

Foglight® for Databases 5.9.2.1

**Monitoring Database Systems
Deployment Guide**



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Legend

-  **WARNING:** A WARNING icon indicates a potential for property damage, personal injury, or death.
-  **CAUTION:** A CAUTION icon indicates potential damage to hardware or loss of data if instructions are not followed.
-  **IMPORTANT NOTE, NOTE, TIP, MOBILE, or VIDEO:** An information icon indicates supporting information.

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Deployment pre-requisites

Welcome to the *Foglight for Databases Deployment Guide*. This guide provides the pre-requisites for optimal deployment, to ensure the best user experience possible.

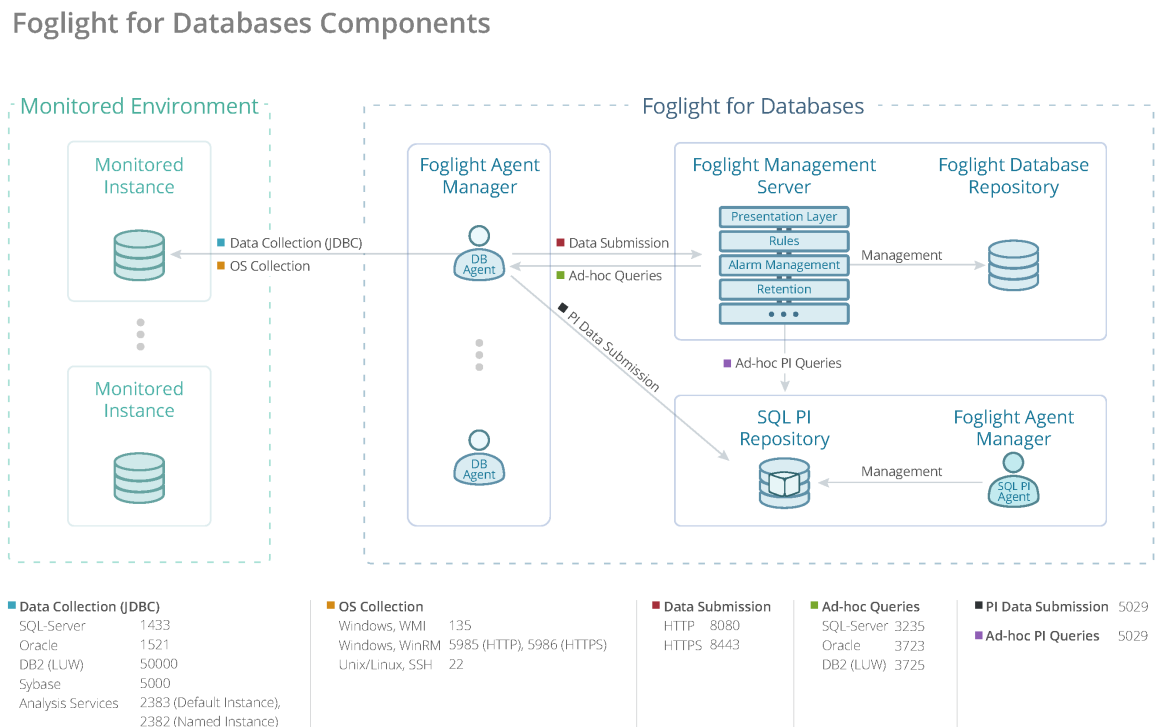
This section describes important deployment information required to monitor the leading RDBMS: Oracle®, SQL Server®, Sybase®, and DB2 for LUW. The information in this guide applies to all 5.7.5.x and 5.9.2.1 releases.

Architecture

There are three main components:

- **Foglight Management Server and Foglight Database Repository** — Responsible for managing, alerting and viewing the collected data. Both components can be set to run on the same machine or reside on separate machines.
- **Agent Manager** — Hosts the monitoring database agents.
- **SQL PI Repository** — An embedded repository which stores the SQL PI data that the monitoring agents collect. Currently available on Oracle and SQL Server monitoring only.

Figure 1. Foglight for Databases Components



- NOTE:** The product components can be either distributed over different machines — preferable in large or growing environments — or centralized.

Hardware requirements

Identify your hardware requirements, which are determined by whether SQL PI is configured and by the number of monitoring agents.

- SQL PI configured
- SQL PI not configured

- NOTE:** The Numbers of agent refers to DB agents. The IC agents resources are calculated within the DB agents.

SQL PI configured

SQL PI is available only for Oracle, SQL Server and SQL Server BI (Analysis services). These tables define the Hardware requirements for each server based on the number of monitoring agents

After locating your hardware requirements in the tables, ensure that you complete the manual JVM Setting configuration as described in:

- Manual configuration required by all users

Foglight Management Server

Table 1. Foglight Management Server with SQL PI configured

| Number of Agents | <5 | <50 | <100 | <200 | <400 | <600 | <800 |
|------------------|---------|---------|---------|---------|---------|---------|---------|
| CPUs (2.4GHz)* | 2 cores | 4 cores | 4 cores | 4 cores | 4 cores | 6 cores | 8 cores |
| RAM* | 6GB | 8GB | 8GB | 10GB | 12GB | 16GB | 18GB |
| JVM Settings** | 4096MB | 4096MB | 4096MB | 6144MB | 8192MB | 10240MB | 14336MB |
| Hard Drive Space | 10GB | 100GB | 200GB | 400GB | 800GB | 1200GB | 1600GB |

CPUs (2.4GHz)* — for a virtual machine the CPU allocation must be reserved. The reservation is expressed in MHz

RAM*- for a virtual machine the memory allocation must be reserved.

Foglight Agent Manager

Table 2. Foglight Agent Manager

| Number of Agents | <5 | <50 | <100 | <200 | <400 | <600 | <800 |
|------------------|--------|---------|---------|---------|----------|----------|----------|
| CPUs (2.4GHz)* | 1 core | 4 cores | 8 cores | 8 cores | 10 cores | 12 cores | 14 cores |
| RAM* | 2GB | 8GB | 12GB | 16GB | 20GB | 26GB | 34GB |
| JVM Settings** | 1024MB | 6144MB | 8192MB | 12288MB | 16384MB | 22528MB | 30720MB |
| Hard Drive Space | 2GB | 5GB | 10GB | 20GB | 40GB | 60GB | 80GB |

i | **IMPORTANT:** If you are monitoring more than 70 agent running on Windows system, the monitored hosts should be configured to use WinRM. Monitoring Analysis services is supported only on Agent Managers running on Windows which must have a version of .NET 3.5 installed.

CPUs (2.4GHz)* — for a virtual machine the CPU allocation must be reserved. The reservation is expressed in MHz

RAM*- for a virtual machine the memory allocation must be reserved.

SQL PI Repository

■ | **WARNING:** Linux® is the recommended platform for both Oracle and SQL Server monitoring. Exclude the SQL PI repository directory (named Infobright™) from real-time scanning (for example, Antivirus software). For a virtual machine the CPU and memory allocations must be reserved.

Table 3. SQL PI Repository

| Number of Agents | <5 | <50 | <100 | <200 | <400 | <600 | <800 |
|------------------|--------|---------|---------|---------|---------|----------|----------|
| CPUs (2.4GHz)* | 1 core | 4 cores | 4 cores | 6 cores | 8 cores | 12 cores | 16 cores |
| RAM* | 4GB | 10GB | 14GB | 20GB | 24GB | 30GB | 36GB |
| Hard Drive Space | 10GB | 100GB | 200GB | 400GB | 800GB | 1200GB | 1600GB |

CPUs (2.4GHz)* — for a virtual machine the CPU allocation must be reserved. The reservation is expressed in MHz

RAM*- for a virtual machine the memory allocation must be reserved.

SQL PI not configured

The table defines the Hardware requirements based on the number of monitoring agents.

After locating your hardware requirements in the tables, ensure that you complete the manual JVM Setting configuration as described in:

- [Manual configuration required by all users](#)

Foglight Management Server

Table 4. Foglight Management Server

| Number of Agents | <5 | <100 | <200 | <400 | <600 | <800 |
|------------------|---------|---------|---------|---------|---------|---------|
| CPUs (2.4GHz)* | 2 cores | 4 cores | 4 cores | 4 cores | 6 cores | 8 cores |
| RAM* | 6GB | 8GB | 10GB | 12GB | 16GB | 18GB |
| JVM Settings** | 4096MB | 4096MB | 6144MB | 8192MB | 10240MB | 14336MB |
| Hard Drive Space | 10GB | 200GB | 400GB | 800GB | 1200GB | 1600GB |

CPUs (2.4GHz)* — for a virtual machine the CPU allocation must be reserved. The reservation is expressed in MHz

RAM*- for a virtual machine the memory allocation must be reserved.

Foglight Agent Manager

Table 5. Foglight Agent Manager

| Number of Agents | <5 | <100 | <200 | <400 | <600 | <800 |
|------------------|--------|---------|---------|---------|---------|---------|
| CPUs (2.4GHz)* | 1 core | 2 cores | 4 cores | 4 cores | 6 cores | 8 cores |
| RAM* | 1GB | 4GB | 6GB | 10GB | 14GB | 18GB |
| JVM Settings** | 256MB | 2048MB | 4096MB | 8192MB | 12288MB | 16384MB |
| Hard Drive Space | 2GB | 5GB | 10GB | 20GB | 30GB | 40GB |

i | **IMPORTANT:** If you are monitoring more than 70 agent running on Windows system, the monitored hosts should be configured to use WinRM.

CPUs (2.4GHz)* — for a virtual machine the CPU allocation must be reserved. The reservation is expressed in MHz

RAM*- for a virtual machine the memory allocation must be reserved.

Manual configuration required by all users

Foglight Management Server, JVM Settings **

Edit the *server.config* file located under the *<Foglight installation directory>\config directory*.

For 4096MB, add the following lines:

```
server.vm.option0 = "-Xms4096m";
server.vm.option1 = "-Xmx4096m";
```

Foglight Agent Manager, JVM Settings **

Edit the *baseline.jvmargs.config* file located under the *<Agent Manager installation directory>\state\default\config\directory*

For 2048MB, add the following lines:

```
vmparameter.0 = "-Xms2048m";
vmparameter.1 = "-Xmx2048m";
```

Other settings

For number of agents > 50, edit these settings:

- **Data submission channel** — edit the *fglam.config.xml* file located under the *<Agent Manager installation directory>\state\default\config\ directory*

Alter the following lines:

```
config:upstream attribute max-disk-space="102400"
config:downstream attribute max-disk-space="102400"
```

- **Number of OS connections** — edit the *baseline.jvmargs.config* file located under the *<Agent Manager installation directory>\state\default\config\ directory*

Increase the number of allowed OS connections:

vmpparameter.2 = "-Dcom.quest.connection.regulator.maxActiveConnectionsCap=1024";

Supported monitoring platforms

Supported Platforms for the Foglight Management Server -

<http://support.quest.com/technical-documents/foglight/5.9.2/system-requirements-and-platform-support-guide/supported-platforms/supported-platforms-for-the-management-server>

Supported Platforms for Foglight Agent Manager

<http://support.quest.com/technical-documents/foglight/5.9.2/system-requirements-and-platform-support-guide/supported-platforms/supported-platforms-for-the-agent-manager>

Supported Platforms for SQL PI Repository

- **WARNING:** Linux[®] is the recommended platform for both Oracle and SQL Server monitoring. Exclude the SQL PI repository directory (named Infobright[™]) from real-time scanning (for example, Antivirus software). For a virtual machine the CPU and memory allocations must be reserved.

Table 6. Supported Platforms for SQL PI Repository

| Operating System | Version | OS Architecture | 32-bit | 64-bit |
|---|--|-----------------|--------|--------|
| CentOS [™] Linux [®] | 6.x | x86-64 | | + |
| | 7.x | x86-64 | | + |
| Red Hat [®] Enterprise Linux | 6.x | x86-64 | | + |
| | 7.x | x86-64 | | + |
| SUSE Linux | 11 | x86-64 | | + |
| | 12 | x86-64 | | + |
| Microsoft [®] Windows [®] | Windows 2003, 2008, 2012, 2016, and 2017 | x86-64 | | + |
| | | x86-64 | | + |

Supported monitored databases

Table 7. Supported Monitored Databases

| Oracle [®] | SQL Server [®] | Sybase [®] | DB2 for LUW |
|----------------------|--|---|--|
| Oracle Database 10g* | Microsoft [®] SQL Server 2005 | Adaptive Server Enterprise: | DB2 version 9.5, 9.7, 10.1, 10.5, 11.1 |
| Oracle Database 11g | Microsoft SQL Server 2008 | 12.5.1 through 16.0 | |
| Oracle Database 12c | Microsoft SQL Server 2008 R2 | Replication Server: 12.1, 12.5, 12.6, 15.0, 15.1, 15.2 | |
| | Microsoft SQL Server 2012 | | |
| | Microsoft SQL Server 2014 | | |
| | Microsoft SQL Server 2016 | | |
| | Microsoft SQL Server 2017 for Windows | | |
| | Microsoft SQL Server 2017 for Linux | | |

Oracle Database 10g* — SQL PI supports version 11g and later

Operating Systems — All operating systems supported by the vendor.

Supported Editions — All editions supported by the vendor. Except for Sybase Edge and Runtime editions.

Supported monitored BI services

- The same user monitoring the SQL Server database engine must be used to monitor the Integration and Reporting Services.
- The login ID used to monitor the Integration Service must be a user on the SSISDB database. This user ID is created while applying the “Grant permissions” script.
- The ID used to monitor the Integration Services on the database needs to have:
 - the `ssis_admin` role in order to gather all needed information for its collections.
 - the `db_datareader` role on the SSISDB database.
- Monitoring Analysis Services requires system administrator permissions on the Analysis Services instance.
- Monitoring Analysis Services is supported only on Agent Managers running on Windows which must have a version of .Net 3.5 installed.
- No additional permissions are required to monitor the Reporting Services.

Table 8. Supported Monitored BI Services

| Integration Services* | Reporting Services* | Analysis Services |
|---------------------------------------|--|--|
| Microsoft® SQL Server® 2012 | Microsoft SQL Server 2008 | Microsoft SQL Server 2008 |
| Microsoft SQL Server 2014 | Microsoft SQL Server 2008 R2 | Microsoft SQL Server 2008 R2 |
| Microsoft SQL Server 2016 | Microsoft SQL Server 2014 | Microsoft SQL Server 2012 |
| Microsoft SQL Server 2017 for Windows | Microsoft SQL Server 2016 Microsoft SQL Server 2017 for Windows | Microsoft SQL Server 2014 Microsoft SQL Server 2017 for Windows |

*SQL Server instance must be monitored to be able to monitor the service.

Operating Systems — All operating systems supported by the vendor.

Supported Editions — All editions supported by the vendor.

PI aggregation and retention

PI manages data using an internal time pyramid; the roll-up process runs every 15 minutes.

Table 9. Time pyramid table

| Time resolution | Retention period |
|------------------------|-------------------------|
| 1 minute | 6 hours |
| 15 minutes | 3 days |
| 1 hour | 2 weeks |
| 6 hours | 30 days |
| 1 day | 90 days |
| 1 week | 2 years |

Permissions for monitored databases

Ensure that you set the permissions required, based on which database you are using:

- [Permissions for Oracle databases](#)
- [Permissions for SQL Server databases](#)
- [Permissions for Sybase databases](#)
- [Permissions for DB2 for LUW databases](#)

Permissions for Oracle databases

If you are using Oracle®, ensure that these permissions are set.

Grant **Select** on the following dictionary views:

NOTE: For Oracle 12c, replace all the dba_* dictionary views with the cdb prefix (cdb_*)

Table 10. Oracle views requiring Select permission

| Dictionary view | Dictionary view | Dictionary view |
|----------------------------|------------------------|-----------------------------|
| dba_constraints | gv_\$session | v_\$logfile |
| dba_data_files | gv_\$session_wait | v_\$open_cursor |
| dba_db_links | gv_\$sort_segment | v_\$osstat |
| dba_directories | gv_\$spparameter | v_\$parameter |
| dba_extents | gv_\$sql | v_\$pgastat |
| dba_free_space | gv_\$sysstat | v_\$pq_sysstat |
| dba_indexes | gv_\$temp_extent_pool | v_\$process |
| dba_jobs | gv_\$undostat | v_\$recovery_file_dest |
| dba_jobs_running | obj\$ | v_\$resource |
| dba_libraries | recyclebin\$ | v_\$result_cache_statistics |
| dba_objects | ts\$ | v_\$rman_status |
| dba_profiles | uet\$ | v_\$rowcache |
| dba_role_privs | user\$ | v_\$segstat |
| dba_roles | v_\$archive_dest | v_\$segment_statistics |
| dba_rollback_segs | v_\$archived_log | v_\$sess_time_model |
| dba_scheduler_jobs | v_\$asm_disk | v_\$session |
| dba_scheduler_running_jobs | v_\$asm_disk_stat | v_\$session_wait |
| dba_segments | v_\$asm_diskgroup | v_\$sesstat |
| dba_sequences | v_\$asm_diskgroup | v_\$sga |
| dba_sequences | v_\$asm_diskgroup_stat | v_\$sga_dynamic_components |
| dba_synonyms | v_\$asm_operation | v_\$sgainfo |
| dba_sys_privs | v_\$asm_template | v_\$sgastat |
| dba_tab_columns | v_\$cell | v_\$spparameter |
| dba_tab_privs | v_\$controlfile | v_\$sql |
| dba_tables | v_\$database | v_\$sql_plan |

Table 10. Oracle views requiring Select permission

| Dictionary view | Dictionary view | Dictionary view |
|------------------------------|-------------------------------|---------------------------|
| dba_tablespace | v_\$datafile | v_\$sqlarea |
| dba_temp_files | v_\$dataguard_status | v_\$sqltext_with_newlines |
| dba_temp_free_space | v_\$dbfile | v_\$standby_log |
| dba_undo_extents | v_\$dispatcher | v_\$statname |
| dba_users | v_\$enqueue_stat | v_\$sysmetric |
| dba_views | v_\$enqueue_statistics | v_\$sysstat |
| dba_recyclebin | v_\$event_name | v_\$system_event |
| fet\$ | v_\$filestat | v_\$system_parameter |
| file\$ | v_\$fixed_table | v_\$tablespace |
| gv_\$archive_dest | v_\$flash_recovery_area_usage | v_\$temp_extent_pool |
| gv_\$archived_log | v_\$instance | v_\$temp_space_header |
| gv_\$instance | v_\$instance_cache_transfer | v_\$tempfile |
| gv_\$instance_cache_transfer | v_\$iostat_file | v_\$tempstat |
| gv_\$lock | v_\$librarycache | v_\$transaction |
| gv_\$pq_sysstat | v_\$lock | v_\$memory_target_advice |
| gv_\$rman_configuration | v_\$log | v_\$pga_target_advice |
| gv_\$rman_output | v_\$log_history | v_\$sga_target_advice |
| | v_\$undostat | v_\$sql_shared_cursor |
| gv_\$archive_dest_status | v_\$flashback_database_log | v_\$backup_set_details |
| gv_\$dataguard_stats | v_\$dataguard_config | v_\$session_event |
| gv_\$dataguard_status | | v_\$services |

Additional configurations for Amazon Oracle RDS instances

There are two user credential options for monitoring Amazon Oracle RDS instances:

- **Master predefined user** that comes as part of Amazon Oracle RDS instance
- Or
- **Separate user** who has either of the following:
 - *SELECT_CATALOG_ROLE* or *SELECT ANY TABLE* system privilege
 - Grant additional permissions by manually executing the following commands from the master user:
 - EXEC
RDSADMIN.RDSADMIN_UTIL.GRANT_SYS_OBJECT(p_obj_name=>'FET\$',p_grantee =>'TEST', p_privilege => 'SELECT');
 - EXEC
RDSADMIN.RDSADMIN_UTIL.GRANT_SYS_OBJECT(p_obj_name=>'UET\$',p_grantee =>'TEST', p_privilege => 'SELECT');
 - EXEC
RDSADMIN.RDSADMIN_UTIL.GRANT_SYS_OBJECT(p_obj_name=>'FILE\$',p_grantee =>'TEST', p_privilege => 'SELECT');
 - EXEC
RDSADMIN.RDSADMIN_UTIL.GRANT_SYS_OBJECT(p_obj_name=>'OBJ\$',p_grantee =>'TEST', p_privilege => 'SELECT');

- EXEC
RDSADMIN.RDSADMIN_UTIL.GRANT_SYS_OBJECT(p_obj_name=>'TS\$',p_grantee=>'TEST', p_privilege => 'SELECT');
- EXEC
RDSADMIN.RDSADMIN_UTIL.GRANT_SYS_OBJECT(p_obj_name=>'USER\$',p_grantee=>'TEST', p_privilege => 'SELECT');
- EXEC
RDSADMIN.RDSADMIN_UTIL.GRANT_SYS_OBJECT(p_obj_name=>'RECYCLEBIN\$',p_grantee=>'TEST', p_privilege => 'SELECT');

Permissions for SQL Server databases

If you are using SQL Server®, ensure that these permissions are set.

; | **NOTE:** Monitoring mirroring requires sysadmin privileges.

Table 11. SQL Server Permissions

| Instance Level | | Database Level | |
|---------------------|--|----------------|-----------------------------------|
| VIEW ANY DEFINITION | Granted for: | CREATE USER* | Granted for: |
| VIEW SERVER STATE | Tracing a Session | db_datareader | Running DBCC commands for indexes |
| ALTER TRACE | Deadlocks monitoring PI Change-Tracking | db_ddladmin | |

* Creation of a new user is not required if a domain group with the appropriate permissions is used.

Grant **Execute** on these *master* database objects:

Table 12. Master database objects requiring Execute permission

| | |
|------------------|----------------------------------|
| xp_enumerrorlogs | Granted for Error log monitoring |
| xp_readerrorlog | |

Grant **Select** on these *msdb* database objects:

Table 13. MSDB database objects requiring Select permission

| | |
|----------------------------------|---|
| log_shipping_monitor_primary | Granted for Log Shipping monitoring |
| log_shipping_monitor_secondary | |
| log_shipping primaries | |
| log_shipping secondaries | |
| log_shipping_primary_secondaries | |
| syscategories | |
| sysjobactivity | Granted for Jobs and Replication monitoring |
| sysjobs | |
| sysjobhistory | |
| dbm_monitor_data | Granted for Mirroring monitoring |
| dbm_monitor | |
| sysalerts | Granted for Agent alerts and services |
| agent_datetime | |

Permissions for Sybase databases

If you are using Sybase®, ensure that these permissions are set.

Permission required — Sybase MDA Agent requires mon_role

In case the agent is created with a non-sa user, procedures need to be manually created on the monitored instance. This is achieved by executing the scripts available at the following directory:

<Agent Manager installation directory>\agents\SybaseCartridge\<version#\config\Sybase\scripts\

Permissions for DB2 for LUW databases

If you are using DB2 LUW, ensure that these permissions are set.

Set Account **Privileges** on:

- SYSMON authority

Grant **Select privilege** on:

- SYSIBMADM.PRIVILEGES
- SYSIBMADM.SNAPADM
- SYSCAT.VIEWS
- SYSCAT.ROUTINES

Grant **Execute** on:

- AUTH_LIST_AUTHORITIES_FOR_AUTHID

Required Monitor Switches

Table 14. Required Configurations

| Monitor switches for version 9.5 to 9.7 | Monitoring parameters for version 9.7.0.1 or above* |
|--|--|
| UOW | MON_REQ_METRICS |
| STATEMENT | MON_ACT_METRICS |
| LOCK | MON_OBJ_METRICS |
| SORT | |
| TABLE | |
| BUFFERPOOL | |
| TIMESTAMP | |

*Should be set to at least the base level.

Permissions

Table 15. Permissions — All versions

General

ADMIN_CMD
 ENV_GET_PROD_INFO
 DB_PARTITIONS
 ENV_GET_SYS_INFO
 SNAP_GET_APPL_INFO
 SNAP_GET_BP
 SNAP_GET_APPL
 SNAP_GET_BP_PART
 SNAP_GET_DBM
 SNAP_GET_HADR
 SNAP_GET_DBM_MEMORY_POOL
 SNAP_GET_FCM_PART
 SNAP_GET_STMT
 SNAP_GET_LOCKWAIT
 SNAP_GET_SWITCHES
 SNAP_GET_STORAGE_PATHS
 PD_GET_DIAG_HIST

Table 16. Permissions — Version-specific

| 9.5 | 9.7.0.1 | 10.1 |
|------------------------|-----------------------------------|----------------------------------|
| SNAP_GET_DB_V91 | ENV_GET_SYSTEM_RESOURCES | ENV_GET_SYSTEM_RESOURCES |
| SNAP_GET_TAB_V91 | MON_GET_PKG_CACHE_STMT | MON_GET_PKG_CACHE_STMT |
| SNAP_GET_TBSP_V91 | MON_FORMAT_LOCK_NAME | MON_FORMAT_LOCK_NAME |
| SNAP_GET_CONTAINER_V91 | WLM_GET_SERVICE_CLASS_AGENT_S_V97 | WLM_GET_SERVICE_CLASS_AGENTS |
| SNAP_GET_DYN_SQL_V91 | MON_GET_WORKLOAD | MON_GET_WORKLOAD |
| | MON_GET_TABLESPACE | MON_GET_TABLESPACE |
| | ENV_GET_DB2_SYSTEM_RESOURCES | ENV_GET_DB2_SYSTEM_RESOURCES |
| | ON_GET_SERVICE_SUBCLASS_DETAILS | MON_GET_SERVICE_SUBCLASS_DETAILS |
| | MON_FORMAT_XML_TIMES_BY_ROW | MON_FORMAT_XML_TIMES_BY_ROW |
| | MON_GET_UNIT_OF_WORK | MON_GET_UNIT_OF_WORK |
| | MON_GET_BUFFERPOOL | MON_GET_BUFFERPOOL |
| | MON_GET_TABLE | MON_GET_TABLE |
| | MON_GET_CONTAINER | MON_GET_CONTAINER |
| | MON_GET_FCM_CONNECTION_LIST | MON_GET_FCM_CONNECTION_LIST |
| | MON_GET_CONNECTION | MON_GET_CONNECTION |
| | SNAP_GET_TBSP_V91 | SNAP_GET_TBSP |

Table 16. Permissions — Version-specific

| 9.5 | 9.7.0.1 | 10.1 |
|-----|-----------------|--|
| | SNAP_GET_DB_V91 | MON_GET_TRANSACTION_LOG SNAP_GET_DB DB2_GET_INSTANCE_INFO ADMIN_GET_STORAGE_PATHS |

Table 17. Permissions - 10.5 and later

10.5 and later

ENV_GET_SYSTEM_RESOURCES
 MON_GET_INSTANCE
 MON_FORMAT_LOCK_NAME
 MON_GET_PKG_CACHE_STMT
 MON_GET_AGENT
 MON_GET_WORKLOAD
 ENV_GET_DB2_SYSTEM_RESOURCES
 MON_GET_DATABASE
 ADMIN_GET_STORAGE_PATHS
 DB2_GET_INSTANCE_INFO
 MON_GET_TRANSACTION_LOG
 MON_GET_CONNECTION
 MON_GET_FCM_CONNECTION_LIST
 MON_GET_CONTAINER
 MON_GET_TABLE
 MON_GET_BUFFERPOOL
 MON_GET_UNIT_OF_WORK
 MON_FORMAT_XML_TIMES_BY_ROW
 MON_GET_SERVICE_SUBCLASS_DETAILS
 MON_GET_TABLESPACE

Grant **Select** on these SYSIBMADM administrative views:

- DBPATHS*
- REG_VARIABLES
- BP_HITRATIO
- DBCFG
- ENV_GET_PROD_INFO
- MON_LOCKWAITS*
- SNAPDBM
- SNAPFCM
- SYSIBMADM.ENV_PROD_INFO

* For DB2 version 9.7.0.1 or later

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Grant **Execute on** to these table functions:

- MON_GET_CF
- MON_GET_GROUP_BUFFERPOOL
- BP_HITRATIO

Grant **Select** on these views:

- ENV_CF_SYS_RESOURCES
- SNAPDB
- SYSIBMADM.DB2_MEMBER

Permissions for monitored operating systems

For details, see the following topics:

- [General Unix requirements](#)
- [VMware permissions](#)
- [Windows permissions](#)

General Unix requirements

The OS user account for each agent requires:

- Silent log-in — in particular, there must be no user-input required and no special login banners displayed
- For connections using SSH, the sshd daemon must be installed and running.

In addition to these general UNIX[®] system requirements, each agent user account requires additional privileges depending on the operating system, as specified in the following table.

i | **NOTE:** When monitoring DB2, SYSMON role and privileges for OS user is not required but is recommended to allow the installation to provide more information when discovering DB2 databases.

Linux/UNIX permissions

Table 18. Linux/UNIX Permissions

| Permission | Linux® | Solaris® | AIX® | HP-UX |
|------------|---------------------------------|-------------------|------------|--------------------------|
| Execute | awk | awk | awk | awk |
| | df | db2ptree | df | bdf |
| | free | df | head | bindprocessor |
| | getconf | head | hostname | getconf |
| | head | hostname | iostat | head |
| | hostname | iostat | lsattr | hostname |
| | iostat | lsnrctl | lsdev | ioscan |
| | lsnrctl | mpstat | lsnrctl | iostat |
| | netstat | uptime | netstat | lsattr |
| | ps | netstat | oslevel | lsdev |
| | sed | pagesize | pagesize | lsnrctl |
| | tail | ps | ps | netstat |
| | sysstat | psrinfo | tail | oslevel |
| | uname | tail | uname | pagesize |
| | uptime | uname | uptime | ps |
| | vmstat | vmstat | vmstat | sar |
| | /proc/ | /usr/sbin/prtconf | | tail |
| | | | | uname |
| | | | | uptime |
| | | | | vmstat |
| | | | /usr/sbin/ | |
| Read | cpuinfo | | | /var/adm/syslog/syslog.l |
| | free* | | | og |
| | getconf | | | |
| | sysstat package* | | | |
| | /proc | | | |
| | /proc/cpuinfo* | | | |
| | /proc/net/dev | | | |
| | /proc/stat | | | |
| | /proc/vmstat on Linux >= 2.6 | | | |

VMware permissions

To monitor VMware®, users must have **read only** access to the virtual center.

Windows permissions

Foglight support monitoring Windows® operating system in one of two ways: WinRM and WMI. The preferred method is WinRM when no WinRM connection WMI connection is used.

WinRM (default) - Based on Kerberos authentication or Basic authentication uses standard HTTP headers. For more information, see <http://support.quest.com/technical-documents/foglight-agent-manager/5.9.2/foglight-agent->

[manager-guide/advanced-system-configuration-and-troubleshooting/configuring-windows-remote-management-winrm](#).

WMI (fallback) — Permission to access both DCOM and WMI. For more information, see

<http://support.quest.com/technical-documents/foglight-agent-manager/5.9.2/foglight-agent-manager-guide/advanced-system-configuration-and-troubleshooting/configuring-windows-management-instrumentation-wmi>.

Install the DB cartridge and DB agent

This section includes details about the following topics:

- [Install the DB cartridge](#)
- [Install a single DB agent](#)

Install the DB cartridge

Foglight for database cartridges run on the Foglight Management Server, which is the operation framework. Therefore, Foglight Management Server must be installed before installing a database cartridge.

To install the Foglight for <database> cartridge:

- 1 Copy the cartridge car file included in the installation media to your local computer. This file is named as follows:
 - For Foglight for DB2 LUW: DB_DB2-5_9_2_1.car
 - For Foglight for Oracle: DB_Oracle-5_9_2_1.car
 - For Foglight for SQL Server: DB_SQL_Server-5_9_2_1.car
- 2 Log in to the Foglight browser interface.
- 3 On the navigation panel, click **Dashboards > Administration > Cartridges > Cartridge Inventory**.
- 4 On the Cartridge Inventory dashboard, click **Install Cartridge** to find the CAR file on your local computer.
- 5 Click **Install Cartridge**.

Install a single DB agent

For details, see the following topics:

- [Install a single SQL Server or Oracle agent](#)
- [Install a single DB2 agent](#)
- [Install a single Sybase agent](#)

Install a single SQL Server or Oracle agent

To install a single SQL Server or Oracle agent:

- 1 On the Foglight navigation panel, click **Homes > Databases**.

- 2 Click **Monitor > <DB type>** in the lower left corner of the Databases View.
The Monitor Instance dialog box appears.
- 3 Choose the agent manager on which the agent is running. The default is the agent manager with the least agents installed.
- 4 On the Monitor Instance pane, provide connection details.
- 5 Select an Alarm Sensitivity Level to determine what level of alarms the system stores and displays for this instance.
- 6 Optional SQL PI- In the Monitoring Extensions pane, click the SQL PI monitoring extension. You are prompted to choose the Agent Manager on which the SQL PI repository is installed.
- 7 **Optional OS.** In the Monitoring Extensions pane, click the **Operating System** link. To configure the extension, choose the connection details of the host on which the SQL Server instance is running.
- 8 **Optional VM.** In the Monitoring Extensions pane, click **Collect VM** statistics. To configure the extension, select the connection details of the vCenter® or ESX® on which the SQL Server instance is running.
- 9 Click **Monitor**.

Install a single DB2 agent

To install a DB2 agent:

- 1 On the Foglight navigation panel, click **Homes > Databases**.
- 2 Click **Monitor > DB2** in the lower left corner of the Databases View.
The Monitor Instance dialog box appears.
- 3 Follow the prompts to configure an agent to monitor the DB2 host, instance, and databases. For help with options, click the 'i' icon.

Install a single Sybase agent

To install a Sybase agent:

- 1 On the Foglight navigation panel, click **Homes > Databases**.
- 2 Click **Monitor > Sybase** in the lower left corner of the Databases View.
The Monitor Instance dialog box appears.
- 3 Follow the prompts to configure an agent to monitor the Sybase host, instance, and databases. For help with options, click the 'i' icon.

Special configurations

This section documents the product settings required for special configurations:

- [Foglight Upgrades](#)
- [High Availability](#)
- [Federation](#)
- [Concentrator \(Proxy\)](#)

Foglight Upgrades

If your environment has either of the following deployments, contact your Account Manager or Quest Support prior to performing the Foglight Management Server upgrade:

- More than 50 monitored instances
- Federation
- High Availability (HA)

High Availability

The *Foglight High Availability Field Guide* is available online at:

<http://support.quest.com/technical-documents/foglight/5.9.2/high-availability-field-guide/>

- i** | **NOTE:** HA is not supported for:
- Sybase Agents
 - SQL PI repositories

Federation

The Foglight Federation Field Guide is available online at:

<http://support.quest.com/technical-documents/foglight/5.9.2/federation-field-guide/>

Concentrator (Proxy)

Information is available online:

- **Agent Manager** — <http://support.quest.com/technical-documents/foglight-agent-manager/5.9.2/foglight-agent-manager-guide/configuring-the-agent-manager/configuring-an-agent-manager-instance-as-a-concentrator>
- **DB agent** — Step by step configuration is provided in the “Configuring the On Demand Port on the Agent Manager Concentrator” section in the *Foglight for Oracle User and Reference Guide* and in the *Foglight for SQL Server User and Reference Guide*.

i | **NOTE:** Not supported for Sybase agents.

Table 1. Concentrator Agent Manager

| Number of Agents | <100 | <200 |
|-------------------------|----------------|----------------|
| JVM Settings** | 2048MB | 4096MB |
| CPUs (2.4GHz)* | 2 cores | 4 cores |
| RAM* | 4GB | 6GB |

CPUs (2.4GHz)* — for a virtual machine the CPU allocation must be reserved. The reservation is expressed in MHz

RAM*- for a virtual machine the memory allocation must be reserved.

** — After locating your hardware requirements in the tables, ensure that you complete the manual JVM Setting configuration as described in [Manual configuration required by all users](#).

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Contacting Quest

For sales or other inquiries, visit <https://www.quest.com/company/contact-us.aspx>.

Technical support resources

Technical support is available to Quest customers with a valid maintenance contract and customers who have trial versions. You can access the Quest Support Portal at <https://support.quest.com>.

The Support Portal provides self-help tools you can use to solve problems quickly and independently, 24 hours a day, 365 days a year. The Support Portal enables you to:

- Submit and manage a Service Request.
- View Knowledge Base articles.
- Sign up for product notifications.
- Download software and technical documentation.
- View how-to-videos.
- Engage in community discussions.
- Chat with support engineers online.
- View services to assist you with your product.