ivanti | Service Manager

Configuration Database (ConfigDB) Guide
2021.4
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About this Guide

"Using the Service and Asset Manager Configuration Database (ConfigDB)" below

"Intended Audience" below

"Document Organization" below

"Related Documentation" on the next page

"How to Contact Us" on the next page

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 2021.4 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 7.

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 8.

Workspaces that are for internal use only. See "Internal Use Only Workspaces" on page 9.

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 10.

Workspaces where you may make changes. See "Workspaces that Can Be Used" on page 18.
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 2021.4

Database Servers
Log Operations Locations
Integration Services Configuration
Metrics Server
Report Server
Survey Information
Trusted IP Addresses
Web Servers
Central Config API Authentication

APIs in the Central Config can be accessed only by known users by authenticating the API call. The API Header will pass the API Key which will be authenticated and passed by the Central Config server. This prevents un-authorised users from accessing the APIs.

Install/upgrade Ivanti Service Manager System Configuration Wizard

On installing or upgrading the Service Manager System Configuration Wizard, the API Key is auto-generated in the Central Config DB. This key is used to to authenticate the API calls to the Central Config Server. However, the following should be monitored while installing/upgrading.

Verify the webconfig file
Once the installation/upgradation is complete, verify the webconfig file has the following:

In the config section:

```
<section name="CentralConfigApiKey" type="System.Configuration.NameValueSectionHandler" />
```

In the new protected section:

```
<CentralConfigApiKey>
<add key="CentralConfigApiKey" value="" />
</CentralConfigApiKey>
```

Update for Teams Bot Service
If you have installed Teams Bot Service, update the CentralConfigApikey value in appsetting file from C:\inetpub\TeamBotService\appsettings.json. Get the CentralConfigApikey from the Central Config DB table (Frs_data_api_key).

Updates if Service Manager System Configuration Wizard and Service Manager Reporting Wizard are installed on different machines
If the Service Manager System Configuration Wizard and Service Manager Reporting Wizard are installed on different machines, update the Centralconfig api key when installing the Reporting Wizard as shown in the below image. Get the CentralConfigApikey from the Central Config DB table (Frs_data_api_key).
Updating the CentralConfigAPIKey
In case you wish to update/change the CentralConfigAPIKey, do so by following the below steps:

Stop all services that are referencing the centralconfig.

Log in to Service Manager with Admin credentials and open the Configuration console.

Select Security Controls > CentralConfigAPIKeyGroup and note down the description.

Delete the existing CentralConfigAPIKey and recreate a new key inside the CentralConfigAPIKeyGroup as shown in the below image.

![configuration screenshot with key details]

Once the Key is created in the CentralConfig tenants, re-run the System Configuration Wizard to update the webconfig and appconfig files.

Restart your machine.

The CentralConfigAPIKey should be unique, duplicate/multiple keys will break the feature.

**Disabling the Centralconfig API Key Feature**

Log in to the application with Admin credentials and open the Configuration console.

Select Security Controls > API Key and delete the CentralConfigAPIKey.

Ensure you Delete and not De-activate to disable.

**Impacted webconfig file list:**

<table>
<thead>
<tr>
<th>AppDomains</th>
<th>Configuration Files</th>
</tr>
</thead>
<tbody>
<tr>
<td>AppServer</td>
<td>Web.config</td>
</tr>
<tr>
<td>WorkFlow</td>
<td>WorkflowService.exe.config</td>
</tr>
<tr>
<td>Service</td>
<td>Configuration File</td>
</tr>
<tr>
<td>-------------------------</td>
<td>----------------------------------------</td>
</tr>
<tr>
<td>Escalation</td>
<td>EscalationService.exe.config</td>
</tr>
<tr>
<td>email</td>
<td>EmailWindowsServiceapp.exe.config</td>
</tr>
<tr>
<td>bulkupload</td>
<td>KMBulkUploadTool.exe.config</td>
</tr>
<tr>
<td>integrationserver</td>
<td>IntegrationServiceHost.exe.config</td>
</tr>
<tr>
<td>systemconfigwizard</td>
<td>ServerConfigurationWizard.exe.config</td>
</tr>
<tr>
<td>release tool</td>
<td>ReleaseTool.exe.config</td>
</tr>
<tr>
<td>Frsloggingservice</td>
<td>FRSLoggingService.exe.config</td>
</tr>
<tr>
<td>metric</td>
<td>HEAT.MetricsServer.exe.config</td>
</tr>
<tr>
<td>message queue</td>
<td>MessageQueueServiceHost.exe.config</td>
</tr>
<tr>
<td>License service</td>
<td>LicenseServerWindowsService.exe.config</td>
</tr>
<tr>
<td>report provinising</td>
<td>reportserver\ReportProvisioning.exe.config</td>
</tr>
<tr>
<td>Neurons</td>
<td>appsettings</td>
</tr>
<tr>
<td>Teams Bot Service</td>
<td>appsettings</td>
</tr>
<tr>
<td>DynamicWebServices</td>
<td>web.config</td>
</tr>
<tr>
<td>OpsConsole</td>
<td>web.config</td>
</tr>
<tr>
<td>FrsSurvey</td>
<td>web.config</td>
</tr>
<tr>
<td>FrsSurveyProxy</td>
<td>web.config</td>
</tr>
<tr>
<td>IM</td>
<td>IMServer\IMServices\AssetProcessor\Web.config</td>
</tr>
<tr>
<td>IM</td>
<td>IMServer\IMServices\DiscoProcessor\Web.config</td>
</tr>
<tr>
<td>IM</td>
<td>IMServer\IMServices\DiscoUtils\Web.config</td>
</tr>
<tr>
<td>IM</td>
<td>IMServer\IMServices\IMReadOnlyDataService\Web.config</td>
</tr>
<tr>
<td>IM</td>
<td>IMServer\IMServices\TaskProcessor\Web.config</td>
</tr>
<tr>
<td>IM</td>
<td>IMServer\WebServices\ClientTransportProcessor\Web.config</td>
</tr>
<tr>
<td>reports</td>
<td>C:\Program Files\Microsoft SQL Server\MSRS12.MSSQLSERVER\Reporting Services \ReportServer\Web.config</td>
</tr>
</tbody>
</table>

**Custom Installation of SCW**

When customers try to install the Configuration Server in one machine and other components in another machine, user has to copy the Central Config API Key from Configuration Server and update the key in the Central Configuration Settings page as show in the following image.

Sample image of Custom Installation of SCW
<table>
<thead>
<tr>
<th>1. Central Configuration API Key Settings</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Application Server Settings</td>
</tr>
<tr>
<td>3. Other Feature Settings</td>
</tr>
<tr>
<td>4. Metrics Server</td>
</tr>
<tr>
<td>5. Discovery Application Server</td>
</tr>
<tr>
<td>6. Discovery Web Server</td>
</tr>
</tbody>
</table>

**Central Configuration API Key Settings**

Central Configuration API Key: 4235f3832f3d429b4b193c54c18746

Note: You can retrieve the API Key from Central Configuration Server Settings.

Next>>
Setting up the Teams Bot Integration

For integrating Microsoft Teams with Ivanti Service Manager, on-premise users should first setup the environment by downloading the package from Ivanti MarketPlace and executing PowerShell script.

What the Powershell Script does?

• Creates the directory in the inetpub folder.

• Creates a new application pool and sets item property for it.

• Creates a new web application and sets item property for it.

• Silently installs the required application, as in you might not get any prompts to proceed with the installation.

• Copies the required binaries to the destination folder.

• Creates the appsetting.json once the ipaddress/machine name/local host name is provided.

Setting up the Central Config API Key

1. Log in to the CentralConfig > Configure Application > Security Controls > ApiKeys.

2. Find the CentralConfigApiKey as shown below and copy the value.

3. Paste the copied value in the appsettings.json file for the CentralConfigApiKey. For example, CentralConfigApiKey="xxxxxxxxxxxxxxxxxxxxxxxxxxxxx"
Executing the PowerShell Script

1. Download the zip file to a relevant folder in your machine.

2. Extract the zip file.

3. Open PowerShell as Administrator.

4. Go to the location where the PowerShell script is located, that is, the location where you extracted the zip file.

5. Run the script - .\TeamsBot.ps1.

6. You will be prompted for the Appserver as well as the Central Config ipaddress/ Machine name/ localhost name. Enter the appropriate Address/Machine name/localhost.

The configuration is done.

Troubleshooting

Incorrect ipaddress/machine name/localhost name
If you provide incorrect IP address/machine name/localhost name, open the Appsetting.json file from the folder intepub >Teams Bot Service and replace the AppserverIPAddress with the correct one.

Example of the AppSetting.json file:
"ElapsedSecondsToFlushLog”= 60; "ItemSizeToFlushLog”= 1000; "LogSettingCacheTimeoutInMinutes”= 5; "SendLogFileLocation”= "C:\logs”; "WriteLogFileLocation”= "C:\logs”; "SendLogWaitInterval”= 300; "WriteLogWaitInterval”= 300; "EnableLogging”= true; "CacheTimeout”= "30”, "isOnPremise”: false; "CentralConfigApiKey”="” 

Make sure that Boolean values (true/false) don’t not have double quotes.

To know the execution policy list
Run the command - PS C: \Users\Administrator>Get-ExecutionPolicy - List

Sample image of the policy list
To set the execution policy
Once the PowerShell script is executed successfully, execute the command -Set-ExecutionPolicy -ExecutionPolicy “PROVIDE PREVIOUS VALUE” -Scope LocalMachine to set the execution policy.

Sample image of setting execution policy
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 the next page
"Viewing All Logs" on page 20
"Working With Customer Contacts" on page 21
"Working With Tenants" on page 23
"Configuring Manual Load Partitioning" on page 26

Configuring the Message Queue

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

Follow these steps:

Log in to the ConfigDB.

From the workspace selector bar, select Message Queue Configuration. The system displays the Message Queue Configuration workspace.

Enter information into the fields.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polling Interval (sec)</td>
<td>Specifies how often to check the message queue. The default value is 120.</td>
</tr>
<tr>
<td>Processor Threads</td>
<td>Specifies the number of threads. The value depends on the specifications (such as memory and CPU) of your system. The default value is 250.</td>
</tr>
<tr>
<td>Metadata Refresh Interval (min)</td>
<td>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.</td>
</tr>
</tbody>
</table>

Click Save.

Configuring the Message Queue Handler

Use the Message Queue Handler workspace to configure the message queue handler.
Follow these steps:

Log in to the ConfigDB.

From the workspace selector bar, select Message Queue Handler. The system displays the Message Queue Handler workspace.

Enter information into the fields.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Name of the message queue handler web service.</td>
</tr>
<tr>
<td>Endpoint</td>
<td>The URL of the message queue handler web service to which queued tasks are dispatched. An example is http://IP_address/IntegrationService.svc.</td>
</tr>
<tr>
<td>Dispatch Method</td>
<td>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.</td>
</tr>
<tr>
<td>NOTE:</td>
<td>The name of the dispatch web method is case sensitive.</td>
</tr>
<tr>
<td>Batch Size</td>
<td>The maximum number of tasks that the message queue can dispatch to a message queue handler.</td>
</tr>
<tr>
<td>Active</td>
<td>Specifies if the message queue handler is on or off.</td>
</tr>
<tr>
<td>Priority</td>
<td>Specifies the order of this handler, in relation to any other handlers that are defined.</td>
</tr>
<tr>
<td>Process Timeout</td>
<td>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.</td>
</tr>
<tr>
<td>Interval (minutes)</td>
<td></td>
</tr>
<tr>
<td>Include Data with Dispatch</td>
<td>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.</td>
</tr>
<tr>
<td>Max number of Attempts</td>
<td>The maximum number of times to resend the data before logging an error.</td>
</tr>
<tr>
<td>Archive on Completion</td>
<td>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.</td>
</tr>
<tr>
<td>Purge Archive after (days)</td>
<td>Set to 30 days by default. The amount of days after which the archive is purged.</td>
</tr>
<tr>
<td>Description</td>
<td>A description of the message queue handler.</td>
</tr>
</tbody>
</table>

Click Save.

**Configuring Email**

Use the Email Configuration workspace to configure the inboxes for email.
Follow these steps:

Log in to the ConfigDB.

From the workspace selector bar, select Email Configuration. The system displays the Service Provider Email Configuration workspace.

Enter information into the fields.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Message Queue Handler Name</td>
<td>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 &quot;Configuring the Message Queue Handler&quot; on page 18.</td>
</tr>
<tr>
<td>Mailbox Poll Interval</td>
<td>The amount of time, in seconds, after which email configuration changes take effect.</td>
</tr>
</tbody>
</table>

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:

Log in to the ConfigDB.

From the workspace selector bar, select All Logs. The system displays the LogsAll workspace with the following information:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log Entry Id</td>
<td>A unique ID for this log entry.</td>
</tr>
<tr>
<td>Log Time</td>
<td>The time at which the log entry was originally created on the server.</td>
</tr>
<tr>
<td>Log DB Time</td>
<td>The time when the log was uploaded into the database.</td>
</tr>
<tr>
<td>Client</td>
<td>The IP address of the service that generated the log, such as the workflow server.</td>
</tr>
<tr>
<td>Field</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>IP Address</td>
<td></td>
</tr>
<tr>
<td>SubSystem Id</td>
<td>The subsystem of the service that generated the log. (Each module has predefined subsystems. For example, for the email server, polling is a subsystem.)</td>
</tr>
<tr>
<td>Login Id</td>
<td>The login ID for the user who experienced the log event.</td>
</tr>
<tr>
<td>Tenant Id</td>
<td>The tenant instance that is experiencing the log event.</td>
</tr>
<tr>
<td>Error Code</td>
<td>The category of the error. An example is &quot;trigger not found&quot;.</td>
</tr>
<tr>
<td>Current Role</td>
<td>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.</td>
</tr>
<tr>
<td>Host Name</td>
<td>The machine that is reporting the error.</td>
</tr>
<tr>
<td>Thread Name</td>
<td>Internal thread ID. Not applicable.</td>
</tr>
</tbody>
</table>

Double-click any log entry to view the log details.

To refresh the data, click Refresh.

**Working With Customer Contacts**

This section contains the following topics:

"About this Workspace" below

"Viewing Customer Contacts" below

"Adding a Customer Contact" on the next page

"Editing a Customer Contact" on the next page

"Deleting a Customer Contact" on the next page

**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:

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

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Login ID</td>
<td>The login ID for the customer contact.</td>
</tr>
<tr>
<td>Full Name</td>
<td>The full name of the customer contact.</td>
</tr>
<tr>
<td>Primary Email</td>
<td>The primary email address for the customer contact.</td>
</tr>
<tr>
<td>Primary Phone</td>
<td>The primary phone number for the customer contact.</td>
</tr>
</tbody>
</table>

Double-click any entry to view the details.

To refresh the data, click the refresh icon.

**Adding a Customer Contact**

Log in to the ConfigDB.

From the workspace selector bar, select Customer Contacts. The system displays the Contacts workspace.

Click New Contacts. The system displays the Contacts page.

Enter information into the fields.

Click Save.

**Editing a Customer Contact**

Log in to the ConfigDB.

From the workspace selector bar, select Customer Contacts. The system displays the Contacts workspace.

Double-click the entry to edit.

Change the entry.

Click Save.

**Deleting a Customer Contact**

Log in to the ConfigDB.

From the workspace selector bar, select Customer Contacts. The system displays the Contacts workspace.

Highlight the entry to delete.

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" below

"Adding a Certificate to a Tenant" on the next page

"Capturing Discovery Messages for Debugging" on the next page

"Configuring Attachment Options" on page 25

"Setting Production Metadata to Read-Only" on page 25

"Setting the Login URL" on page 26

"Setting the Alternate Login URL (Vanity URL) for an MSP" on page 26

"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" below.

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 the next page.

Configure how users attach files. See "Configuring Attachment Options" on page 25.

Set metadata to read-only. See "Setting Production Metadata to Read-Only" on page 25.

Set the login URL. See "Setting the Login URL" on page 26.

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:

Log in to the ConfigDB.

From the workspace selector bar, select Tenants. The system displays the Tenants workspace.

Highlight the tenant to reset the cache for.

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.

Log in to the ConfigDB.

From the workspace selector bar, select Tenants. The system displays the Tenants workspace.

Double-click the tenant for which to add a certificate.

Click Add Certificate.

Navigate to the certificate location. Highlight it and click Open.

Enter the password for the certificate in the Certificate Password field.

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.

Log in to the ConfigDB.

From the workspace selector bar, select Tenants. The system displays the Tenants workspace.

Double-click the tenant to configure logging for.

Check Log Failed IM Message.

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](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.

Log in to the ConfigDB.

From the workspace selector bar, select Tenants. The system displays the Tenants workspace.

Double-click the tenant for which to configure attachment options.

For the Attachment Save Type field, select a type: Database, FILESTREAM, File system, Amazon S3, or Azure Blob.

For the Attachment Path field, enter the default path where attachments are saved.

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:

Log in to the ConfigDB.

From the workspace selector bar, select Tenants. The system displays the Tenants workspace.

Double-click the tenant for which to set the production metadata to read-only.

Check Is Production Metadata Read-only.

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:

Log in to the ConfigDB.

From the workspace selector bar, select Tenants. The system displays the Tenants workspace.

Double-click the tenant for which to set the login URL.

In the Login Url field, enter the URL where users go to log in.

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:

Log in to the ConfigDB.

From the workspace selector bar, select Tenants. The system displays the Tenants workspace.

Double-click the tenant for which to set the alternate login URL (vanity URL).

At the bottom, click the Alternate Login URL tab.

Click New TenantUrlAlias. The system displays the New TenantUrlAlias dialog box.

In the Url field, enter the alternate login URL (vanity URL).

Click Save.

Configuring Manual Load Partitioning

"About Manual Load Partitioning" on the next page

"Configuring the Workflow Service Configuration File" on page 28
"Assigning Tenants to the Workflow or Email Service" on the next page

"Viewing the Results of the Manual Load Partitioning" on page 29

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

![Workflow Load Balancing Flowchart](image1)

Email Load Balancing Flowchart

![Email Load Balancing Flowchart](image2)
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:

Navigate to the workflow binary folder and open the file called WorkflowApp.config with a text editor.

Find the key called EnableLoadPartitioning and set it to false.

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.

Log in to the ConfigDB.

From the workspace selector bar, click More....

Select Service Server. The system displays the Service Server workspace.

Click New Service Server.

Enter the host name in the Host Name field.
If the email service will run on this server, check Is Email Service Enabled.

If the workflow service will run on this server, check Is Workflow Service Enabled.

If the server is a catch all server, check Is Catch All.

If the server is not a catch all server, do the following:

Click the Tenants tab.

Click Link.

Highlight a tenant from the list and click Select.

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.


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

To configure the logs, do the following:

Log in to the ConfigDB.

Open the Logging Configuration workspace.

Open the WorkflowService service.

Change the value of the Log Level field to INFO.

Open the EmailService service.

Change the value of the Log Level field to INFO.

Click Save.

**Viewing the Workflow or Email Manual Load Partitioning**

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

Log into the ConfigDB.

Open the Logs workspace.
Use a saved search to show all logs with a service name of WorkflowService or a service name of EmailService.

Logs Saved Search

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_heartbeat 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_heartbeat heartbeat
JOIN Frs_ops_workflow_partition partition
ON heartbeat.ServiceId = partition.ServiceId
```

The following is an example of the partitioning details:
<table>
<thead>
<tr>
<th>Service Type</th>
<th>Host Name</th>
<th>Instance Number</th>
<th>Tenant ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workflow Engine</td>
<td>CA-L02552</td>
<td>1</td>
<td>ConfigDB, ITSM_7_Daily_Build</td>
</tr>
<tr>
<td>Email Engine</td>
<td>CA-L02552</td>
<td>1</td>
<td>ConfigDB, ITSM_7_Daily_Build</td>
</tr>
</tbody>
</table>
Firebase Configuration for Mobile Push Notification

A new workspace - **FCM Configuration** is added to ConfigDB. The following are its sections:

**Project Id**: Project Id of the firebase which we going to configure in future step. This Id is used by the server to send the push notification.

**Server Key**: Unique key that is present inside the firebase project. This key is used by the Server to send the push notification.

**Client configuration for Android**: json configuration which is used by android mobile to generate FCM token. This configuration will be present in Firebase project we need to add in config Database

**Client configuration for iOS**: Configuration which used by iOS device to generate FCM token.

The following steps should be performed for Mobile Push Notification to work:

- [Creating a new Project in Firebase console](#)
- [Configure iOS and Android app in Firebase](#)
- [Apply iOS Certificate for iOS app](#)
- [Configure Firebase in config Database of ISM](#)

**Creating a new Project in Firebase**

Navigate to [https://firebase.google.com/](https://firebase.google.com/) to create a new project. Since Firebase is from google, you need to sign into your Gmail account so the Firebase project is associated with your Gmail account.

Navigate to firebase.com and click Go to console on the top right corner of the page.

Click the Create a project tile (for new Users) or Add Project (for existing users) in the firebase.

Enter the project name, select the I accept the firebase terms check box and click Continue.

Disable Google Analytics and click Create Project.
Google Analytics for your Firebase project

Google Analytics is a free and unlimited analytics solution that enables targeting and more in Firebase Crashlytics, Cloud Messaging, In-App Messaging, Remote Config, A/B Testing, Predictions and Cloud Functions.

Google Analytics enables:

- A/B testing
- User segmentation and targeting across Firebase products
- Predicting user behaviour
- Crash-free users
- Event-based Cloud Functions
- Free unlimited reporting

Enable Google Analytics for this project
Recommended

Previous
Configure iOS and Android app in Firebase.

In this step, you will create iOS and Android app in the firebase project.

Navigate to the newly created project.

Click on the Android icon to create new Android app.
Enter the name of the package - it should always be `com.ivanti.sm` in the **Android Package name** and enter any name in **App Nickname**. Ensure the package name is right and click on **Register app**.

Click on **download google.service.json** which is json configuration for Android. Download this file and click **Next**.
Download config file

Switch to the Project view in Android Studio to see your project root directory.

Move the google-services.json file that you just downloaded into your Android app module root directory.

 Skip Step 3 by clicking on Next – (Add Firebase SDK)

Click Continue to the console.

If you see “Run your app to verify installation” step then you can click on “Skip this step” and then click Continue to console.
Read the getting started guide for Android

You’re ready to start building with Firebase!

Follow the Firebase getting started guide for Android, where you’ll find details about the various Firebase SDKs that you can add to your app and more.

Or, continue to the console to explore Firebase.

Once all these steps are completed, you have the Android app ready in the firebase project.

Now, do the same for iOS.

Click on Add app again in the firebase project and select iOS.
Specify the same package name `com.ivanti.sm` in the iOS bundle ID, enter the **App nickname** and click on **Register app**.
Add Firebase to your iOS app

1. Register app

iOS bundle ID

com.ivanti.sm

App nickname (optional)

ism-ios-app

App Store ID (optional)

123456789

Register app

Click on Download GoogleServiceInfo.plist which contains the configuration for iOS device. and click Next.
Skip Step 3 by clicking on **Next – (Add Firebase SDK)**.

Skip Step 4 by clicking on **Next – (Add Initialisation code)**.

Click **Continue to Console** in step 5.

If you see Run your app to verify installation step, click **Skip this step** and then click **Continue to console**.

Once these steps are completed, you have iOS and Android app configuration is ready in the firebase.

**Apply iOS Certificate for iOS app**

Ivanti will provide the APNs Certificate for iOS app. You can find the certificate at [Ivanti Market Place](#).

Click the **Setting** button from top left and click on **Project settings**.
Click the **Cloud Messaging** tab.
Settings

General  Cloud Messaging  Integrations  Service accounts  Data privacy  Users and permissions

Project credentials

<table>
<thead>
<tr>
<th>Key</th>
<th>Token</th>
</tr>
</thead>
<tbody>
<tr>
<td>Server key</td>
<td>AAAA_i4bXQ4:APA91bExE---Zf31hwUw750m1VimFw---</td>
</tr>
<tr>
<td>Sender ID</td>
<td>![icon]</td>
</tr>
<tr>
<td>1091695238414</td>
<td></td>
</tr>
</tbody>
</table>

iOS app configuration

iOS apps

- **ism-ios-app**

Not configured for Cloud Messaging

APNs

- File

No APNs configured

APNs Configuration
Scroll down to the **APNS Certificate** section and click the **Upload** button.

<table>
<thead>
<tr>
<th>iOS apps</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ism-ios-app</strong></td>
<td></td>
</tr>
<tr>
<td>Not configured for Cloud Messaging</td>
<td></td>
</tr>
</tbody>
</table>

**APNs Authentication Key**

> Configuration with auth keys is recommended as the primary method for sending notifications to iOS

**APNs Certificates**

<table>
<thead>
<tr>
<th>Type</th>
<th>Valid until</th>
</tr>
</thead>
<tbody>
<tr>
<td>No development APNs certificate</td>
<td></td>
</tr>
<tr>
<td>No production APNs certificate</td>
<td></td>
</tr>
</tbody>
</table>

Upload the APNs Certificate with password.
Configure Firebase in Config Database of ISM

Navigate to Project settings from the main page of Firebase Project.
Navigate Cloud Messaging Copy the Sender ID.

Go to ISM CentralConfig, open FCM Configuration workspace and paste Sender ID which is copied to the Project ID in workspace.
<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Id</td>
<td>1091695238414</td>
</tr>
<tr>
<td>Server Key</td>
<td></td>
</tr>
</tbody>
</table>

**Client Configuration For Android**

**Client Configuration For iOS**

Copy the **Server Key** from **Cloud Messaging** tab.
Paste the **Server Key** in **FCM Configuration** workspace.
Copy the entire content from `google-service.json` which is downloaded from Step – 3 and paste in the Client Configuration for Android.
Finally, you need to add the **iOS FCM configuration** in **config DB**. Copy the entire content from **GoogleService-info.plist** which is downloaded in step-3 and paste it in the **Client Configuration for iOS** and **Save**.
Client Configuration For iOS

```xml
<key>BUNDLE_ID</key>
<string>com.iivanii.sm</string>
?key>PROJECT_ID</key>
<string>ism-firebase-app</string>
?key>STORAGE_BUCKET</key>
<string>ism-firebase-app.appspot.com</string>
?key>IS_ADS_ENABLED</key>
<false/>
?key>IS_ANALYTICS_ENABLED</key>
<false/>
?key>IS_APPINVITE_ENABLED</key>
<true/>
?key>IS_GCM_ENABLED</key>
<true/>
?key>IS_SIGNIN_ENABLED</key>
<true/>
?key>GOOGLE_APP_ID</key>
<string>1:1091695238414:ios:db8afa9f2d1aa8f1424b5f</string>
?key>DATABASE_URL</key>
<string>https://ism-firebase-app.firebaseapp.com</string>
</dic>
</plist>
```