubleshooting for systems that do not meet these requirements may be chargeable to the customer.

Oracle does not support or maintain servers installed in languages other than English.

### Materials Control System Environment Basics

The recommended requirements outlined in this document are more complex server specifications but offer increased stability, more data security, and higher server availability.

The minimum requirements outlined in this document guarantees that the use can complete the main tasks of the application in a stable manner and with acceptable performance. The minimum requirements do not provide additional headroom to account for rush-hour performance peaks, additional services, and does not include capabilities for system redundancy or high availability.

In addition to the server hardware specifications, installations require an environment that includes a local area network (LAN) and, where applicable, a wide-area network (WAN).

If you intend to run other products on the same servers, such as Oracle Hospitality Suite8 or Back Office systems, you must account for their hardware requirements separately and upgrade your server specifications accordingly.

### Server Sizing Methodology

There are three main components to servers:

- Central Processing Unit (CPU): Type, frequency, and number of processor cores.

- Random Access Memory (RAM): Memory.
- Storage: Quantity, size, access speed, and RAID level.

## Server Configuration Dependencies

- Property Type
- Number of Materials Control Users
- Number of Cost Centers
- Complexity of Workflows
- Areas of Usage

The database server and oracle services are needed 24x7, therefore it is crucial that the databases can be backed up with the oracle agents during the running operation. Any backup system used is in the responsibility of each property.

## Accounting for Future Requirement Increases

You must consider future increases of staff involving additional workstations.

- Make sure to include forthcoming increases (1-12 months) when selecting your starting server specifications.
- Consider medium and long-term changes (13-60 months) when selecting the basic platform to allow for upgrades.

Hardware upgrades to adapt to increasing needs, such as in multi-property environments, include:

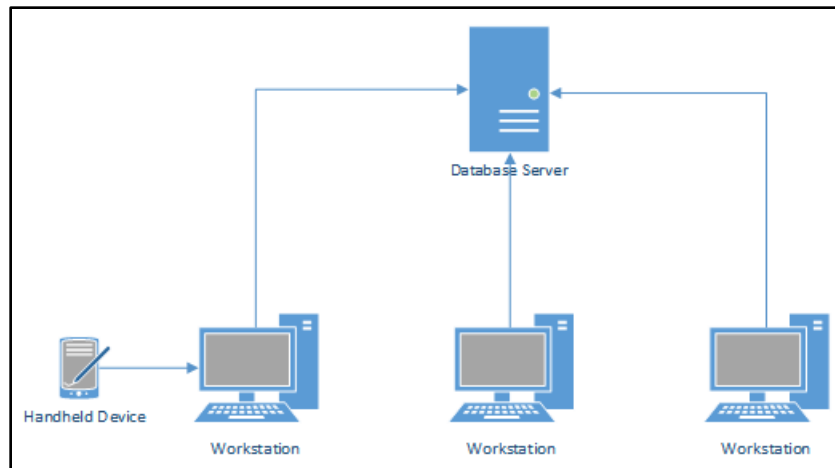
- Adding MCweb application servers.
- Adding processors or RAM to the database server.

# 2

## Single Server Deployments

This chapter describes hardware sizing specifications and operating system requirements and compatibility for a single-server Materials Control deployment. The single-server deployment consists of a single database server connected to Microsoft Windows PC workstations, as shown in the following diagram.

**Figure 2-1 - Single-Server Deployment**



**Avoid using a single-server deployment if your environment requires more than 20 concurrent connections.**

## Hard Disk Drive (HDD) Requirements

Oracle recommends using Ultra-3 SCSI disks with 15k RPM. The Ultra 3 SCSI-controller should have read/write cache.

For high numbers of concurrent users, increase the number of disks to improve access speed and performance.

### RAID Support

Materials Control supports the RAID Level 0, 1 and 1+0 array configurations.

Oracle does not support RAID Level 5 or 6.

## Database Maintenance Requirements

Each relational database management system (RDBMS) requires regular maintenance for the database to ensure reasonable application performance. You must:

- Perform necessary maintenance tasks on a regular basis either manually or by using scheduled jobs.
- Perform recalculation of index statistics or index rebuilding on a regular basis.

The application does not automatically perform database maintenance tasks.

## Database Server Compatibility

The following table lists database and operating system compatibility for the server hosting the database:

**Table 2-1 - Database and Operating System Compatibility**

Component	Compatible Versions
Database	<ul style="list-style-type: none"> <li>• Oracle 19c Database version 19.3.0.0.0 <b>Note:</b> 32-bit client operating systems are no longer supported when using Oracle Database 19 (19.0.0.x). The 32-bit database client should still be installed.</li> <li>• Oracle 18c Database version 18.3.0.0.0 <b>Note:</b> 32-bit client operating systems are no longer supported when using Oracle Database 18 (18.0.0.x). The 32-bit database client should still be installed.</li> <li>• Oracle Database 12c R2 <b>Note:</b> 32-bit client operating systems are no longer supported when using Oracle Database 12.2c R2 (12.2.0.x). The 32-bit database client should still be installed.</li> <li>• Oracle Database 11g R2 Oracle and Materials Control does not support Oracle Database 10g and 9i because they are End-of-Life.</li> </ul>
Operating System	<ul style="list-style-type: none"> <li>• Microsoft Windows Server 2019 (version 1809) (Supports both Server Core and Server with Desktop Experience. Applications require Desktop Experience.)</li> <li>• Microsoft Windows Server 2016 (Supports both Server Core and Server with Desktop Experience. Applications require Desktop Experience.)</li> <li>• Microsoft Windows Server 2012 R2</li> </ul> <p>Use 64-bit operating systems when possible.</p>

## Database Server Hardware Specifications

The maximum users count refers to the sum of all concurrent user connections, including interfaces and third-party applications using the database.



## Oracle Database 12c R2 / 18.x / 19x and Microsoft Windows Server 2012 R2 / 2016 / 2019

### Recommended Requirements

**Table 2-2 - Recommended Specifications for Single Materials Control Server on Oracle 12c R2**

Max User Count	CPU Cores	Memory	HDD
<10	4	16GB (x86_64)	4x 146GB
10-20	6	20GB (x86_64)	6x 146GB

### Minimum Requirements

The minimum requirements apply to a standard solution with a normal transaction volume.

**Table 2-3 - Minimum Specifications for Single Materials Control Server on Oracle 12c R2**

Max User Count	CPU Cores	Memory	HDD
<5	2	8GB (x86)	2x 146GB
5-10	2	12GB (x86_64)	4x 146GB
10-20	4	16GB (x86_64)	6x 146GB

## Oracle Database 12c R2 or Oracle Database 11g R2

### Recommended Requirements

**Table 2-4 - Recommended Specifications for Single Materials Control Server on Oracle 12c R2 or Oracle 11g R2**

Max User Count	CPU Cores	Memory	HDD
<10	2	16GB (x86_64)	4x 146GB
10-20	2	20GB (x86_64)	6x 146GB

### Minimum Requirements

The minimum requirements apply to a standard solution with a normal transaction volume.

**Table 2-5 - Minimum Specifications for Single Materials Control Server on Oracle 12c R2 or Oracle 11g R2**

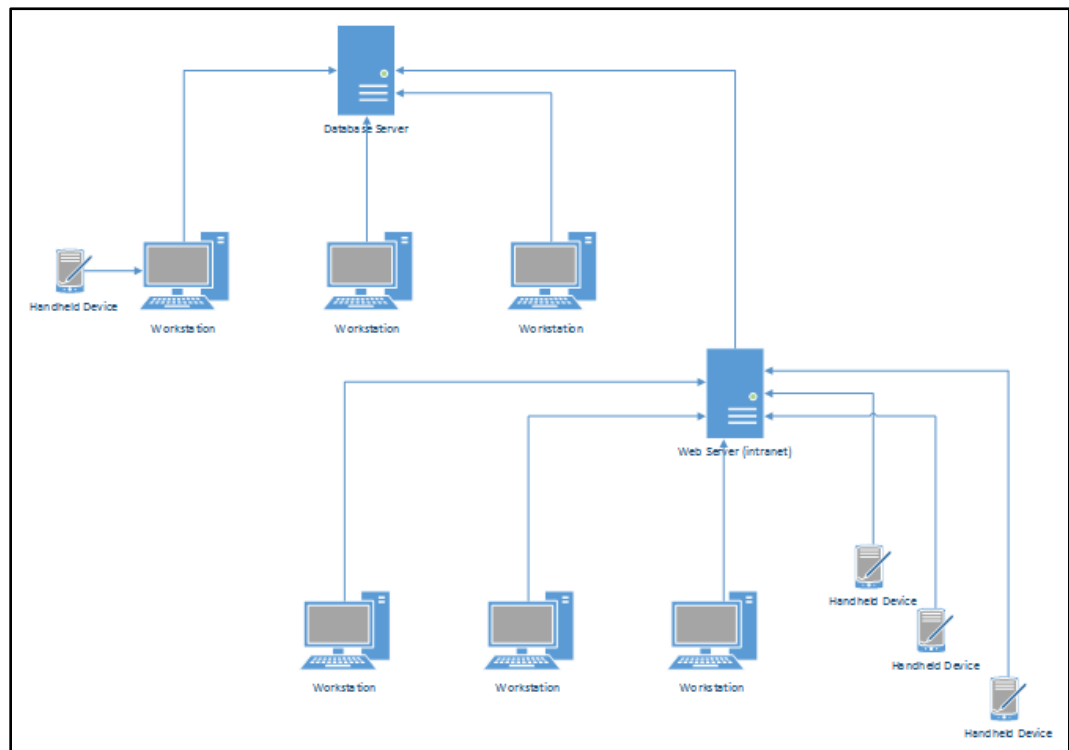
Max User Count	CPU Cores	Memory	HDD
<5	1	4GB (x86)	2x 72GB
5-10	1	4GB (x86)	4x 72GB
10-20	2	8GB (x86_64)	6x 72GB

# 3

## Two-Server Deployments

This chapter describes hardware sizing specifications and operating system requirements and compatibility for a two-server Materials Control deployment. Two-server deployments consist of a database server and a web application server for hosting additional components, such as the MCweb intranet web front-end or the Mobile Solutions web-services, as shown in the following diagram:

**Figure 3-1 - Two-Server Deployment**



All configurations above 50 concurrent connections have to be designed specially in cooperation with the responsible Oracle Hospitality consulting staff.

## Hard Disk Drive (HDD) Requirements

Oracle recommends using Ultra-3 SCSI disks with 15k RPM. The Ultra 3 SCSI-controller should have read/write cache.

For high numbers of concurrent users, increase the number of disks to improve access speed and performance.

## RAID Support

Materials Control supports the RAID Level 0, 1 and 1+0 array configurations.

Oracle does not support RAID Level 5 or 6.

## Client Installation Requirements

The Materials Control client requires the 32-bit Oracle Database client. You must install the 32-bit client on all servers and workstations, even when using the 64-bit Oracle Database server.

## Database Maintenance Requirements

Each relational database management system (RDBMS) requires regular maintenance for the database to ensure reasonable application performance. You must:

- Perform necessary maintenance tasks on a regular basis either manually or by using scheduled jobs.
- Perform recalculation of index statistics or index rebuilding on a regular basis.

The application does not automatically perform database maintenance tasks.

## Database Server Compatibility

The following table lists database and operating system compatibility for the server hosting the database:

**Table 3-1 - Database and Operating System Compatibility**

Component	Compatible Versions
Database	<ul style="list-style-type: none"><li>• Oracle 19c Database version 19.3.0.0.0 <b>Note:</b> 32-bit client operating systems are no longer supported when using Oracle Database 19 (19.0.0.x). The 32-bit database client should still be installed.</li><li>• Oracle 18c Database version 18.3.0.0.0 <b>Note:</b> 32-bit client operating systems are no longer supported when using Oracle Database 18 (18.0.0.x). The 32-bit database client should still be installed.</li><li>• Oracle Database 12c R2 <b>Note:</b> 32-bit client operating systems are no longer supported when using Oracle Database 12.2c R2 (12.2.0.x). The 32-bit database client should still be installed.</li><li>• Oracle Database 11g R2</li></ul> <p>Oracle and Materials Control does not support Oracle Database 10g and 9i because they are End-of-Life.</p>

Component	Compatible Versions
Operating System	<ul style="list-style-type: none"> <li>Microsoft Windows Server 2019 (version 1809) (Supports both Server Core and Server with Desktop Experience. Applications require Desktop Experience.)</li> <li>Microsoft Windows Server 2016 (Supports both Server Core and Server with Desktop Experience. Applications require Desktop Experience.)</li> <li>Microsoft Windows Server 2012 R2</li> </ul> <p>Use 64-bit operating systems when possible.</p>

## Database Server Hardware Specifications

The maximum users count refers to the sum of all concurrent user connections, including interfaces and third-party applications using the database.

### Oracle Database 12c R2 / 18c / 19c and Microsoft Windows Server 2012 R2 / 2016 / 2019

#### Recommended Requirements

**Table 3-2 - Recommended Specifications for Materials Control Server on Oracle 12c R2**

Max User Count	CPU Cores	Memory	HDD
<10	4	16GB (x86_64)	4x 146GB
10-20	6	20GB (x86_64)	6x 146GB
21-50	8	48GB (x86_64)	8x 146GB

#### Minimum Requirements

The minimum requirements apply to a standard solution with a normal transaction volume.

**Table 3-3 - Minimum Specifications for Materials Control Server on Oracle 12c R2**

Max User Count	CPU Cores	Memory	HDD
<5	2	8GB (x86_64)	2x 146GB
5-10	2	12GB (x86_64)	4x 146GB
10-20	4	16GB (x86_64)	6x 146GB
21-50	6	20GB (x86_64)	8x 146GB

## Oracle Database 12c R2 or Oracle Database 11g R2

### Recommended Requirements

**Table 3-4 - Recommended Specifications for Materials Control Server on Oracle 12c R2 or Oracle 11g R2**

Max User Count	CPU Cores	Memory	HDD
<10	2	16GB (x86_64)	4x 146GB
10-20	2	20GB (x86_64)	6x 146GB
21-50	4	24GB (x86_64)	8x 146GB

### Minimum Requirements

The minimum requirements apply to a standard solution with a normal transaction volume.

**Table 3-5 - Minimum Specifications for Materials Control Server on Oracle 12c R2 or Oracle 11g R2**

Max User Count	CPU Cores	Memory	HDD
<5	1	4GB (x86)	2x 72GB
5-10	1	4GB (x86)	4x 72GB
10-20	2	8GB (x86_64)	6x 72GB
21-50	4	12GB (x86_64)	8x 72GB

## MCweb Application Server Compatibility

The following table lists database and operating system compatibility for the server hosting the MCweb web application:

**Table 3-6 - MCweb Server Compatibility**

Component	Compatible Versions
Operating System	<ul style="list-style-type: none"> <li>Microsoft Windows Server 2019 (version 1809) with Desktop Experience and Internet Information Server 10</li> <li>Microsoft Windows Server 2016 with Desktop Experience and Internet Information Server 10</li> <li>Microsoft Windows Server 2012 R2 with Internet Information Server 8.5</li> <li>Use 64-bit operating systems when possible.</li> </ul>

Component	Compatible Versions
Microsoft .NET Framework	<ul style="list-style-type: none"> <li>• Microsoft .NET Framework 4.5.1</li> <li>• Microsoft .NET Framework 3.5</li> </ul>

## MCweb Server Hardware Specifications

### Microsoft Windows Server 2012 R2 / 2016 / 2019

#### Recommended Requirements

**Table 3-7 - Recommended Specifications for MCweb on Microsoft Windows Server 2012 R2 / 2016 / 2019**

Max User Count	CPU Cores	Memory	HDD
<10	4	16GB (x86_64)	200GB
10-20	6	20GB (x86_64)	500GB
21-50	8	24GB (x86_64)	1TB

#### Minimum Requirements

The minimum requirements apply to a standard solution with a normal transaction volume.

**Table 3-8 - Minimum Specifications for MCweb on Microsoft Windows Server 2012 R2 / 2016 / 2019**

Max User Count	CPU Cores	Memory	HDD
5-10	2	12GB (x86_64)	200GB
10-20	4	16GB (x86_64)	500GB
21-50	6	20GB (x86_64)	1TB