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# Service and Asset Manager

## Configuration Database (ConfigDB) Guide

2019.3

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# About this Guide


- "Using the Service and Asset Manager Configuration Database (ConfigDB)" below
- "Intended Audience" below
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## Using the Service and Asset Manager Configuration Database (ConfigDB)

Use the Service and Asset Manager configuration database (ConfigDB) for the following:

- To manage different instances (such as production, staging, and UAT) of tenants.
- To update your environment. The information in the ConfigDB is originally populated by the System Configuration Wizard, which is used when installing Service and Asset Manager.

This is the master configuration database for your Service and Asset Manager system. Do not make any changes here, except in the few areas described in the 'Workspaces that Can Be Used' section. Making unauthorized changes to the ConfigDB can lead to disastrous results and may be unrecoverable. Use the ConfigDB with **extreme** caution.

## Intended Audience

The *Configuration Database Guide for Service and Asset Manager Version 2019.3* is intended for advanced on-premise Service and Asset Manager administrators and Ivanti Software personnel.

## Document Organization

This guide lists the workspaces in the ConfigDB and what, if any, tasks can be performed. This document contains the following sections:

- Information about logging in. See "About Logging into the Configuration Database" on page 6.
- Workspaces that are also available in the Service and Asset Manager Service Desk Console or the Service and Asset Manager Configuration Console. See "Workspaces that Already Exist" on page 7.
- Workspaces that are for internal use only. See "Internal Use Only Workspaces" on page 8.

- Workspaces that are populated by the System Configuration Wizard. Do not make any changes to these workspaces. See "Workspaces Populated by the System Configuration Wizard" on page 9.
- Workspaces where you may make changes. See "Workspaces that Can Be Used" on page 10.

# Related Documentation

Ivanti Service Manager has online help available within the application.

Additional documentation is available through

- The Ivanti community website. You may need to request user access if you cannot log in.

  Or through

- The Ivanti Product Documentation website. Click the Service Manager tile to see a list of the documents available.

# How to Contact Us

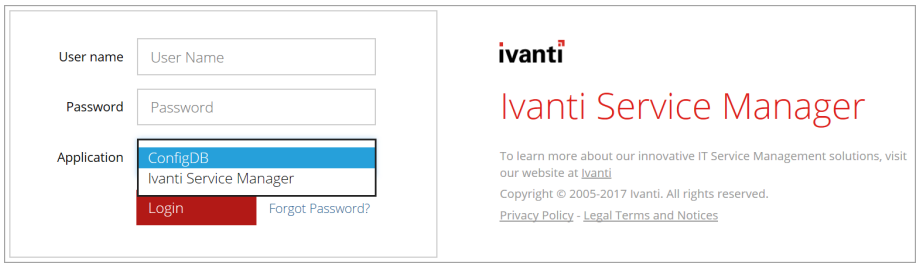
To contact us about the documentation, or if you have any other questions or issues about Service and Asset Manager, contact Ivanti Global Support services by logging an incident via Self Service at: https://www.ivanti.com/support/ivanti-support.

# About Logging into the Configuration Database

To use the Service and Asset Manager configuration database (called ConfigDB), you must log in first. Only administrators can log into the ConfigDB.

By default, the system displays a drop-down menu allowing you to choose either ConfigDB (the Service and Asset Manager configuration database) or ISM (the Service and Asset Manager application database).

*Logging in to the ConfigDB*




If you do not see the **Application** drop-down menu, you must configure Service and Asset Manager to show it. For instructions on doing this, see the "Logging into Service and Asset Manager" section of the *Installation and Deployment Guide for Service and Asset Manager* .

# Workspaces that Already Exist

The following workspaces found in the ConfigDB also exist in the Service and Asset Manager Console or the Service and Asset Manager Configuration Console. Therefore, they are not described in this document. For information about these workspaces, see the Service and Asset Manager online help within the application as well as at the Ivanti Product Documentation website. Click the "Service Manager" tile to see a list of the documents available.

- Employee
- All Logs
- Logging Configuration
- Notification
- Patch Log
- Encryption Key
- FRS Application Update Notes
- Ivanti Release Package
- Ivanti Release Project
- Ivanti Transaction Detail
- Ivanti Transaction Set
- Logon History
- Public Key
- Schedule Entry
- WS Mapping
- WS Proxy

# Internal Use Only Workspaces

The following workspaces in the ConfigDB contain information that you can view, but that you should never change. These workspaces are only used by Ivanti for internal system use.

Do not change the values in any of these workspaces! Changing any values can lead to system degradation.

- CMDB Import History
- Feature Management
- IM Client Agent Version
- Installer Types
- Logging Server Configuration
- Modules
- Remote Host Blocked List
- Service Names
- User Feature Settings

# Workspaces Populated by the System Configuration Wizard

The following workspaces found in the ConfigDB contain information that was populated based on information entered in the System Configuration Wizard when Service and Asset Manager was installed.

We recommend that you do not change any of the values in these workspaces.

For complete information about the System Configuration Wizard and the Service and Asset Manager installation, see the *Installation and Deployment Guide for Service and Asset Manager* Version 2019.3

- Database Servers
- Log Operations Locations
- Integration Services Configuration
- Metrics Server
- Report Server
- Survey Information
- Trusted IP Addresses
- Web Servers

# Workspaces that Can Be Used

There are very few workspaces in the ConfigDB that can be used by administrators. See the following topics for information:

- "Configuring the Message Queue" below
- "Configuring the Message Queue Handler" below
- "Configuring Email" on page 12
- "Viewing All Logs" on page 12
- "Working With Customer Contacts" on page 13
- "Working With Tenants" on page 15
- "Configuring Manual Load Partitioning" on page 19

## Configuring the Message Queue

Use the **Message Queue Configuration** workspace to create and configure a message queue.

Follow these steps:

1. Log in to the ConfigDB.
2. From the workspace selector bar, select **Message Queue Configuration**. The system displays the **Message Queue Configuration** workspace.
3. Enter information into the fields.

| Parameter | Description |
|---|---|
| Polling Interval (sec) | Specifies how often to check the message queue. The default value is 120. |
| Processor Threads | Specifies the number of threads. The value depends on the specifications (such as memory and CPU) of your system. The default value is 250. |
| Metadata Refresh Interval (min) | Specifies the interval for which to refresh the metadata pertaining to the tenant, which is the amount of time for which to retain the cache. After this amount of time, the system purges the cache and reloads it. The default value is 10. |

4. Click **Save**.

## Configuring the Message Queue Handler

Use the **Message Queue Handler** workspace to configure the message queue handler.

Follow these steps:

1. Log in to the ConfigDB.
2. From the workspace selector bar, select **Message Queue Handler**. The system displays the **Message Queue Handler** workspace.
3. Enter information into the fields.

| Parameter | Description |
|---|---|
| Name | Name of the message queue handler web service. |
| Endpoint | The URL of the message queue handler web service to which queued tasks are dispatched. An example is **http://***IP_address***/IntegrationService.svc**. |
| Dispatch Method | The name of the web method that is implemented as part of the handler web service (which the message queue invokes to dispatch tasks). For example, the Service and Asset Manager XSLT email handler implements a web method called HandleMessage.<br><br>**NOTE**: The name of the dispatch web method is case sensitive. |
| Batch Size | The maximum number of tasks that the message queue can dispatch to a message queue handler. |
| Active | Specifies if the message queue handler is on or off. |
| Priority | Specifies the order of this handler, in relation to any other handlers that are defined. |
| Process Timeout Interval (minutes) | Amount of time to wait for a response from the message queue handler before logging an error or before retrying, if you have not exceeded the number of attempts specified by the **Max number of attempts** parameter. |
| Include Data with Dispatch | Specifies whether to include the data when this dispatch web method is called. If you do not check this option, the message queue handler must call the dispatch web method to get the data. |
| Max number of Attempts | The maximum number of times to resend the data before logging an error. |
| Archive on Completion | Specifies whether to archive the message queue journal, which contains the tasks that the message queue handler has processed. Use this information for troubleshooting purposes. Enabled by default. |
| Purge Archive after (days) | Set to 30 days by default. The amount of days after which the archive is purged. |
| Description | A description of the message queue handler. |

4. Click **Save**.

# Configuring Email

Use the **Email Configuration** workspace to configure the inboxes for email.

Follow these steps:

1. Log in to the ConfigDB.
2. From the workspace selector bar, select **Email Configuration**. The system displays the **Service Provider Email Configuration** workspace.
3. Enter information into the fields.

| Field | Description |
|---|---|
| Message Queue Handler Name | The name of the message queue handler to use. This must be the same name entered in the **Name** field in the **Message Queue Handler** workspace. See "Configuring the Message Queue Handler" on page 10. |
| Mailbox Poll Interval | The amount of time, in seconds, after which email configuration changes take affect. |

4. Click **Save**.

# Viewing All Logs

If there are any problems with the ConfigDB, such as email issues or workflow errors, they are reported in the logs. Review the logs to determine the underlying issue and to help resolve it.

- "Setting the Log Level" below
- "Viewing the Logs" below

## Setting the Log Level

You can set the amount and detail of information in the logs by adjusting the Log Level. You can do this by going to the **Logging Configuration** workspace. See the Service and Asset Manager Online Help.

## Viewing the Logs

Follow these steps to view all of the logs associated with the ConfigDB:

1. Log in to the ConfigDB.
2. From the workspace selector bar, select **All Logs**. The system displays the **LogsAll** workspace with the following information:

| Field | Description |
|---|---|
| Log Entry Id | A unique ID for this log entry. |
| Log Time | The time at which the log entry was originally created on the server. |
| Log DB Time | The time when the log was uploaded into the database. |
| Client IP Address | The IP address of the service that generated the log, such as the workflow server. |
| SubSystem Id | The subsystem of the service that generated the log. (Each module has predefined subsystems. For example, for the email server, polling is a subsystem.) |
| Login Id | The login ID for the user who experienced the log event. |
| Tenant Id | The tenant instance that is experiencing the log event. |
| Error Code | The category of the error. An example is "trigger not found". |
| Current Role | The role assigned to the user if the error is generated by a user. If the error is generated by the system, this field is empty. |
| Host Name | The machine that is reporting the error. |
| Thread Name | Internal thread ID. Not applicable. |

3. Double-click any log entry to view the log details.
4. To refresh the data, click **Refresh**.

# Working With Customer Contacts

This section contains the following topics:


- "About this Workspace" below
- "Viewing Customer Contacts" on the next page
- "Adding a Customer Contact" on the next page
- "Editing a Customer Contact" on the next page
- "Deleting a Customer Contact" on page 15


## About this Workspace

This workspace is for deployments with multi-tenant configurations.

You can add, edit, or delete a primary contact for a particular tenant. This is the person you contact for all communications regarding the particular tenant.

This information is also listed in the **Account Information** workspace in the Service and Asset Manager Configuration Console.

## Viewing Customer Contacts

Follow these steps to view information associated with customer contacts:

1. Log in to the ConfigDB.
2. From the workspace selector bar, select **Customer Contacts**. The system displays the **Contacts** workspace with the following information:

| Field | Description |
|---|---|
| Login ID | The login ID for the customer contact. |
| Full Name | The full name of the customer contact. |
| Primary Email | The primary email address for the customer contact. |
| Primary Phone | The primary phone number for the customer contact. |

3. Double-click any entry to view the details.
4. To refresh the data, click the refresh icon.

## Adding a Customer Contact

1. Log in to the ConfigDB.
2. From the workspace selector bar, select **Customer Contacts**. The system displays the **Contacts** workspace.
3. Click **New Contacts**. The system displays the **Contacts** page.
4. Enter information into the fields.
5. Click **Save**.

## Editing a Customer Contact

1. Log in to the ConfigDB.
2. From the workspace selector bar, select **Customer Contacts**. The system displays the **Contacts** workspace.
3. Double-click the entry to edit.
4. Change the entry.
5. Click **Save**.

## Deleting a Customer Contact

1. Log in to the ConfigDB.
2. From the workspace selector bar, select **Customer Contacts**. The system displays the **Contacts** workspace.
3. Highlight the entry to delete.
4. If there are dependencies on other items, the system display a confirmation message. Click **Continue**.

# Working With Tenants


- "About the Tenants Workspace" below
- "Resetting the Cache for a Tenant" on the next page
- "Adding a Certificate to a Tenant" on the next page
- "Capturing Discovery Messages for Debugging" on page 17
- "Configuring Attachment Options" on page 17
- "Setting Production Metadata to Read-Only" on page 17
- "Setting the Login URL" on page 18
- "Setting the Alternate Login URL (Vanity URL) for an MSP" on page 18
- "Working With Tenants" above


## About the Tenants Workspace

The information on this page is populated by the System Configuration Wizard.

Although there is a lot of information in this workspace, you should only do the following tasks from within this workspace:

- Reset the cache for a tenant. See "Resetting the Cache for a Tenant" on the next page.
- Add a certificate. If you want to use SAML authentication, you must upload a certificate and password so that end users can download it. See "Adding a Certificate to a Tenant" on the next page.

- Capture audit files from ISM Discovery, to help with troubleshooting. See "Capturing Discovery Messages for Debugging" on page 17.
- Configure how users attach files. See "Configuring Attachment Options" on the next page.
- Set metadata to read-only. See "Setting Production Metadata to Read-Only" on the next page.
- Set the login URL. See "Setting the Login URL" on page 18.

## Resetting the Cache for a Tenant

Service and Asset Manager caches information about each tenant in the ConfigDB. Because of this, changes to the tenant, such as updating the status, database information, and so on, are not immediately reflected in the corresponding tenant. This can lead to situations where Service and Asset Manager allows a user to log into a tenant, even though the status of the corresponding tenant in the ConfigDB is set to closed.

To manually reset the cache for a specific tenant, do the following:

1. Log in to the ConfigDB.
2. From the workspace selector bar, select **Tenants**. The system displays the **Tenants** workspace.
3. Highlight the tenant to reset the cache for.
4. Click **Reset Tenant Cache**.

## Adding a Certificate to a Tenant

If your implementation includes multiple tenants, the certificate should be for the domain and not the specific tenant. For example, the certificate for Cloud tenants is for *.saasit.com, not for a specific tenant such as *mytenant*.saasit.com.

1. Log in to the ConfigDB.
2. From the workspace selector bar, select **Tenants**. The system displays the **Tenants** workspace.
3. Double-click the tenant for which to add a certificate.
4. Click **Add Certificate**.
5. Navigate to the certificate location. Highlight it and click **Open**.
6. Enter the password for the certificate in the **Certificate Password** field.
7. Click **Save**.

## Capturing Discovery Messages for Debugging

Perform the following procedure if you are using Discovery and you need to capture the audit files sent to the server from the Discovery client agents. After you capture the audit files, you can review them in a debug environment to find out more details about the problem. The logging can be very long, so be careful about using this feature. For more information, see the Service and Asset Manager online help.

1. Log in to the ConfigDB.
2. From the workspace selector bar, select **Tenants**. The system displays the **Tenants** workspace.
3. Double-click the tenant to configure logging for.
4. Check **Log Failed IM Message**.
5. Click **Save**.

## Configuring Attachment Options

Perform the following procedure to configure how attachments are saved. You may need to change the format for storing files if users regularly store very large files, such as system log files. After you configure this, when a user saves an attachment to a record, the attachment is stored in the location that you specified here. For information about saving attachments as a file stream, see https://msdn.microsoft.com/en-us/library/gg471497.aspx.

We recommend that for system data, such as icons and images, you select **Database** for the **Attachment Save Type** field.

1. Log in to the ConfigDB.
2. From the workspace selector bar, select **Tenants**. The system displays the **Tenants** workspace.
3. Double-click the tenant for which to configure attachment options.
4. For the **Attachment Save Type** field, select a type: **Database**, **FILESTREAM**, or **File system**.
5. For the **Attachment Path** field, enter the default path where attachments are saved.
6. Click **Save**.

## Setting Production Metadata to Read-Only

If a user makes a change to the metadata in the production instance of the tenant, such as when configuring a workflow for a request offering, but does not make the same change in the UAT or staging instance of the tenant and then pushes the data from the UAT or Staging instance of the tenant to the production instance of the tenant, the data becomes corrupt and the workflow fails.

To avoid this, set the metadata on the production instance of the tenant to read-only. Follow these steps:

1. Log in to the ConfigDB.
2. From the workspace selector bar, select **Tenants**. The system displays the **Tenants** workspace.
3. Double-click the tenant for which to set the production metadata to read-only.
4. Check **Is Production Metadata Read-only**.
5. Click **Save**.

If a user tries to edit the workflow for a request offering, the system displays a message stating that the production metadata is read only and cannot be edited. See "Working with Request Offerings" in the Service and Asset Manager online help for more information.

## Setting the Login URL

Set the login URL in the following scenarios:

- When configuring Service and Asset Manager Active Directory authentication using Windows Integrated Security (WIS). This feature allows users to access Service and Asset Manager without entering their user name and password. This procedure is only valid for the on-premises version of Service and Asset Manager.
- When configuring the Service and Asset Manager on-premises URL for mobile users.

Follow these steps:

1. Log in to the ConfigDB.
2. From the workspace selector bar, select **Tenants**. The system displays the **Tenants** workspace.
3. Double-click the tenant for which to set the login URL.
4. In the **Login Url** field, enter the URL where users go to log in.
5. Click **Save**.

## Setting the Alternate Login URL (Vanity URL) for an MSP

Besides setting the login URL as described above, you can also specify an alternate login URL, also known as a vanity URL, for a Managed Service Provider (MSP).

Follow these steps:

1. Log in to the ConfigDB.
2. From the workspace selector bar, select **Tenants**. The system displays the **Tenants** workspace.
3. Double-click the tenant for which to set the alternate login URL (vanity URL).

4. At the bottom, click the **Alternate Login URL** tab.
5. Click **New TenantUrlAlias**. The system displays the **New TenantUrlAlias** dialog box.
6. In the **Url** field, enter the alternate login URL (vanity URL).
7. Click **Save**.

# Configuring Manual Load Partitioning


- "About Manual Load Partitioning" below
- "Configuring the Workflow Service Configuration File" on the next page
- "Assigning Tenants to the Workflow or Email Service" on the next page
- "Viewing the Results of the Manual Load Partitioning" on page 21

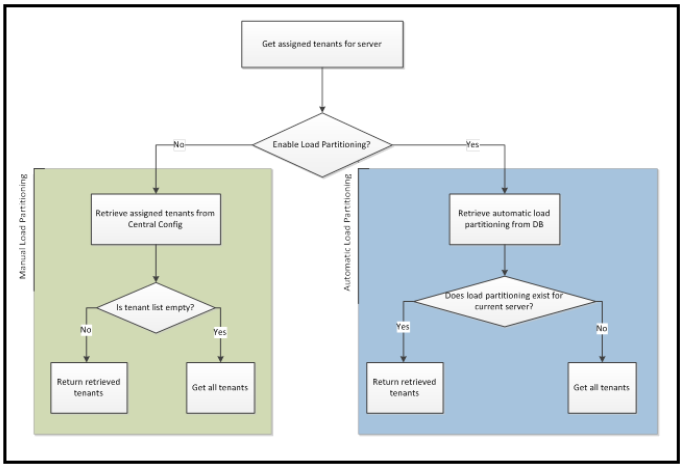

## About Manual Load Partitioning

Use the **Service Server** workspace to configure the manual load partitioning feature. The manual load partitioning feature allows you to allocate the load between workflow or email service instances based on your knowledge of the tenant load and server capacity.

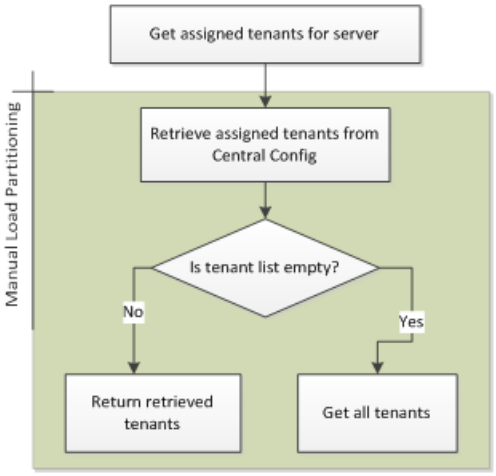
If you do not use the manual load partitioning feature, the workflow or email service load balancing automatically balances the tenants among the participating workflow or email service instances. This guarantees that the tenants are balanced evenly among the servers. However, this creates race conditions among the service instances when starting up and subscribing to events, which can lead to workflow or email subscription failure and deadlock issues.

When you start up the services, the workflow and email services retrieve the list of assigned tenants. The services only process the tasks for the assigned tenants. The system updates the list of assigned tenants in predefined time intervals. If the list of tenants is empty, the system falls back to the default behavior of processing all of the tenants.

*Workflow Load Balancing Flowchart*



*Email Load Balancing Flowchart*




## Configuring the Workflow Service Configuration File

For the email service, all load partitioning is done manually.

For the workflow service, you can select either manual or automatic (default). To select manual load partitioning for the workflow service, do the following:

1. Navigate to the workflow binary folder and open the file called **WorkflowApp.config** with a text editor.
2. Find the key called **EnableLoadPartitioning** and set it to **false**.
3. Save the file.

## Assigning Tenants to the Workflow or Email Service

When you configure workflow or email service servers, ensure that at least one server is defined as the "catch all" server. A "catch all" server manages all of the live tenants, even if it does not have any tenants associated with it. Each host should have at least one "catch all" server. This server processes workflow and email events for all tenants.

For each server, you must enable either the email service, the workflow service, or both. If you do not enable a service on the server but the service is running, the service gets an empty tenant list and it runs as a "catch all" server.

If a service instance crashes or stops, the system deletes the partition details from the database and no other instance will pick these tenants except for the "catch all" server.

1. Log in to the ConfigDB.
2. From the workspace selector bar, click **More...**.
3. Select **Service Server**. The system displays the **Service Server** workspace.

4. Click **New Service Server**.
5. Enter the host name in the **Host Name** field.
6. If the email service will run on this server, check **Is Email Service Enabled**.
7. If the workflow service will run on this server, check **Is Workflow Service Enabled**.
8. If the server is a catch all server, check **Is Catch All**.
9. If the server is not a catch all server, do the following:
    a. Click the **Tenants** tab.
    b. Click **Link**.
    c. Highlight a tenant from the list and click **Select**.
10. Click **Save**.

## Viewing the Results of the Manual Load Partitioning

You can view the results of the manual load partitioning in one of two ways:

- Viewing the INFO log for a service. See "Setting the Log Level for the Workflow or Email Service" below and "Viewing the Workflow or Email Manual Load Partitioning" below.
- Viewing a report of the load partitioning through Microsoft SQL. See "Viewing a Report of the Manual Load Partitioning" on the next page.

### Setting the Log Level for the Workflow or Email Service

To configure the logs, do the following:

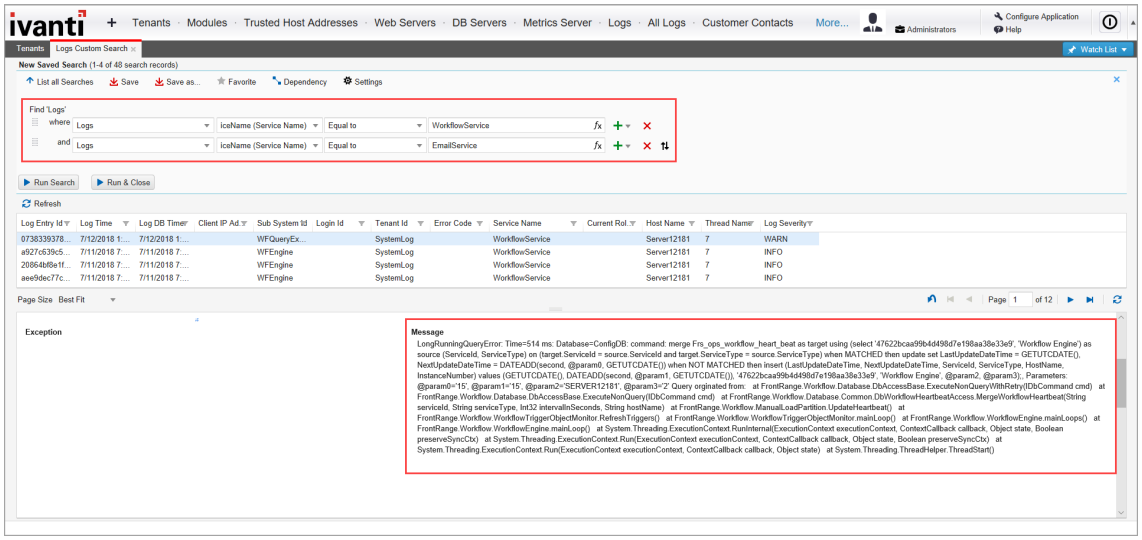
1. Log in to the ConfigDB.
2. Open the **Logging Configuration** workspace.
3. Open the **WorkflowService** service.
4. Change the value of the **Log Level** field to **INFO**.
5. Open the **EmailService** service.
6. Change the value of the **Log Level** field to **INFO**.
7. Click **Save**.

### Viewing the Workflow or Email Manual Load Partitioning

After you configure the logs, to view the results, do the following:

1. Log into the ConfigDB.
2. Open the **Logs** workspace.
3. Use a saved search to show all logs with a service name of **WorkflowService** or a service name of **EmailService**.

*Logs Saved Search*




4. Verify that the tenants listed under the current assigned tenant list match the linked tenants for this server.

## Viewing a Report of the Manual Load Partitioning

The workflow or email service retrieves the assigned tenants and updates the **Frs_ops_workflow_heart_beat** and **Frs_ops_workflow_partition** tables in the ConfigDB.

Before you begin, start the workflow or email service. Keep the current session.

Run the following query in Microsoft SQL on the ConfigDB to see the details of the services that are assigned to each tenant:

```
SELECT ServiceType, HostName, InstanceNumber, TenantId
FROM Frs_ops_workflow_heart_beat heartbeat
JOIN Frs_ops_workflow_partition partition
ON heartbeat.ServiceId = partition.ServiceId
```

The following is an example of the partitioning details:

| Service Type | Host Name | Instance Number | Tenant ID |
|---|---|---|---|
| Workflow Engine | CA-L02552 | 1 | ConfigDB, ITSM_7_Daily_Build |
| Email Engine | CA-L02552 | 1 | ConfigDB, ITSM_7_Daily_Build |