Infor CloudSuite Industrial Configuration Guide for Infor Operating Service

Release 9.01.x

Contents

About this guide

This guide provides configuration and implementation information for the integration of Infor CloudSuite Industrial with Infor Operating Service (OS).

Use this guide in either of these cases:

- CloudSuite Industrial and Infor OS are both installed on-premises
- CloudSuite Industrial is installed on-premises and Infor OS is in the cloud.

Intended audience

This guide is intended for the system administrator or consultant who configures CloudSuite Industrial for use with Infor OS.

Contacting Infor

If you have questions about Infor products, go to Infor Concierge at https://concierge.infor.com/ and create a support incident.

If we update this document after the product release, we will post the new version on the Infor Support Portal. To access documentation, select **Search > Browse Documentation**. We recommend that you check this portal periodically for updated documentation.

If you have comments about Infor documentation, contact documentation@infor.com.

Chapter 1: Requirements

Ensure that all requirements are met.

Required products

Ensure that you have installed and configured these products:

- CloudSuite Industrial 9.01 or later

  See the *Infor CloudSuite Industrial Installation Guide*.

- Infor Operating Service release 12.0 or later

  The installation of Infor OS includes these products: Infor Ming.le, Infor ION, Infor Document Management, ION Grid, and ION API.

  - If you are using Infor OS in the Cloud, with CloudSuite Industrial on-premises, the Infor Cloud team provisions Infor OS and its components for you. Use the instructions in this guide to configure Infor OS to communicate with your on-premises application through the Enterprise Connector. See the *Infor ION Desk User Guide - Cloud Edition* for the Enterprise Connector server prerequisites.
  - If Infor OS is installed on-premises, the server where you install Infor OS must be able to connect to the servers where you install CloudSuite Industrial and other BOD-enabled products.

    ADFS is used for Single Sign On authentication with Infor OS. SAML Session Provider, the default provider for ADFS, is installed with Infor OS and must be configured correctly for your application.

    See the *Infor Operating Service Installation Guide*.

- Optionally, CloudSuite Industrial Analytics

  The installation of CloudSuite Industrial Analytics includes content for these products:

  - Infor BI release 11.1 or later
  - In-context BI

  See the *Infor CloudSuite Industrial Analytics Installation and Configuration Guide*.

Required information

Obtain this information before you begin the integration:

- Credentials to connect to the application interface, for example, database user, password, server name, port or instance.
- Name of the CloudSuite Industrial instance or logical ID that is used to connect with ION; tenant ID that is used to connect the application to Infor OS in ION; and enterprise organization structure, that is, accounting entities.

  See Setting up BOD replication and logical IDs, tenants, accounting entities, and locations in the ERP on page 28 for information about how to set up the logical ID, tenant ID and accounting entities for your application.

- CloudSuite Industrial sites that are used in the integration, and either the queue server name or the bootstrap site that is used to communicate with the sites through replication inboxes and outboxes.
- Names of physical locations where your CloudSuite Industrial databases exist, if your company has multiple physical locations.
- An administrator account for Infor Ming.le and ION.
- Location or source of files to be imported into ION and Infor Ming.le for content.

Chapter 2: Configuration checklist

Follow this checklist to integrate this application with the components of Infor Operating Service:

Complete	Task	Reference
❑	Collect all of the documents listed in the Reference column from the Infor Support Portal site. These documents could provide helpful background during this configuration.	
❑	Understand the concepts of ION and BODs, and how these concepts relate to this application.	*Infor ION Desk User Guide*
❑	Review the description of how this application interacts with Infor OS.	Integration with other applications through ION on page 16 Concepts and definitions specific to this configuration on page 18
❑	Configure your application for Single Sign On: • Set up your application to use Single Sign On. • Install Windows Identity Foundation • Set up the Web client with AD FS access • Edit the web.config file. • Create a relying party trust for Infor Ming.le and CloudSuite Industrial. • Configure Active Directory authentication groups. • Import a security certificate for each user computer. • Set the time out option for all applications.	Configuring your application for Single Sign On on page 20
❑	Configure your web browser: • Allow popups • Set up compatibility for Internet Explorer browsers.	Configuring your browser on page 24

Complete	Task	Reference
❏	Add your application in Infor Ming.le.	Configuring your browser on page 24
❏	Configure your application and ION to send and receive BODs: • Configure this application for ION • Configure a connection point for this application. • Set up a document flow to pass user and role information • Publish BODs. • Verify that the BODs are received in ION.	Configuring your application and ION to send and receive BODs on page 27
❏	Configure user access to your application through Infor Ming.le: • Configure user access to your application in Infor Ming.le. • Configure system administration access to your application through Infor Ming.le. • Set up roles or groups. • Optionally, add accounting entities and locations to the users or roles. • Optionally, set up distribution groups.	Configuring user access to your application through Infor Ming.le on page 41
❏	Set up ION APIs for your application	Setting up ION APIs for your product on page 49
❏	Configure drillbacks to your application.	Verifying drillbacks to the ERP on page 57
❏	Configure context and utility apps that are used with your application	Configuring context apps and utility apps that are used with the ERP on page 60
❏	Configure homepages for your application	Verifying Homepages for the ERP on page 65
❏	Optionally, configure workflows and ION messages for your application.	Configuring workflows and ION messages for the ERP on page 50

Complete	Task	Reference
❑	Configure your application to work with Infor Document Management: • Set up the IDM connection in CloudSuite Industrial. • Activate the IDM workflows in CloudSuite Industrial. • Import the definitions in IDM. • Optionally, configure IDM Capture. • Enable the Related Information context app for your application. • Verify the configuration.	Configuring Infor Document Management to work with the ERP on page 67

Chapter 3: Overview

Before you complete the configuration tasks, you must understand how this application is used with Infor OS. You should also be familiar with a list of related concepts and definitions.

Infor OS

Infor Operating Service is a technology platform that supports fully integrated, industry-specific solution suites with mobile-first design, a consumer-inspired user experience, and science-driven analytics. It leverages the convergence of information, analytics, cloud computing, mobility, and social business.

This platform includes these products:

- Infor Ming.le™
- Infor ION
- Infor ION Grid
- Infor Document Management
- Infor Business Vault
- Analytics
- Infor BI

Infor Ming.le

Infor Ming.le is a web-based application framework that provides a common user interface for Infor applications, third-party applications, and in-house developed applications integrated through Infor ION. It is a centralized platform for social collaboration, business process improvement, and contextual analytics.

Infor Ming.le provides drillback capability so that users can navigate across the applications to track transactions, the transfer of data, and report updates. Additionally, Infor Ming.le provides an infrastructure for sharing content with context applications.

Infor Ming.le uses Homepages, configurable by users to organize information and activities at a high level to focus on critical areas of concern.

Within Infor Ming.le, you can use ION API, a managed API layer across all applicable Infor and non-Infor APIs, allowing existing APIs to be presented in a standardized, managed, and controllable way.

Infor Ming.le uses Infor Federation Services (IFS) for centralized authentication.

Infor Ming.le is available as a mobile app, supported by iOS, Android™, and Windows Mobile operating systems.

Infor ION

Infor ION is a business process management platform that integrates applications, people, and business processes. The ION platform converts data into the common language of standardized XML to enable disparate business systems such as Infor products, third-party applications, and in-house developed applications to share information.

ION simplifies the connectivity and data sharing across the connected applications. It enables users to configure a routed infrastructure, set up workflows, and design and activate business event monitors and manage tasks and alerts.

ION components

Infor ION has these components:

* With ION Connect, you can establish connections between applications which can either be Infor applications or third party applications. You can configure ION Connect through the ION Desk.
* ION Desk is an intuitive, browser-based interface used to easily configure and monitor the ION Service.

  In ION Desk, you can model document flows between applications. Such flows can represent a business process. More technical flows can also be defined. For example, mapping data from a third party application to a standard business object document as used by an Infor application. You can also use filtering or content-based routing.

  From ION Desk you can deploy your models to ION Service by activating them. ION Service will then handle your documents in accordance to your activated models. ION Desk also provides management screens to monitor the behavior of ION Service and to help in troubleshooting when needed.

* In ION Event Management you can monitor business events and create alerts when exceptions occur.

  The start point of monitoring are the business object documents that are published by applications when business events occur. Monitors are processes that run in the Event Management engine and evaluate these documents by applying pre-defined business rules.

  There is a predefined set of business rules that the monitoring engine can apply: comparison conditions, value change conditions, and document overdue timer based rules. When exceptions are detected, these are reported as alerts to the business users. The distribution list of alerts is part of the monitor definition.

- ION Workflow is used to model and run business processes such as authorizations, work distribution, or task-driven workflows across several components.

  For authorizations, you can use an approval workflow to approve a purchase order or to sign off a new item. Such workflows are triggered by the creation of a new item or the submission of a new order.

  In the area of work distribution, the workflow ensures that all tasks for a certain event are being distributed and executed by different users. The advantage of using the ION Workflow is that you can model how these tasks are performed, for example sequential or in parallel.

- ION Pulse is the component that ensures the communication to the end user. ION Pulse manages the Alerts, Tasks and Notifications and distributes them to users. When users take actions in Infor Ming.le, ION Pulse records these actions and returns the reply to the engine that generated the user activity. ION Pulse is also the component that sends email notifications for Tasks, Alerts, and Notifications.

For more information about these components, see the *Infor ION Desk User Guide.*

To understand common ION concepts such as BOD nouns and verbs, document flows and workflows, listeners and connection points, see the ION Connect Concepts chapter in the *Infor ION Desk User Guide*.

Integration with other applications through ION

An outbound operation typically begins when a user performs an action in CloudSuite Industrial that requires a data exchange with another ION-enabled application. A Business Object Document (BOD) XML message is generated by CloudSuite Industrial and placed in an area designated as the CloudSuite Industrial message outbox. At scheduled intervals, ION connects to the outbox and retrieves the BODs from it.

In ION Desk, you create application connection points. The connection point defines the information needed to connect to the application database. It also holds a list of all the BOD documents that the application can send or receive.

You define document flows between CloudSuite Industrial and other applications represent the business flows between the applications. For example, you set up a document flow between CloudSuite Industrial and Infor Ming.le to pass BODs that contain user and role information. Use the Modeler in ION Desk to define these document flows. Use the Modeler in ION Desk to define these document flows.

ION routes BODs according to the document flows between BOD-enabled products. If a document flow is defined from CloudSuite Industrial to another application for a particular BOD, then at specified intervals, ION places the outbound BOD from CloudSuite Industrial in the other application's designated message inbox. Products are responsible for validating and incorporating the data in inbound BODs according to their rules.

If a document flow is defined from CloudSuite Industrial to another application for a particular BOD, then at specified intervals, ION places the outbound BOD from CloudSuite Industrial in the other application's designated message inbox. Products are responsible for validating and incorporating the data in inbound BODs according to their rules.

If a flow is defined from another application to CloudSuite Industrial, ION retrieves BODs from the sending application's message outbox and delivers them to CloudSuite Industrial's message inbox for processing. CloudSuite Industrial retrieves, validates, and processes the BODs.

Infor ION Grid

Infor ION Grid is a Java-based application server that provides a distributed runtime environment for other applications. Those other applications may, at any time, be added (deployed) or removed (undeployed) from a grid. The distributed nature of a grid means that an instance of the ION Grid may span multiple server machines.

See the *Infor ION Grid Administration Guide* for administration tasks such as monitoring, configuring, or managing the grid.

Infor Document Management

Infor Document Management (IDM) is an integration platform that enables you to take advantage of document solutions already in use within your organization.

Infor Document Management is used to integrate your documents with your business processes and to provide a central repository for them. Soft links are used, based on document metadata, to provide integration between your documents and your Infor ERP solution. You can view a document from within the context of your application, or click a document link to retrieve the document from the central repository.

Infor Document Management supports the entire lifecycle of your business documents, from input through storage, retrieval, and sharing.

Infor Business Vault

Infor Business Vault is a software platform for data acquisition and enrichment. The business data repository contains one or many data stores populated by Business Vault software, and the data stores are available for searching data, running reports, and synchronizing data.

Analytics

CloudSuite Industrial Analytics provides industry-specific content for the Infor BI solution for CloudSuite Industrial. CloudSuite Industrial Analytics uses the Infor BI component, Application Studio, to enable access to the dashboards and widgets.

CloudSuite Industrial Analytics contains these components:

- Business Measurement Models (BMMs)

  BMMs extract and transform the source data into an analytical data model that contains fact tables and dimension tables.

- Online Analytical Processing (OLAP) cubes

  The OLAP cubes summarize data along defined dimensions and hierarchies. The cubes also contain dimensions for time and time-series analysis, making it easy to compare years or periods on various levels.

- Dashboards and widgets

Infor BI

Infor BI supports all typical internal and external business intelligence requirements, with flexible ad hoc analysis and planning.

The BI solution suite is predominantly used where highly specific business needs must be fulfilled. Usually, the solution is based on a multidimensional OLAP approach and uses dashboards and widgets for reporting.

Concepts and definitions specific to this configuration

To configure the tenant, logical ID, accounting entity and location correctly, you must understand these terms and how they are defined in this application. Together, these terms determine where inbound BOD information is processed, or the outbound instance and location to which the BOD information should be associated.

Tenant ID

The tenant is a container for accounting entities and locations and is required in each BOD. The value of the tenant must be the same in all of the products that exchange BODs. Data is not shared or accessible between tenants.

See the information about using tenants in the *Infor ION Desk User Guide*.

For an on-premises configuration, verify that all of the other products are using the default value of `infor` for the tenant ID, and if so, use that as your tenant ID for CloudSuite Industrial.

Accounting entity

An accounting entity usually represents a legal or business entity that owns its general ledger. Every transaction belongs to only one accounting entity. An accounting entity can also be defined as the owner of certain master data among the enterprise. CloudSuite Industrial is the system of record for accounting entities.

For CloudSuite Industrial, the site is used as the accounting entity.

Do not confuse this Infor definition of "accounting entity" with the CloudSuite Industrial definition of "entity," which is a type of site that is used only for financial consolidation.

Location

A location is the physical location that is associated with data or transactions. The location can be, for example, a warehouse, a manufacturing location, a project location, or an office. Locations are published in the Location BOD. A location is required for all transactional BODs and is usually the location from which a transaction or record is generated. CloudSuite Industrial is the system of record for locations.

Logical ID

The logical ID is a unique identifier used in the communication of data between the applications in the tenant's environment. Each instance of an application, for example, a site, is assigned one logical ID. In ION, the logical ID is used to properly route BODs. Infor Ming.le uses the logical ID to determine which application to start when you click a drillback.

This logical ID is defined in the CloudSuite Industrial **Sites/Entities** form. You must provide the logical ID when you define the ION connection point for on-premises applications.

In Infor Ming.le, each application is assigned a logical ID. Infor Ming.le supports only one logical ID per application.

For more information, see the CloudSuite Industrial online help.

Chapter 4: Configuring your application for Single Sign On

Single sign on allows users to use one set of credentials to log into all Infor applications.

CloudSuite Industrial is set up for Single Sign On in Infor Ming.le through the use of SAML authentication, Microsoft AD FS and Integrated Windows Authentication. This requires an environment where a Windows domain trust between the client systems and the ADFS host is configured.

See the *Infor Operating Service Installation Guide* for information about the client Single Sign On experience and about the SAML session provider.

Setting up your application to use Single Sign On

Use these steps to set up Single Sign On between the Infor Ming.le portal and CloudSuite Industrial.

Installing Windows Identity Foundation

Windows Identity Foundation 3.5 must be installed on the AD FS server and the CloudSuite Industrial utility server. Parts of this are installed during the CloudSuite Industrial installation, but the full feature must be installed in order to use SSO.

See the *Infor CloudSuite Industrial Installation Guide* for information about setting up CloudSuite Industrial to work with AD FS.

Setting up the Web client with AD FS access

The CloudSuite Industrial Web client can run as an application inside the Infor Ming.le shell. Be aware that there are some differences between the CloudSuite Industrial Web client and the smart client. These differences are documented in the CloudSuite Industrial online help.

Ensure that these Web client requirements are met:

1   Install a CloudSuite Industrial Web client on a server, as described in the *Infor CloudSuite Industrial Installation Guide*.

2   In order to access online help from CloudSuite Industrial in Infor Ming.le, install the utility server where the help files reside on the same physical server where the Web client is installed.

3   Follow the steps to set up Web rendering with AD FS as described in the *Infor CloudSuite Industrial Installation Guide*.

4   In the CloudSuite Industrial installation process, select **AD FS** as the authentication type.

5   In AD FS, create a relying party trust and give it the appropriate claims rule.

6   In AD FS, add all of your CloudSuite Industrial users, which will allow automatic login to CloudSuite Industrial through Infor Ming.le.

7   Verify that you can log in to the Web client configured with AD FS. Take note of the URL that you use to log in, because you will need it for a later step.

Editing the web.config file

By default, the CloudSuite Industrial web client only renders URLs that are on the same server as the web client.

Edit the web.config files in both of these locations under the inetpub/wwwroot folder on the utility server:

*   WSWebClient
*   IDORequestService

To accept URLs from other locations, remove these associated tags in the web.config files:

*   **Remove the tag** `<add name="X-Frame-Options" value="SAMEORIGIN"/>`
*   **Remove the tag** `<add name="Content-Security-Policy" value="frame-ancestors 'self';"/>`

Alternatively, you can edit these entries to add servers for more security. For example, add a value of `"frame-ancestors 'self' https://mingleserverurl.com"`. The web.config file can also accept wildcards such as `"frame-ancestors 'self' https://*.infor.com"`.

Creating a relying party trust for Infor Ming.le and the ERP

This task uses a Power Shell script to create a relying party that associates Infor Ming.le with AD FS for Single Sign On.

This Power Shell script is similar to the Power Shell scripts that you ran in the post-installation steps of the Infor OS installation. See the *Infor Operating Service Installation Guide*.

1   In Infor OS Manager, open the Applications section.

2   Add an application and specify this information:

    Application Name and Description
    Specify a name of your choice that identifies the application.

Application Type
Select `SYTELINE(SyteLine)`.

Relying Party Identifier
Specify a unique ID in this format, where *URN* is a name of your choice that identifies the application and party ID:

`Urn:` *URN* `:Syteline`

For example, Urn:Infor_CloudSuite:Syteline.

SSO URL and SLO URL
For both options, specify the Web client URL, for example: `https://`*sl_server*`/WSWebClient/` where *sl_server* is the CloudSuite Industrial web server.

Signing Certificate
Leave this field as `(none)`.

3 Save your changes.
4 Click the arrow next to the new application and specify a location to download a Power Shell script that is generated from this information.
5 Copy the Power Shell script to the AD FS server.
6 Open the Windows PowerShell as an administrator.
7 Run the **Set-Execution Policy Unrestricted** command and specify **Y** to confirm the Execution Policy. Press **Enter**.
8 Run the PowerShell script that you downloaded.
9 Configure Forms Authentication:
   a Open ADFS Management and click **Authentication Policies**.
   b Click **Edit** in the Primary Authentication section.
   c Select **Forms Authentication for Extranet and Intranet**, clear **Windows Authentication for Intranet**, and click **Apply**.

Configuring Active Directory authentication groups

For access to the Infor Ming.le and CloudSuite Industrial sessions, you must associate all users' domain accounts with these predetermined Active Directory security groups:

Infor application	Active Directory security group
Infor Ming.le	Infor
CloudSuite Industrial	CloudSuite Industrial Users

Create these security groups in Active Directory outside of Infor Ming.le. See the Microsoft documentation about Active Directory for information about how to configure user accounts with security groups. Also see the *Infor CloudSuite Industrial Installation Guide* for information about how to configure CloudSuite Industrial for use with Active Directory.

Importing a security certificate for each user computer

To allow AD FS Single Sign On to Infor products, you must obtain a certificate that your users can add to their computers by using the Microsoft Management Console.

To import the certificate to a user's computer:

1 From the Windows menu, select **Run** and enter `mmc`.
2 Select **File > Add/Remove Snap-in**.
3 Select **Certificate** and click **Add**.
4 Select **Computer Account** and click **Next**.
5 Expand **Certificates**.
6 Right-click **Trusted Root Certificate Authorities**.
7 Select **All Tasks > Import** and import the certificate file.

Single Sign Out

When a user signs out of a portal such as Infor Ming.le, the user is automatically logged out of all applications, context applications, and widgets that were opened by the user through the portal.

Setting the timeout option for all applications

Use the Time-out option in Infor Ming.le to configure the idle session time-out value for all the Infor applications that are accessed through the Infor Ming.le portal. This time-out value applies to all users and applications in Infor Ming.le. User activity is updated periodically by each application through a common cookie in the root DNS domain. If no user activity is logged within the period specified in the time-out value, the user is automatically logged out of all applications.

1 From the Infor Ming.le **User Management** menu, select **Security Administration > Session Configuration**.
2 Click **Time-out** and configure the idle session time-out value to use for all Infor applications that are accessed through the Infor Ming.le portal. The time is measured in minutes, and you can specify a number from `10` to `470`.
3 Configure a session timeout value for the CloudSuite Industrial web client that is at least as long as the Infor Ming.le timeout value. Set the timeout value in the Web.config file located in the WSWebClient IIS application folder on the CloudSuite Industrial utility/web server. For example, to set the CloudSuite Industrial web client session timeout to 60 minutes, use this element and attribute value:

```
<sessionState mode="InProc" timeout="60">
    </sessionState>
```

Chapter 5: Configuring your browser

Configure your browser for use with Infor Ming.le.

Allowing popups for browsers

Ensure that any browser that is used with CloudSuite Industrial allows pop-ups. If pop-ups are disabled, the help will not work properly.

Avoiding multiple connections in a browser

You can have as many configurations as you want in a single application or server instance.

However, you cannot have multiple concurrent connections to the same CloudSuite Industrial application server in a single browser, even using different configurations. The session connection attributes use the server name as the key and are not differentiated by configuration name.

Setting up compatibility for Internet Explorer browsers

Note: Follow these steps only if you are using Internet Explorer as your browser.

Some Infor Ming.le and CloudSuite Industrial versions of Internet Explorer might be incompatible. If so, a message is displayed to indicate that your browser is not supported. In that case, before you can run CloudSuite Industrial in Infor Ming.le, you must change your compatibility view settings in your browser.

1   In the browser, click **Tools > Compatibility View Settings**.
2   Clear the **Display intranet sites in compatibility view** option.

Chapter 6: Adding your application in Infor Ming.le

Perform these steps to add CloudSuite Industrial as an application that can run in Infor Ming.le:

1 From the Infor Ming.le user menu, select **Admin Settings**.

2 Click **Add Application**.

3 Use this information to complete these fields:

Application Type
Specify `Infor Non-Provisioned.`.

Application Name
Select your application name and version from the list. For all versions of CloudSuite Industrial 9.01.x, select `Infor CloudSuite - 9.01.00`.

Display Name
Specify `CloudSuite Industrial`.

Logical ID
The first part of the logical ID is set automatically based on the application name. Specify the rest of the logical ID for the CloudSuite Industrial instance associated with this instance of Infor Ming.le, for example, the site name. This ID must be lowercase and not contain special characters.

Application Icon
Click **Choose Icon**.

Each application has a default icon. You can only select the color which you want to apply to the icon.

Use Https
Select this option if SSL is enabled for the CloudSuite Industrial user interface. If CloudSuite Industrial is using SSL, ensure that you specify the SSL-related port number in the **Port #** field.

Host Name
Specify the name of the CloudSuite Industrial web/utility server. This host name is also used for drillbacks to the application.

Also, if you use a fully-qualified name, for example, server.infor.com, in one instance, you must use it for all instances.

Note: The host name entered in Infor Ming.le must exactly match both the web server referenced in the Application URL specified in the Web rendering section of the CloudSuite Industrial installation and the host name specified on the server's security certificate. The URL names are case-sensitive.

Port #
Specify the port used by the CloudSuite Industrial web/utility server. Typically this is `80` for HTTP, and `443` for HTTPS.

Context
If any context is defined in the Infor Registry, it is shown as the default context when you select the **Application Name**.

Default Tenant
We recommend that you specify `Infor`.

4 Click **Save**.

5 Review the default values in these tabs:

- **Deployment Information**: The connection information you specified for this application is displayed.
- **Permissions**: Two default roles are created, Infor-SystemAdministrator and MingleAdministrator. Additional roles are automatically generated that match the default authorization groups in CloudSuite Industrial.

  Later in the configuration process, you will use the **Permissions** tab to configure user access to CloudSuite Industrial through Infor Ming.le.

- **Context/Utility Apps**: The default context apps that are included with your application are listed on this tab.

  See Context and utility apps that work with the ERP on page 62.

  You can add other context or utility apps here, including context apps that are unique to your application.

  By default, all the required applications are enabled and optional applications are disabled. You can enable or disable context applications at any time.

- **Custom Parameters**: Default custom parameters, if any exist, are displayed. You cannot edit the default name of the custom parameter.
- **Logical ID Fallback**: By default, no logical ID fallbacks are displayed.

Default values are generated when the application is created. Do not change the default values.

6 Click **Save**.

7 Verify that you can access the CloudSuite Industrial application from the App Menu.

8 Verify that you can log in to the CloudSuite Industrial app as the "sa" user.

Chapter 7: Configuring your application and ION to send and receive BODs

This section describes how to configure your application to communicate with ION. Integrations between this application and other applications use ION to send and receive BODs. For details about a specific integration, see the appropriate integration guide.

Configuring your application for ION

You must set up this application so that it can generate BODs and place them in a message outbox where ION can retrieve them.

You must also set up the inbound message configuration, so that BODs sent to this application can process those messages.

Verifying that the SQL Server no count option is not set

In order to receive all of the BODs from ION into CloudSuite Industrial, the no count option must be cleared in SQL Server Management Studio:

1   In SQL Server Management Studio, right-click on the CloudSuite Industrial database server name and select **Properties**.
2   Select the Connections page.
3   In the Default Connection Options section, clear the **no count** option.
4   Click **OK**.

Setting master data to standardized values

To ensure consistent master data between integrated products, use the ISO standard values where applicable.

You can map existing non-standard units of measure, currencies and countries to ISO values through these CloudSuite Industrial forms:

- **Currency Codes**
  Note: ISO currency codes are required for some integrations. ISO currencies are not defined as part of an initialized database and must be set manually.
- **Countries**
- **Unit of Measure**

Setting up a default configuration for each site

On the **Sites/Entities** form, specify a default **Configuration Name** for the site. You must create a configuration with this name, which will be mapped to this site record.

Alternatively, if you leave this field blank, you must create a configuration whose name exactly matches the local site name, including the capitalization. For example, if your local site name is `oh`, you must create a configuration named `oh`. You can use the Copy feature of the Configuration Manager utility to create this configuration.

Stop and start all Infor services after you create the configuration.

Setting up BOD replication and logical IDs, tenants, accounting entities, and locations in the ERP

Use these steps to configure information that is required for BOD replication in CloudSuite Industrial.

Note: After you perform these steps on one site, some information is replicated to the other linked sites.

1 If multiple sites on a CloudSuite Industrial intranet will send or receive BODs, make sure that replication is set up between the sites as specified in the *Infor CloudSuite Industrial Multi-Site Implementation Guide*. The sites must be replicating the Site Admin category to each other. On the **Sites/Entities** form at each site that will send or receive BODs, verify that all of the other sites are linked to this site.

2 On the **Intranets** form, to create a new intranet for Infor ION (bus), specify these values:

Intranet
Specify the name to identify the intranet, for example, `InforBUS`.

Description
Specify an appropriate description, for example, `Infor ION connection`.

External
Select this check box.

Transport
In this field on the **General** tab, specify `ESB`.

3 On the **Intranets** form, select the intranet used by your CloudSuite Industrial site and specify this information:

Transport
Specify **HTTP**.

Queue Server
Optionally, specify the name of your MSMQ Server. You only need to specify a special queue name here if your site names are not unique, or if the MSMQ is on a different machine than the utility server. The queue server name can encompass both the name of the machine and the prefixed names of the queues.

If this field is left blank, the default queue server names are used.

Tenant ID
To use the same tenant ID for all sites on this intranet, specify it here. You can also leave it blank here and specify the tenant ID on the local site records, or leave that field blank to use the default tenant ID value of **infor**. The tenant ID can be a maximum of 22 characters and must match the tenant ID used in ION for other connecting products. For more information about how the tenant ID is used with ION, see the *Infor Operating Service Administration Guide*.

4 On the CloudSuite Industrial utility server, specify configuration information on the **Replication** tab of the Service Configuration Manager utility:

- In the **Replicator/Inbound Bus Configurations** field, specify all of the configurations that can receive inbound or outbound messages from other sites on the intranet. The Replication Document Outbox form at each site collects outbound BODs for that site. The Replication Document Inbox form at each site collects inbound BODs for that site.
- In the **ReplQListener Queue Servers** field, set up a queue server name for every intranet in your system.

  Generally, the queue server name is set to **localhost\private$** which uses the standards private message queues named inbound and outbound on the utility server. However, if you have specified a **Queue Server Name** on the Intranets form, that name is used to build a path. For example, utilityserver3\private$\MyQueues results in the use of the queue names MyQueues_inbound and MyQueues_outbound.

Note: If you are upgrading from a previous version and you already have replication set up through a "bootstrap" site, it will still work as it did in the previous version. The **Replicator/Inbound Bus Configurations** field contains one site set as the Master Site, and the **ReplQListener Queue Servers** field has the **Default** field selected.

5 On the **Sites/Entities** form, create a logical "site" for ION:

Site
Specify a name to identify this site as your ION site, for example: **InforBUS**.

Site Name and Description
Specify an appropriate site name and description.

Type
Specify **Site**.

Intranet Name
Select the intranet you created in step 2.

From Site
On the **Site User Map** tab, specify the local site, for example, `oh`. The site name is used as the accounting entity in BODs.

User Name
Specify the user ID used to send replication documents to the CloudSuite Industrial outbox for ION to retrieve. This user must already be set up on the CloudSuite Industrial **Users** form at the local site. We recommend that you specify the repl_user here, if it is defined. Otherwise, specify a user with Full User editing permissions. Also, the Automation license module must be assigned to the user that you specify here.

6 On the **Sites/Entities** form, configure the local site, for example, `oh`, to generate or receive business object documents (BODs).

a Specify the **Message Bus Logical ID** for the site. This identifies the CloudSuite Industrial site to ION.

Specify the logical ID as `tenant.syteline.site` where *tenant* is the tenant ID, `syteline` is the application type, and *site* is the name of the local site, for example `infor.syteline.oh`. The logical ID must be all lowercase.

Note: The logical ID entered here must match the application type and name defined in the ION connection point for this CloudSuite Industrial site.

b Optionally, specify a **Tenant ID** for the local site. If no tenant ID is specified here or on the Intranets form, the default tenant ID value is `infor`.

7 At each site that is sending or receiving BODs, open the **Replication Rules** form and create a new rule. Specify this information:

Source Site
Specify the local site that you configured in Step 6.

Target Site
Specify the ION site that you created in Step 5.

Category
Specify `ESB`.

Interval Type
Specify any option except Transactional.

8 At each site that is sending or receiving BODs, open the **Replication Management** form and click **Regenerate Replication Triggers**.
Note: If you have multiple sites in one database, you only need to perform this step at one site.

Setting up information that will flow to other products

The values that you configure in CloudSuite Industrial - for example, customer, vendor or item master records, or system parameters – often depend on the application with which CloudSuite Industrial will exchange information. For more information, see the appropriate application integration guide.

Verifying BOD replication

To verify that replication is set up properly:

1 On the CloudSuite Industrial utility server, stop and start the Replication and Replication Queue Listener services.
2 In CloudSuite Industrial, open a form whose information is being replicated to ION. For example, the **Vendors** form information might be replicated.
3 Change a value and save the record. For example, you could change the vendor address.
4 Check the **Replication Document Outbox** form to see if a BOD was generated and marked as processed. In our example, the SyncSupplierPartyMaster BOD is generated.

   After CloudSuite Industrial is connected to ION, the BODs might be removed immediately from the outbox after ION retrieves them. In that case, open ION Desk and select **OneView** to verify whether the BOD was sent and processed.

Connecting the ERP to ION

A connection point must be set up for CloudSuite Industrial.

You can then set up and activate document flows that send BODs from the CloudSuite Industrial connection point to other applications' connection points, or that receive BODs from other applications' connection points.

Understanding connection points and document flows

You create connection points in ION Desk. Connection points provide the information that ION uses to connect to an application's message inbox and outbox. At least one connection point must be defined for each application instance that integrates to ION.

For each connection point, you select the BOD documents that can be sent or received by the application instance. These correspond to the BODs that are listed in BODs used in integrations with this application on page 105.

In an integration between two BOD-enabled applications, document flows are set up to define the BODs that flow between the application connection points.

A connection point can be reused multiple times in one or more document flows. You can also create connection points during the modeling of a document flow in the details section of the document flow elements. The connection points that are created during the modeling of a flow are added to the shared list of connection points, and they can be reused.

Some integrations with CloudSuite Industrial use a solution XML file to set up sample connection points and document flows. This file can be imported to ION to provide the basis for connection points and document flows.

See the section on ION Connect Modeling in the *Infor ION Desk User Guide* for additional information about connection points and document flows.

Using the Enterprise Connector in a hybrid environment

If you are using an on-premises version of CloudSuite Industrial, withInfor OS in the cloud, first see the "Enterprise Connector application connection points" section of the *Infor ION Desk User Guide - Cloud Edition*. Use that guide to create locations for your on-premises application and to download, install, and configure the Enterprise Connector in each of those locations.

Then follow the steps in this section to create your CloudSuite Industrial connection points, one for each site, and associate each connection point with a location. Use the appropriate integration guides to set up document flows between the ERP and other applications.

Creating an ERP connection point

Add a connection point for each instance of the application.

See the *Infor ION Desk User Guide* for more detailed information about this process.

1 In ION Desk, select **Connect > Connection Points**.
2 Click **Add** and select **Infor Application**.
3 Specify this information:

Name
Specify the CloudSuite Industrial site ID.

Description
Optionally, specify a description for the site.

Location
If this is a hybrid environment, and you have installed the Enterprise Connector, specify the location that you defined with the Enterprise Connector for the CloudSuite Industrial application.

See

Logical ID Type
Specify `syteline`.

Database Driver
Specify `SQL Server (Microsoft)`.

4 Select **Use Advanced Settings**.
5 Specify the CloudSuite Industrial application database connection details in the URL, including the host name, port, and database schema name. Other advanced settings are available.
6 Specify the user name and password to connect to the database.

7 Select **Delete Processed Messages** to immediately delete BODs from the CloudSuite Industrial **Replication Document Outbox** after ION processes them. Otherwise, the processed BODs remain in the outbox for the number of minutes specified in the **Outbox Cleaner Expire Time** field.

8 Expand the Advanced section at the bottom of the pane.

9 Under **Message Processing Preference in Outbox/Inbox**, select both **by Tenant** and **by Logical ID**.

The CloudSuite Industrial integration with ION uses a single IOBOX. However, CloudSuite Industrial uses multiple logical IDs, one per site. Thus, messages must be processed based on the logical ID.

10 Test and save the connection point.

Connection points are not activated separately. When you activate a document flow, the associated connection points are activated.

Defining BODs for the ERP connection point

1 In ION Desk, select **Connect > Connection Points**.

2 Select an existing CloudSuite Industrial connection point.

3 Click the **Documents** tab.

4 Click **Add** and specify all of the documents that can be sent or received by this CloudSuite Industrial instance (site).

The inbound and outbound BODs that are required for each CloudSuite Industrial integration with another Infor application are listed in [BODs used in integrations with this application](#) on page 105.

Add the BODS for integrations that you plan to implement. For "outbound" BODs, select `Sent from this application`. For "inbound" BODs, select `Received in this application`.

5 Save your changes.

You can also add custom document types.

See the *Infor ION Desk User Guide*.

Note: If you later remove a BOD from a connection point, and that BOD is used in a document flow, an error is reported in the document flow messages pane.

Using the Cloud Connector to connect to cloud applications

If you are using an on-premises version of CloudSuite Industrial, withInfor OS **also installed on-premises**, and you want to connect through Infor ION to an application in the Infor cloud, you must use a Cloud Connector.

See the *Infor ION Desk User Guide* for information about the Cloud Connector - either version 1 or version 2, depending on the cloud application. Use that guide to configure a cloud account and to configure a connection point of type `Infor Cloud 1.0` or `Infor Cloud 2.0` for the cloud application.

If CloudSuite Industrial is on-premises, but Infor OS is in the cloud, then the Cloud Connector is not needed. The Infor Cloud team will set up the connection points for Infor cloud apps.

Use the appropriate integration guides to set up document flows between the ERP and other applications.

Configuring document flows

You must create document flows in ION Desk in order to pass BODs between applications.

Setting up a document flow to Infor Ming.le to pass user and role information

Ensure that connection points are set up and a document flow is activated in ION Desk so that BODs are sent between CloudSuite Industrial and Infor Ming.le.

1 In ION Desk, verify that an Infor Ming.le connection point exists. You should have already set up the connection point when you completed the post-installation steps when you installed Infor OS. See the *Infor Operating Service Installation Guide*.

2 Ensure that the Infor Ming.le connection point is set up to send and receive these BODs:

Document	Receive in application	Send from application
Process.SecurityUserMaster	X	
Sync.SecurityRoleMaster	X	
Sync.SecurityUserMaster		X

3 In ION Desk, create a new document flow between the CloudSuite Industrial connection point and the Infor Ming.le connection point:

a Select **Connect > Document Flows**.

b Create a document flow called `erp_mingle`.

c Drag and drop three applications onto the flow and change the names to **MINGLE_1**, **ERP_1**, and **MINGLE_2**.
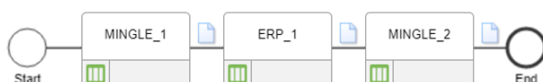
4 In the properties pane for each of the application boxes, click **Add** and add the appropriate connection points.

> **Note:** You only need to add one CloudSuite Industrial site as a connection point. The sites are all in one database, so basic user data is shared between all sites. However, if you want to ensure that updates to roles (groups) are also shared between all sites, you must set up a master site and shared user tables in CloudSuite Industrial. (See the *Infor CloudSuite Industrial Multi-Site Planning Guide – Cloud Edition.*) If you don't want to use a master site and shared user tables, then you must include all of the CloudSuite Industrial site connection points in this document flow.

5 Click the document icon between **MINGLE_1** and **ERP** and ensure that it lists this document:
- Sync.SecurityUserMaster

6 Click the document icon between **ERP** and **MINGLE_2** and ensure that it lists these documents:
- Process.SecurityUserMaster
- Sync.SecurityRoleMaster

7 Save your changes.

8 Activate the document flow.

9 Open CloudSuite Industrial from the App menu.

10 In the **Replication Document Manual Request Utility** form, select the Sync SecurityRoleMaster BOD. Select **Initial Load** and click **Process**. This publishes the security roles from CloudSuite Industrial, which are sent to Infor Ming.le. The Infor-SystemAdministrator group fromCloudSuite Industrial is synchronized with the Infor-SystemAdministrator role in Infor Ming.le.

For information about these BODs, see User and role BOD usage on page 89.

Configuring other document flows between applications

Usually, document flows are configured and activated in conjunction with integrations between CloudSuite Industrial and another application. In that case, skip this section and follow the steps in the appropriate integration guide. However, if you want to send BODs to another ION-enabled application but there is not an appropriate integration guide, you can follow these general steps. See the *Infor ION Desk User Guide*for more information

1 Define a new document flow that includes connection points for both CloudSuite Industrial and the other application.

2 Define the documents that flow between the applications, and the direction that they flow.

3 Save the document flow.

4 Activate the document flow.

Configuring the Infor Ming.le message listener

The Infor Ming.le message listener automatically forwards all BODs for specified verbs to Infor Ming.le. The Infor Ming.le message listener must be configured and activated in order to view drillbacks from your application in Infor Ming.le.

If Infor OS is on-premises, you should have configured the listener as part of the post-installation steps in the *Infor Operating Service Administration Guide*.

If Infor OS is in the cloud, the listener is configured by the Infor Cloud team.

Ensure that the listener is activated in ION Desk.

See the *Infor ION Desk User Guide* or *Infor ION Desk User Guide - Cloud Edition* for information about message listeners.

Publishing BODs

This section provides a general description of how to publish, or generate, BODs from CloudSuite Industrial, and how to verify that data is flowing out of your application into ION.

For the steps to publish BODs for a specific integration, see the appropriate integration guide.

When you publish BODs in CloudSuite Industrial, they are placed in the **Replication Document Outbox**, where ION can retrieve them. The published BODs are then available to any application that subscribes to the BODs through ION. Products can subscribe to BODs either through a document flow or through a listener.

Starting products and services

Before publishing BODs from CloudSuite Industrial, start these products, services and processes if they are not already running:

- CloudSuite Industrial
- Other products with which you are communicating through Infor ION
- ION Service

  Use the ION Grid Management user interface to verify that the ION Service is running. See the *Infor ION Grid Administration Guide.*

Publishing initial data

During normal processing, BODs are automatically generated (published) when a user makes a data change or completes a transaction. However, when you start a new integration with another application,

you must manually publish BODs that pass the current set of data from your application to another application, so that the base systems are synchronized. The BODs are placed in the **Replication Document Outbox**, from which ION retrieves them and passes them to the other application.

To publish initial ERP master and transaction data into BODs that are placed in the **Replication Document Outbox**:

1   In CloudSuite Industrial, open the **Replication Document Manual Request Utility**.

2   Select **Initial Load** so that the data is processed as an insert, that is, as new data.

3   Select the BODs to include in the data load. The BODs you select are different for each integration. See the appropriate integration guide for the BODs to load.

    Note: If you select multiple process BODs at one time, the BODs are processed in alphabetical order. However, you must load certain BODs in a specific order, to prevent errors in the integration due to missing data. See BOD dependencies on page 37.

4   Click **Process** to process the selected BODs.

5   Continue to select and process BODs until all of the BODs are processed that are required for a specific integration.

6   Repeat this process at each CloudSuite Industrial site.

When you use this utility to publish BOD data, the current date is used for all Status/EffectiveDateTime elements.

After the initial data load, CloudSuite Industrial automatically publishes BODs whenever users change certain data or when certain transactions occur in CloudSuite Industrial. For a list of the events that generate BODs, see Business events that generate outbound BODs on page 94.

BOD dependencies

Be aware that you must load these BODs in this order to prevent errors in the integration due to missing data:

- CodeDefinition
- ItemMaster
- Location
- CustomerPartyMaster
- BillToPartyMaster
- ShipToPartyMaster
- SalesOrder
- Shipment
- Invoice

Turning off BOD replication to reduce traffic

CloudSuite Industrial can generate hundreds of BODs per day. By default, a BOD is generated whenever the BOD trigger occurs. For example, a BOD is generated every time a user creates a new customer order, or every time an invoice is created.

Unless you have integrations set up where other applications will receive the BODs, there is no need to generate most of the BODs. Use these steps to stop publishing all unnecessary BODs.

1 If your system is not integrated with Infor Ming.le or any other application via BODs, go to the **Replication Rules** form, filter for the `ESB` rule, and select **Disable Replication**. This disables all BOD replication.

2 If your system is integrated via BOD with some other products, leave the ESB rule in Step 1 enabled. Use these steps to only replicate BODs for the integrations you are using:

   a Go to the Infor Support Portal site and download the script from KB 1964331.

   b Run the script on each CloudSuite Industrial application database. This script enables users to turn off replication of specific BOD triggers.

   c Open the **Replication Categories** form.

   d Specify `ESB` as the Category and click the filter.

   e To stop publishing a BOD, update its `Trigger*` record in the ESB replication category. Select the appropriate **Skip Method** check box.

   This example shows how to turn off the Sync.ItemMaster BOD:

	Table Or Function	Object Type	Filter	Skip Insert	Skip Update	Skip Delete	Skip Method	
41	TriggerInventoryHoldSyncSp	SP		☐	☐	☐	☐	
42	TriggerInvoiceSyncSp	SP		☐	☐	☐	☐	
43	TriggerItemMasterAcknowledgeSp	SP		☐	☐	☐	☐	
44	TriggerItemMasterProcessSp	SP		☐	☐	☐	☐	
45 ▸	TriggerItemMasterSyncSp	SP		☐	☐	☐	☑	
46	TriggerJournalEntrySyncSp	SP		☐	☐	☐	☐	
47	TriggerLCLTradeStatisticsEUIntrastatSyn…	SP		☐	☐	☐	☐	
48	TriggerLCLTradeStatisticsEUSalesSyncSp	SP		☐	☐	☐	☐	
49	TriggerLocationSyncSp	SP		☐	☐	☐	☐	
50	TriggerOpportunityDeleteSyncSp	SP		☐	☐	☐	☐	
51	TriggerOpportunitySyncSp	SP		☐	☐	☐	☐	
52	TriggerPayableTrackerSyncSp	SP		☐	☐	☐	☐	

Select **Skip Method** for any BOD triggers that you are not using, with these exceptions:

- See the appendixes of this guide for a list of the BODs required to integrate with Infor OS components such as Infor Ming.le and IDM. Leave the triggers for those BODs enabled.
- See the appendixes of this guide for a list of the outbound BODs required to integrate with any other products that you are using. Leave the triggers for those BODs enabled.
- Also leave these triggers enabled:
  - FlushBusCacheForSiteSp
  - FlushBusParmsForSiteSp
  - SendEntireBodSp
  - TriggerBODConfirmSp
  - TriggerPulseNotificationSyncSp

3 If you later integrate CloudSuite Industrial with additional applications via BODs, you must turn on the triggers for the required BODs when you integrate with the other applications.

See the appendixes of this guide, or the appropriate integration guide, for the list of outbound BODs that are required for each integration.

Verifying the ION configuration

Use these tasks to verify that the connections are set up correctly.

Verifying that BODs are published

1 Use the information in Business events that generate outbound BODs on page 94 to determine what user actions generate certain BODs.

2 Perform those user actions in CloudSuite Industrial.

For example, information from the **Vendors** form is replicated through the SyncSupplierPartyMaster BOD, so you could change the vendor address and save your change.

3 Check the **Replication Document Outbox** form in CloudSuite Industrial to see if a BOD was generated and marked as processed.

In our example, the SyncSupplierPartyMaster BOD is generated.

Depending on settings, the BODs might be removed immediately from the outbox after ION retrieves them. In that case, you can check ION Desk OneView to verify whether the BOD was sent and processed.

4 In ION Desk, review the messages by using ION Desk OneView or other ION Desk functions.

If messages are not displayed in ION Desk, check the CloudSuite Industrial **Replication Document Outbox** form to see if the BODs were generated but not retrieved by ION.

5 If messages are not flowing, review the XML data for the BOD.

Verifying that ION receives data

To verify that ION is receiving BODs from CloudSuite Industrial, monitor these areas in ION Desk:

- Select **Connect > Active Connection Points** to show the message queue counts.
- Select **OneView** to show individual messages, if they are enabled.
- Select **Connect > Error BODs** to see if any errors were reported.

If you encounter problems, see Data is not flowing properly on page 92.

Verifying the data flow between applications

After you create and activate document flows to other applications, you can check the message inbox area of the other applications, to ensure that data is flowing between the systems. See the other application's documentation to determine how to find the message inbox.

Chapter 8: Configuring user access to your application through Infor Ming.le

Users, roles, and person IDs are initially defined in Infor Ming.le and shared with all of the other applications that run through the Infor Ming.le portal. Roles and some user information can later be modified in CloudSuite Industrial.

Users and roles

Because Infor Ming.le is the system of record for users, you must set up users in Infor Ming.le. The users are then synchronized through BODs to other BOD-enabled applications in the Infor Ming.le portal. After the users are synchronized to your application, you can continue the user setup in your application.

You can perform these user management tasks in Infor Ming.le:

- Create users, including manual import of users
- Update users
- Delete or deactivate users
- Reset passwords
- Monitor recent user activity and mobile sessions
- Manage sessions

How Infor Ming.le users and roles work with ERP users and groups

When you create or update a user in Infor Ming.le, the information associated with that user is used to automatically set up some user information in CloudSuite Industrial. This association is handled through Sync SecurityUserMaster BODs that are passed through ION.

CloudSuite Industrial groups are mapped to security roles inInfor Ming.le. The list of available CloudSuite Industrial groups must be updated and maintained in CloudSuite Industrial – not in Infor Ming.le - because the types of roles and the names of roles are dependent on the requirements of CloudSuite Industrial. After the groups are set up in CloudSuite Industrial, they are synchronized to Infor Ming.le through the Sync SecurityRoleMaster BOD, so that Infor Ming.le is aware of all possible roles. The ability of security roles to perform specific operations and access specific data is enforced by CloudSuite Industrial, not Infor Ming.le.

Infor Ming.le provides a default Infor-SystemAdministrator role that allows for full access to all applications that are linked to Infor Ming.le. CloudSuite Industrial has an Infor-SystemAdministrator group or role that allows access to all CloudSuite Industrial screens. When a user who has the Infor-SystemAdministrator role in Infor Ming.le is synchronized to CloudSuite Industrial, that user automatically has access to all CloudSuite Industrial forms.

Configuring user access to the ERP through Infor Ming.le

You must add other users in Infor Ming.le before they can access CloudSuite Industrial through Infor Ming.le.

1 From the Infor Ming.le User Menu, select **User Management**.
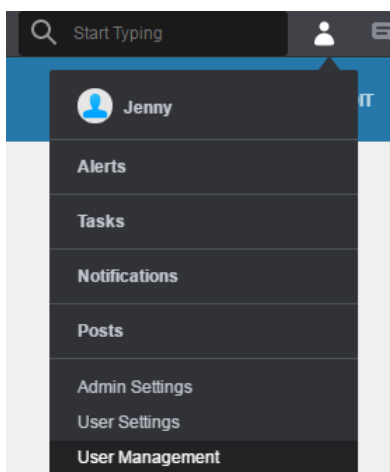
2 From the menu on the left side, select **Security Administration > General Settings**.

3 Click **SCIM Configuration**.

4 Configure these general properties to ensure that new or changed user information is synchronized with other applications:

Publish Security User Master BOD
Select this option to publish the SecurityUserMaster BOD when a user's details are changed in Infor Ming.le. This synchronizes the user details with other applications that subscribe to the BOD.

User Synchronization Interval (min)
If you selected the **Publish Security User Master BOD** option, specify the interval, in minutes, at which you want to publish the updated BODs to synchronize users.

5 To set up system administrator access for your account between Infor Ming.le and CloudSuite Industrial, add the Infor-SystemAdministrator role to your account:

a In Infor Ming.le, select **User Management** from the user menu.

b Select your system administrator account and click the Details icon.

   c Click the **Security Roles** tab.

   d Click **+** and add the `Infor-SystemAdministrator` role.

   e Click **Add**.

6 On the **Users** page, follow these general steps to add users. See the Infor Ming.le online help for more information.

   Note: If your application already has legacy users set up, you can import the users into Infor Ming.le from a .CSV formatted file. See the *Infor Operating Service Administration Guide*. To temporarily disable user synchronization before the import, clear the **Publish Security User Master BOD** option and select `Do not enable` for the **Enable SCIM Parameter** configuration option. Then select **Allow Import**. The **Import** option is then enabled on the **Manage > Users** page.

   a Click **+** to add a user.

   b Clear the **Send Invitation** option so that you can send the invitation later, after you have completed the user setup.

   c Save your changes.

   d Click the details icon 🡒 to view details for the user.

      Note: The IFS Person ID will be used to synchronize personnel records with CloudSuite Industrial. It is generated automatically and should not be changed.

   e In the **Security Roles** tab, assign the user to one or more roles, and click **Add & Close**.

      In order for users to access CloudSuite Industrial through Infor Ming.le, they must be assigned at least one CloudSuite Industrial role.

      You might not see all of the application-specific roles that you need. If you do not see the roles you need, those roles can be added and assigned later from within CloudSuite Industrial.

   f Save your changes.

      The information is sent through BODs to CloudSuite Industrial after you save your changes.

7 Open CloudSuite Industrial from the App Menu.
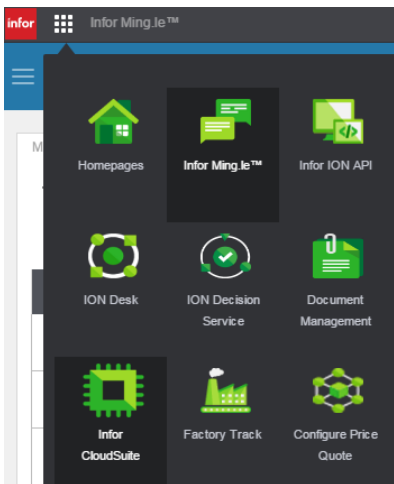
8 If prompted, select a configuration, which is linked to one of your CloudSuite Industrial sites. If you plan to use one site as a master site, select the configuration for the master site.

9 In CloudSuite Industrial, select **Form > Open** and open the **Users** form.

10 In the **Users** form, click the filter toolbar button to see all of the users who were defined in Infor Ming.le.

11 Update the information for each user to specify additional required or optional fields that are not shared with Infor Ming.le. See the CloudSuite Industrial online help for more information.

a After you add your users in Infor Ming.le, verify that the user information has been sent through BODs to CloudSuite Industrial. This information should be shown in the CloudSuite Industrial **Users** form:

- The user name (email address) that you set for each user in Infor Ming.le is shown in the **User Name** field.
- The **IFS Person ID** that was set for each user in Infor Ming.le is shown in the **Workstation Domain/ID** field.

These values should not be changed.

b Assign the user's form editing permission level, PO requisition limit, and multi-site group authorization, as needed. See the online help.

c Set the user's password for the CloudSuite Industrial web client or click once client.

(This is not the same password that is used to log into the Infor Ming.le portal. The Infor Ming.le portal password uses the IFS ID tied to the Workstation ID, so no additional user login is required to access the CloudSuite Industrial application in Infor Ming.le.)

When users access CloudSuite Industrial through the web client or the click once client rather than through Infor Ming.le, they must know this password.

d Ensure that the email address that you set for each user in Infor Ming.le is shown in the **Primary Email Address** on the **Users** form. This value should not be changed. We recommend setting these additional fields for the user:

e In the **Groups** tab, click in the grid and select **Actions > New** to add a new row.

f   Click in the **Group Name** field to view the list of groups. Add any groups to which this user should belong. If you were able to assign the groups as security roles for the user in Infor Ming.le, you will see them listed here. Otherwise, you can assign the additional groups here.

g   Click **User Modules** and assign the appropriate license modules to the user.

By default, users who are originally created in Infor Ming.le and sent through BODs to CloudSuite Industrial are assigned a Transactional license in CloudSuite Industrial. This is handled through the **Admin License Module Name** setting in the **Process Defaults** form.

Note: Some modules such as Service and QCS are separately licensed. See Configuring users for separately licensed modules on page 45.

h   Save your changes.

12 In Infor Ming.le User Management, select the user's record, and then select **Action > Resend Invitation**.

The user receives a notification with a link that provides user-specific access to Infor Ming.le and to CloudSuite Industrial.

Configuring users for separately licensed modules

If your product includes separately licensed modules such as Quality Control (QCS), Service, or Tax Interface, follow these steps to ensure that users have access to those modules.

1   Log into CloudSuite Industrial.

2   In the **Optional Modules** form, ensure that **Enabled** is selected for the modules for which you have purchased licenses.

3   In the **Users** form, click the filter button on the toolbar to show all defined users.

4   In the grid on the left, select a user who needs licensing for an optional module.

5   Click **User Modules** to display the license modules assigned to the current user.

6   To add a license for the user, click the Create button on the toolbar.

7   In the **Module Name** field, select a license module for the user, for example, `ServiceManagement` for the Service module or `QualityControlSolution` for the QCS module.

Required: For business partners in a demo environment, your administrative user must be licensed for these modules:

- QualityControlSolution
- ServiceManagement
- TaxInterface

8 Click the Create toolbar button again to add another license module for the user, and repeat until all licenses for that user are added.

9 Save your changes.

10 Repeat these steps for any other users that must be licensed for the optional modules.

Configuring additional system administrator access to the ERP through Infor Ming.le

1 In Infor Ming.le, add the Infor-SystemAdministrator role to the appropriate users.

After you update the user information, a BOD is sent from Infor Ming.le to CloudSuite Industrial to synchronize the system administrator users with this role.

2 Assign additional system administration roles, either in Infor Ming.le or in the CloudSuite Industrial **Users** form, to the appropriate users.

Setting up additional roles or groups

Predefined security roles (groups) are used in both the CloudSuite Industrial application and Infor Ming.le. If you need to create security roles groups that are specific to your company for use with CloudSuite Industrial, follow these steps.

1 In CloudSuite Industrial, use the **Groups** form to create any additional groups (security roles) that you need in order to access specific forms, programs, and logical folders.

Your updates to the list of groups/roles are then sent to Infor Ming.le through the Sync.SecurityRoleMaster BOD. The information from this BOD is used in Infor Ming.le to automatically create a matching security role.

2 Associate the security roles with users. This can be done in either Infor Ming.le or CloudSuite Industrial:

- To associate security roles with users in Infor Ming.le:
  a Select **User Management**.
  b Select a user.
  c Click the Details icon.
  d In the **Security Roles** tab, click **+**.
  e Select the roles you want for the user, and click **Add & Close**.

Infor Ming.le generates a Sync.SecurityUserMaster BOD for each user to which a role was added. It sends the BOD to all applications that run in the Infor Ming.le portal. CloudSuite Industrial uses the information from this BOD to associate the role or group with the CloudSuite Industrial user record.

- To associate groups (roles) with users in CloudSuite Industrial, go to the **Users** form, filter for the user, and use the grid on the **Groups** tab to associate the user with the appropriate groups.

  CloudSuite Industrial generates a Process.SecurityUserMaster BOD which is sent to Infor Ming.le. Infor Ming.le then sends another BOD to all applications that run in the Infor Ming.le portal, to update the user records in all applications.

Note: Do not manually create a security role in Infor Ming.le that does not exist in CloudSuite Industrial.

If you delete a role in either CloudSuite Industrial or Infor Ming.le, you must also delete the corresponding role in the other application.

About accounting entities

Accounting entities are set up through BODs that are sent by your application to Infor Ming.le.

After the accounting entities exist in Infor Ming.le, you can assign users and groups to them. Infor Ming.le then sends BODs to your application with the information to be synchronized.

The application is the system of record for accounting entities.

About locations

Locations are set up through BODs that are sent by your application to Infor Ming.le.

After the locations exist in Infor Ming.le, you can assign users and groups to them. Infor Ming.le then sends BODs to your application with the information to be synchronized.

The CloudSuite Industrial application is the system of record (SOR) for locations.

Verifying user access

To verify that users were created properly and can access the appropriate forms in CloudSuite Industrial:

1 Log into Infor Ming.le portal as a user. The user must belong to a role that is defined as an administrator in both Infor Ming.le and CloudSuite Industrial.

2 From the App Menu, open CloudSuite Industrial.

3 If prompted, select the appropriate configuration and click **OK**. The application session is opened.

4 Open the **Users** form and verify this information for several users:

- **User Name** matches the Email address in Infor Ming.le.
- **Workstation Domain/ID** matches the IFS Person ID in Infor Ming.le.
- Groups that you assigned to this user are set as roles in Infor Ming.le.

5 Sign out of the application and Infor Ming.le. Close the browser.

6 Log into Infor Ming.le and CloudSuite Industrial as a non-administrative user who has access.

7 Ensure that you can open any forms that the user has authorization to open, and that you cannot open any forms for which the user is not authorized. as a non-administrative user who has access to both

Automatic login and selecting configurations

When users first access CloudSuite Industrial through Infor Ming.le, they see a dialog box. Because of Single Sign On, the user ID and password are not requested; however, users must select a CloudSuite Industrial configuration. The **Use Workstation Logon** option on this dialog box is hidden and is automatically selected for the user.

Subsequent logins depend on how the user signs in and out of the application and Infor Ming.le:

- If users sign out of the CloudSuite Industrial application before exiting Infor Ming.le, then the next time they open the CloudSuite Industrial application, they must select a configuration.
- If users close the browser without signing out, or exit Infor Ming.le without signing out of CloudSuite Industrial, then the next time they open the CloudSuite Industrial application, the previous configuration is automatically selected and no dialog box is shown. To switch to a different configuration, the user can select **Form > New Sign In**.

Setting up distribution groups

Optionally, you can set up distribution groups in Infor Ming.le for CloudSuite Industrial users who require access to ION in order to view or update information or to troubleshoot errors.

See the *Infor Operating Service Administration Guide*.

Service accounts

The Infor Ming.le **Service Accounts** page shows accounts that have been created to allow applications a resource owner grant to contact the Infor Authorization Service to obtain a token for use in making API requests.

Chapter 9: Setting up ION APIs for your product

Use this information to set up the APIs.

Using ION APIs to consume Mongoose REST services

The ION API service is a broker for Infor applications that use web service APIs. The service handles synchronous communications to application specific APIs, versus asynchronous BOD communications that conform to the OAGIS standard.

Currently CloudSuite Industrial does not require any configuration of ION APIs. However, you can configure any Mongoose-based application running in Infor Ming.le to allow calls to the Mongoose REST service through ION API.

Settings in the IDO Request Service web.config file determine whether the Mongoose REST service is enabled for use with ION API or is using the traditional Mongoose token exchange.

For more information about authenticating against ION API to consume Mongoose REST web services, see the *Infor Ming.le ION API User Guide*.

For more information on consuming Mongoose REST web services and which methods are available, see *Mongoose REST Web Services* (on the Mongoose portal) or use the Open API documentation that is available in this area: `https://`*`mongoose_application_server`*`/IDORequestService/` `MGRestService.svc/api-docs/` where *mongoose_application_server* is your server.

Chapter 10: Configuring workflows and ION messages for the ERP

You can configure workflows and ION messages for your application.

ION messages

This table shows the types of ION messages:

Type	Description
Alert	In ION Event Management, you can monitor business events and create alerts when exceptions occur. BODs are published by applications when business events occur. Monitors are processes that run in the Event Management engine and evaluate these BODs by applying predefined business rules: comparison conditions, value change conditions, and document overdue timer based rules.
	When exceptions are detected, these are reported as alerts to the business users. The distribution list of alerts is included in the monitor definition. Users can receive alerts on their homepages or by email.
Task	A task is a workflow step that creates an entry in a user's task list. The workflow stops until the user has completed this task, and then the next step in the workflow begins.
Notification	A notification is a workflow step that creates a notification in the user's task list. The workflow continues after the notification is sent to a user. You can configure notifications to perform these actions: • Send a message to inform the user that a certain point in the workflow has been reached. • Optionally, include notes from previous steps. • Display workflow parameters and structures. A distribution list can be defined for notifications.

Type	Description
Alarm	The ION Alarms mobile application for Android devices is available to create monitors, called alarms.
	In ION Desk, the business administrator can create alarm templates.
	After the templates are activated, mobile users can use the templates to create alarms in the ION Alarms mobile application. The alarm creator can specify the distribution list for the resulting alert. See the *Infor ION Alarms Mobile Application User Guide*.
	The users receive the alert on their Infor Ming.le page, in the Infor Ming.le mobile application, or by email.

About alerts sent from the ERP to Infor Ming.le

CloudSuite Industrial can send PulseAlert BODs to ION that can be displayed as alerts in Infor Ming.le, as shown in this process flow:
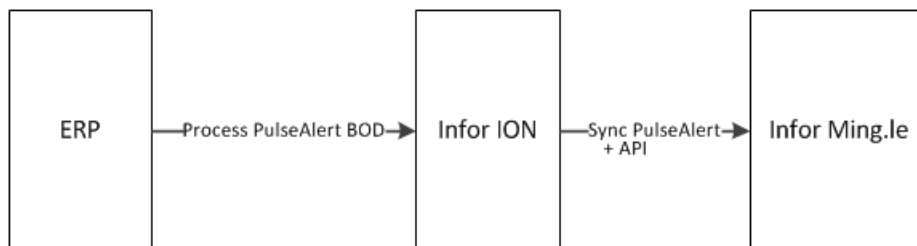
A Process PulseAlert BOD is generated when a business event associated with one of these publications occurs in CloudSuite Industrial:

Publication	Description	Where defined
CustomerCreditHoldAlert	A customer was put on credit hold	Event: IdoOnItemUpdate, Seq 15
CustomerInteractionFollowUpAlert	A follow-up is needed to a customer interaction. Key Value 1 defines the customer number.	Event: CustomerInteractionFollowupAlert, Seq 1
CustomerOrderCreditHoldAlert	A customer order was put on credit hold	Event: IdoOnItemUpdate, Seq 16
CustomerShipmentAlert	An order was shipped to a customer (for specific orders/customers)	Event: IdoOnItemUpdate, Seq 17

Publication	Description	Where defined
DCShopFloorTransactionErrorAlert	A specified number of Data Collection shop floor transaction errors occurred. Key Value 1 defines how any errors must be generated before the user receives an alert	Trigger on dcsfc_mstlup
JobMaterialCostAlert	The quantity issued against a job is more than required and the total material cost (actual) of the job exceeds the required cost by a certain percent (tolerance) set by the user	Trigger on jobmatl_mstlup
JobOperationHoursAlert	Labor hours for a job were more than estimated	Trigger on jobroute_mstlup
JobOverProductionAlert	The completed quantity of a job is greater than the released quantity	Trigger on job_mstlup
JobProjectedLateForCustomerAlert	A job is projected to be late for a specified customer. Key Value 1 is the customer number.	Trigger on job_sch_mstlup
LateOrderShippingAlert	At least one open order line for a customer has a due date prior to the current date. Key Value 1 is the customer number	Event: LateOrderShippingAlert, Seq 1
LeadAssignedAlert	A lead is assigned to a salesperson	Event: IdoOnItemUpdate, Seq 19
LockedUserAlert	A user is locked out	Trigger on UserNameslup
OpportunityDueAlert	An opportunity is due	Event: OpportunityDueAlert, Seq 1
OverBudgetAlert	The specified account's actual amount is above budget for the current fiscal period. Key Value 1 is the account number, and Key Value 2 is the percentage over budget that triggers an alert	Event: OverBudgetAlert, Seq 1
ProjectedLateShipAlert	An order line is projected to ship late. Key Value 1 is the customer number.	Event: IdoOnItemUpdate, Seq 18

Publication	Description	Where defined
ProspectInteractionFollowUpAlert	A follow-up is needed with a prospect. Key Value 1 is the prospect ID.	Event: ProspectInteractionFollowUpAlert, Seq 1
ScheduledMaintenanceAddedAlert	A scheduled maintenance task is added for a resource. This alert is used only with the Molding Industry Pack.	Trigger on MO_resource_maint_mstIup
ScheduledMaintenanceAlert	A scheduled maintenance task has been changed from Planned to Scheduled for a resource. This alert is used only with the Molding Industry Pack.	Event: ResourceMaintenanceScheduleUpdateStatus, Seq 1
TransactionAmountAlert	The amount of a transaction for a specified account is over the specified amount. Key Value 1 is the account number. Key Value 2 is the amount to which transactions should be limited.	Event: TransactionAmountAlert, Seq 1

CloudSuite Industrial users can subscribe to the appropriate publications. Then, when an alert occurs and a BOD is generated, the email addresses for all subscribers are included in the BOD.

The email address that is used in the BOD is determined by the **Email Type Description** field on the **Users** form. If an address is specified where the **Email Type Description** is set to PersonID, then the email address that is associated with the PersonID type is used. If no PersonID type is found, then the address in the **Primary Email Address** field is used, as shown in this example:

If neither of these areas are populated, then a BOD is not sent.

ION attempts to match the email address from the BOD with a PersonID or primary email address that is defined for a user in Infor Ming.le, so that it can pass along the alert. If a matching address is found, and if the user has the appropriate Infor Ming.le permissions, the alert is displayed on the user's Alerts panel in Infor Ming.le.

This is the general process flow:
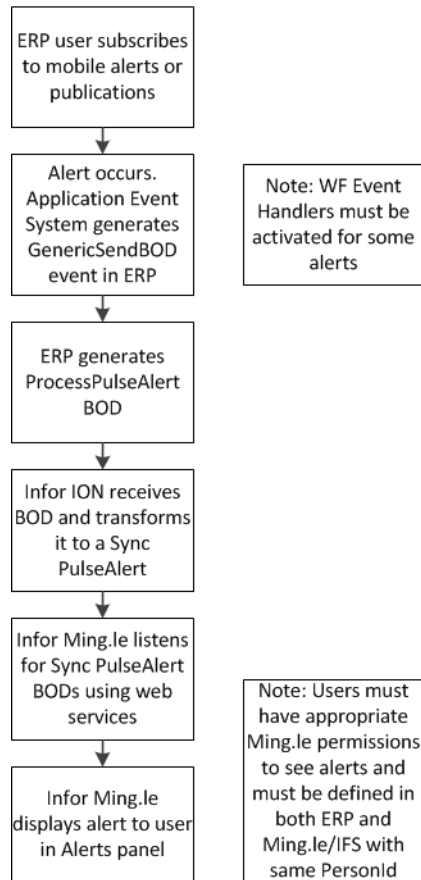
Configuring monitors for alerts

1 Configure CloudSuite Industrial to send alerts.

    a In the **Process Defaults** form, set **ION Pulse Interface** to `1`.

    b For publications (alerts) that have associated event handler sequences, activate the sequences so that the BOD will be sent when the events fire. In the **Workflow Event Handler Activation** form, select the appropriate event and sequence, and select **Active for this Site**.

       See the list of publications and their associated event handler sequences in About alerts sent from the ERP to Infor Ming.le .

    c CloudSuite Industrial users must subscribe to the appropriate publications (alerts) from the list above, through either the **Mobile Alerts** form or the **Publication Subscribers** form.

    d Set up CloudSuite Industrial users with either a PersonID email address or a primary email address, or both. In the **Email Addresses** tab on the **Users** form, add a record to the grid where **Email Type Description** is set to `PersonID` and an email address is assigned. You can optionally set the **Primary Email Address** to another email address for the user.

       See Person IDs .

2 Configure ION to process alerts from this application.

Ensure that the Process PulseAlert BOD is included in the list of BODs that can be sent from the CloudSuite Industrial connection point.

a   In ION Desk, select **Connect > Connection Points**.

b   Select the Infor Ming.le connection point and add Process.PulseAlert in the **Documents** tab if it does not exist.

Through an internal API, ION passes the alert to Infor Ming.le as a Sync.PulseAlert BOD. See the *Infor ION Desk User Guide*.

3 Configure Infor Ming.le to display alerts for this application.

Set up Infor Ming.le users with the appropriate roles to access tasks and alerts. See information about configuring user access for tasks and alerts in the *Infor ION Desk User Guide*.

In addition, the value in the Infor Ming.le/IFS **Person ID** field must match the **Workstation/Domain ID** field for the same user in CloudSuite Industrial, and the**User Name** field in Infor Ming.le must match either the PersonId email address or Primary email address for the same user in CloudSuite Industrial. This is handled automatically if you set up users first in Infor Ming.le/IFS and then use SecurityUserMaster BODs to populate the user records in CloudSuite Industrial, as described in User and role BOD usage on page 89.

Configuring workflows for tasks and notifications

See the *Infor ION Desk User Guide* for detailed instructions on some of these steps.

1 Configure this application to send tasks and notifications.

2 Configure ION to process tasks and notifications from this application.

3 Configure Infor Ming.le to display tasks and notifications for this application.

Other workflow options

In addition to the ION workflow features, CloudSuite Industrial has a built-in event and workflow feature called the Application Event System (AES). There might be times when you want to use AES instead of the ION workflow features.

Use AES when you need to handle any of these tasks with no coding:

• Capture what is happening inside the application and take action on it. ION can only capture events that consist of BODs being transmitted.

• Suspend an update within the application and wait for approval. The resulting workflow can be routed out to ION and back in the UI if desired, but ION cannot suspend a transaction.

• Perform automated processing, like inserting orders, updating customers, etc. In AES, you can select any IDO for any of these operations from drop-downs, and update, insert, delete, or query without having to write code.

Use ION when you are orchestrating interactions between applications via BODs.

You can use the two systems together in a variety of ways as well-AES can send and respond to the receipt of ION BODs.

Chapter 11: Verifying drillbacks to the ERP

Infor Ming.le users can share screens and business data in some ION-enabled products that are integrated with CloudSuite Industrial. The screens and business data can include embedded drillback links to CloudSuite Industrial. If a screen or business data is associated with a BOD that was sent from CloudSuite Industrial, and the screen or data has an associated drillback link, then users can click the link to view the screen that has the supporting information for the source transactions.

For example, you might have a Homepage widget in Infor Ming.le that draws its data from the CustomerPartyMaster BOD in CloudSuite Industrial. If the user selects the drillback option from that widget, it opens the **Customers** form in CloudSuite Industrial.

A drillback link can be defined for each type of BOD noun, for example, SalesOrder or ItemMaster. The link is configured to open a specific CloudSuite Industrial screen for that noun. Not every BOD noun has an associated drillback view in CloudSuite Industrial.

Drillbacks are included in the package when you add the CloudSuite Industrial application to Infor Ming.le.

Available drillbacks

This table lists the views that are currently available and the CloudSuite Industrial form that is launched:

BOD Noun	Drillback view	CloudSuite Industrial form
BillToPartyMaster	BillToPartyView	Customers
ContactMaster	ContactMasterView	CustomerSalesContactCrossReferences
CustomerPartyMaster	CustomerView	Customers
CustomerReturn	CustomerReturnView	RMAs
InventoryAdjustment	AdjustmentOrderView	MaterialTransactions
ItemMaster	ItemView	Items
PayFromPartyMaster	PayFromPartyView	Customers
Person	EmployeeView	Salespersons
PurchaseOrder	PurchaseOrderView	PurchaseOrders

BOD Noun	Drillback view	CloudSuite Industrial form
Quote	QuoteView	Estimates
ReceiveDelivery	ReceiptView	MaterialTransactions
RemitToPartyMaster	RemitToPartyView	Vendors
Requisition	RequisitionView	PurchaseOrderRequisitions
SalesOrder	SalesOrderView	CustomerOrders
ShipFromPartyMaster	ShipFromPartyView	Vendors
Shipment	ShipmentView	MaterialTransactions
SupplierPartyMaster	SupplierView	Vendors

Loading the BODs that are used in drillbacks

In order to use these drillbacks, you must perform an initial load of the BODs listed in "Available drillbacks," using the **Replication Document Manual Request Utility** in CloudSuite Industrial.

See Publishing initial data on page 36.

Verifying a drillback

Drillbacks are displayed in the Infor Ming.le user interface as links that open CloudSuite Industrial to a specific screen filtered for specific results. For example, an Infor Ming.le search result, alert, or share can include a link to the form with a reference to specific CloudSuite Industrial data.

To verify that the drillbacks are working:

1 From the App menu, open CloudSuite Industrial.

2 Open a form that has a drillback, for example, **Customers**.

   Note: The user interface does not indicate whether a screen has a drillback. In order for a screen to have a drillback, a drillback must be configured and a business context message must also be sent. See Available drillbacks on page 57 and Understanding business context messages on page 60.

3 Display the information that you want to share, for example, the record for a particular customer.

4   Click the Share icon on the Infor Ming.le screen.

5   On the Share overlay, verify that the drillback icon is displayed, add a comment, and click **Share**.

6   In the Infor Ming.le feed, find the message that contains the drillback icon, and click the drillback to verify that it is working.

Chapter 12: Configuring context apps and utility apps that are used with the ERP

On the right side of the Infor Ming.le page is a collapsible panel that hosts a series of Infor Ming.le context and utility applications. These are mini applications that provide information at a glance.

Context apps subscribe to information published by the application frame and display relevant content only when it is available. The information in the applications is context-sensitive, which means that the values or content in the app depend on the current context (form or field) that is shown in the CloudSuite Industrial application panel in Infor Ming.le.

Utility apps are lightweight applications that represent information unrelated to content in the application. They do not communicate with the application frame and, if activated, show only when the application is open.

Understanding business context messages

A business context message is a JSON message that is sent from a CloudSuite Industrial screen, field or other user interface object for the purpose of establishing the current context. These messages can be used for many contextual purposes within Infor Ming.le, as well as for drillbacks.

Business context messages are used with these context-sensitive apps when a certain CloudSuite Industrial form is displayed:

- Determines the metrics and reports to display in the In-Context BI context app
- Determines which critical numbers to display in the Critical Numbers context app
- Determines which related files from IDM to display in the Related Information context app

For more information about the available in-context metrics and reports,critical numbers, or context-sensitive IDM documents, see the *Infor CloudSuite Industrial User Guide for Infor Operating Service*.

To find the business context message that is sent by a specific object, use the Context Viewer application. See the Infor Ming.le online help or user guide.

Process default settings that allow context messages to be sent

In CloudSuite Industrial, these options are set on the **Process Defaults** form:

- **Send Context Message on Form Focus** enables sending of business context messages for forms. Default is `0` (not sent), but it is automatically set to `1` for CloudSuite Industrial through initialized data. When set to `1`, the context message "screenId": "MGCore_*Formname*" is sent for all forms, where *Formname* is the form name, for example, "screenId": "MGCore_UsersMaint".
  Note: This process default is set to `1` so that CloudSuite Industrial context apps work in Infor Ming.le.
- **Optional Context Message Form Prefix** replaces the MGCore default prefix on all forms with a specified prefix. For CloudSuite Industrial, the prefix is set to CSI_. So, for example, the Customers form is sent as CSI_Customers.

Supported business context messages

Business context messages contain sets of contextual information called entities, which include information similar to that of Infor BODs. CloudSuite Industrial can pass information about multiple entities in one business context message.

When each CloudSuite Industrial form is displayed, a script runs that passes standard metadata in a JSON message. The standard metadata includes the screen ID of the form and the logical ID of the CloudSuite Industrial application. However, the message can contain additional context-sensitive metadata that is specific to the form and current record.

This example shows an inforBusinessContext context message that was sent from the **Customers** form:

```
{"type":"inforBusinessContext","data":{"screenId":"CSI_Customers","enti►
ties":[{"entityType":"InforAccountingEntity","id1":"DALS"},{"entity►
Type":"InforShipToPartyMaster","id1":"4851","id2":"0","accountingEnti►
ty":"DALS","drillbackURL":"?LogicalId=lid://infor.syteline.dals&page=for►
monly&form=Customers(FILTER(CustNum%3D%27%20%20%20%20%2013%27%20AND%20Cust►
Seq%3D0)SETVARVALUES(InitialCommand%3DRefresh))","bodRefer►
ence":{"noun":"BillToPartyMaster","documentId":"4851","accountingEnti►
ty":"DALS","logicalId":"lid://infor.syteline.dals"}},{"entityType":"Infor►
CustomerPartyMaster","id1":"4851","name":"Brand Central Dept Store","ac►
countingEntity":"DALS"}]}}
```

The message informs context apps that the **Customers** form is currently displaying a record for the Brand Central Dept Store, which has the customer ID 4851 and the Ship To address ID 0, in the accounting entity DALS. The message contains one or more business entities, or collections of information, associated with the current record. The entity information can include a relative URL that can be used to drill back into the application and display the form and record. It also can include a BOD reference that maps from the current entity in the user interface to a corresponding BOD noun.

Any context apps that are associated with CloudSuite Industrial receive all of the information in this message. Each context app searches its data to determine whether it has contextual information to display that is related to information in this message.

For example, the In-Context BI (ICBI) context app uses the screen ID of CSI_Customers and the customer ID 4851 to determine that it should display an Accounts Receivable Aging report for Brand Central Dept Store. The Related Information context app uses the entity type, or context, and its parameters from the message to determine if there are any documents related to that context in its database. If so, the documents are listed in the app and can be opened. If you drag and drop files into the Related Information app pane while this form and record are displayed in CloudSuite Industrial, the files are automatically linked in Infor Document Management to each of the entity types (contexts) listed in the context message.

Context and utility apps that work with the ERP

These standard context and utility apps are available for use with CloudSuite Industrial. For information about how to use the standard apps, see the Infor Ming.le online help or user guide.

- Alerts
- Context Viewer
- Paparazzi
- Posts
- Tasks

These application-specific context apps are also available:

- Critical Number context app

  Critical numbers are key performance indicators, or KPIs, that are specific to CloudSuite Industrial data and transactions. Users must be authorized to view critical numbers, which are associated with certain CloudSuite Industrial forms. See Authorizing users to display critical numbers in widgets or the Critical Numbers app on page 63.

- In-context BI for CloudSuite context app

  Use this app to view business critical metrics and reports in an adjacent pane while certain forms are displayed. For example, when you are viewing a customer record on the **Customers** form, you can see metrics specific to that customer.

- Related Information

  This app can display context-sensitive files that are stored in Infor Document Management but that are associated with specific CloudSuite records. You can set up workflows in CloudSuite Industrial to handle this. See Activating the IDM workflows in the ERP on page 74.

For information about how to use the application-specific apps, see the *Infor CloudSuite Industrial User Guide for Infor Operating Service*.

All of the apps are initially disabled. When the apps are enabled for CloudSuite Industrial, their content is displayed in small app panes to the right of your application.
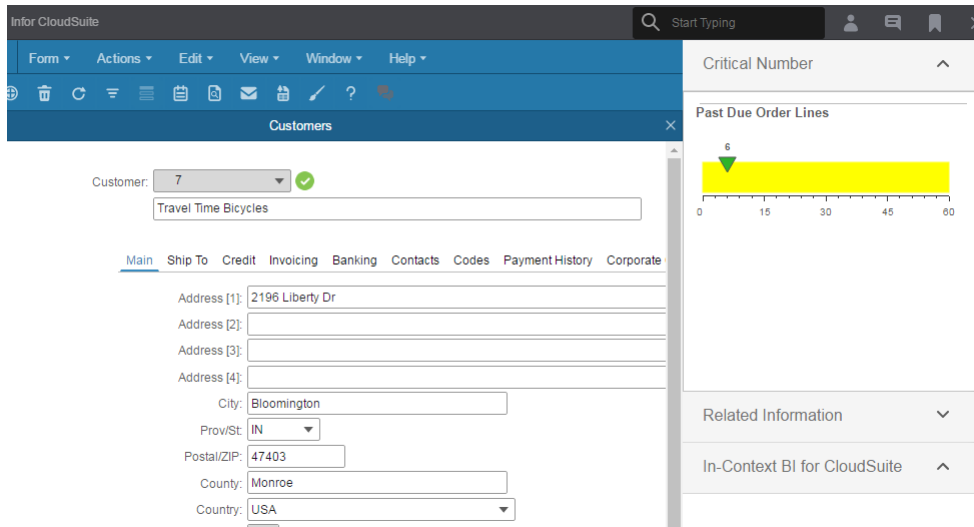
Enabling a context or utility app for the ERP

To enable one or more of the context or utility apps to work with CloudSuite Industrial:

1 From the User Menu, select **Admin Settings**.
2 In the **Manage Applications** tab, double-click to select your application.
3 In the **Manage Context/Utility Apps** tab, select the app that you want to enable.
4 in the **Permissions** tab for that app, either select **Grant access to all users** or click **Add new users and/or IFS security roles** to specify certain users or roles in CloudSuite Industrial that can access this context app.
5 In the **Applications** tab for that app, select your application and enable it for the app.
6 Save your changes.

In order to see the changes, you might need to sign out of the application and Infor Ming.le. Close your browser and reopen it.

Authorizing users to display critical numbers in widgets or the Critical Numbers app

To enable users to view and select critical numbers for display in widgets, home pages or the Critical Numbers context app, you must set up the appropriate authorizations in CloudSuite Industrial.

1 Enable the Critical Numbers context app as described in
2 In CloudSuite Industrial, open the **Critical Number Users** form.
3 Select a user record.

4 On the **Categories** tab, specify user authorizations for a critical number category, or on the **Permissions** tab, specify user authorizations for specific critical numbers.

5 Save your changes.

6 Ask the user to log out of CloudSuite Industrial and then log in again, so the changes can take effect.

7 Verify that users can view critical numbers that they are authorized to view in the Critical Numbers context app.

How critical numbers are displayed in the Critical Numbers app

When the user opens a CloudSuite Industrial form in the Infor Ming.le portal, the form sends a JSON inforBusinessContext message that includes its entity type. The entity type is the BOD sent when the content of the form is update. For example, the Customers form has the entity type InforCustomerPartyMaster.

These actions are taken when the business context message is received:

• Check the entity type in the business context message and find the related category of forms.
• Determine which critical numbers (if any) the user has selected within that category on the User Critical Number Selection form.
• Determine how many instances of the Critical Number app the user has created in Infor OS.
• Load the selected critical numbers into multiple instances of the **Display Critical Number** form. Each instance is displayed in a Critical Number pane.

The sequence of the critical number determines which critical numbers are shown. For example, if the user selected five critical numbers for a category, but only added three instances of the Critical Number app, then only the first three (sequential) critical numbers are displayed.

Chapter 13: Verifying Homepages for the ERP

Homepages are a flexible and configurable way to present information and activities to users. Administrators can build pages for various groups of users, roles, departments, or business functions. You can select from the library of available Infor widgets or build your own.

The predefined Homepages and widgets for CloudSuite Industrial were imported automatically when the application was added to Infor Ming.le.

In this section, you will verify that they are working for your users.

For general Homepages administration tasks, see the *Infor Operating Service Administration Guide*.

For information about using the homepages and widgets, see the *Infor CloudSuite Industrial User Guide for Infor Operating Service.*

Verifying the homepage and widget content

1 Log into Infor Ming.le as a non-administrative user who has access to both Infor Ming.le and CloudSuite Industrial.
2 Open the Homepages application.
3 Add a Homepage:
   a Click **Create New Page**.
   b Specify a title and description for the page and click **Create**.
   c Click the ellipsis (**…**) button and select **Page Catalog**.
   d Select one of the predefined Homepages and click **Add Page**.

     You must be authorized in CloudSuite Industrial to open that "home page" form.
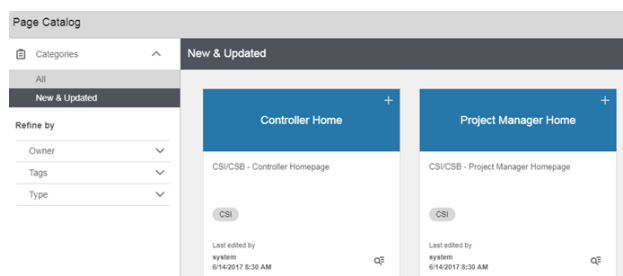
     These are the groups/roles associated with each home page:

Homepage name	Security role/group
Buyer Home	Purchasing
Controller Home	Mobile Controller
Customer Service Home	Order Entry
Executive Home	Mobile Executive
Inventory Control Home	Inventory
Production Planner Home	Shop Floor Control
Project Manager Home	Projects
Salesperson Home	Order Entry

    e Close the catalog to view your new Homepage.

4 Add a widget:

    a Click the ellipsis (**…**) button and select **Widget Catalog**.

    b Select **Categories > Application**.

    c In the **Refine By** filter, select `Infor CloudSuite`. You should see the CloudSuite Industrial widget.

    d Click **+** (Add Widget).

    e Close the catalog to view your new widget.

    f Configure the widget.

5 Add a critical numbers widget, and configure it. Ensure that you can view critical numbers that you are authorized to view in this widget.

    You must be authorized in CloudSuite Industrial to view the critical numbers.

6 Drill down to CloudSuite Industrial forms from the appropriate widgets.

Modifying permissions for standard pages

The CloudSuite Industrial Home pages are included in the Standard Pages tab.

If you want only a specific group of users to access the standard page, you can restrict the standard page to a security role in Infor Ming.le.

To view or change the permissions that are assigned to a page:

1 Open the Homepages application.

2 Click the ellipses (…) button and select **Advanced > Administration**.

3 On the **Standard Pages** tab, select the home page you want to edit.

4 Select **Actions > Edit Permissions**.

    Note: Permissions can be set at the group, role or user level.

Chapter 14: Configuring Infor Document Management to work with the ERP

Infor Document Management (IDM) and CloudSuite Industrial are integrated through these methods:

*   ION API (REST-enabled)
*   Context Business Messages
*   BOD nouns

    The CaptureDocument BOD is an outbound BOD that is sent by IDM when capturing different types of documents, for example, scanning documents.

CloudSuite Industrial delivers application-specific document models for use with IDM.

About the IDM integration

Infor Document Management (IDM) and CloudSuite Industrial are integrated through these methods:

*   ION API (REST-enabled)
*   Context Business Messages
*   BOD nouns

    The CaptureDocument BOD is an outbound BOD that is sent by IDM when capturing different types of documents, for example, scanning documents.

CloudSuite Industrial delivers application-specific document models for use with IDM.

Some reports and documents that are generated in CloudSuite Industrial can be automatically sent to Infor Document Management (IDM) for storage. You can then view the documents in IDM or in the context of a CloudSuite Industrial form, through the Related Information context app. You can search the IDM repository for documents by filename, originating user, and date. You can also search for some documents using other meaningful attributes such as purchase order number or invoice number, if those attributes are set up for the document type in IDM.

This integration uses CloudSuite Industrial document workflows, APIs that transmit the data from CloudSuite Industrial to IDM, and a business context model, document types, and an access control list that are imported into IDM.

Initially, only CloudSuite Industrial invoice and purchase order reports have predefined document workflows. You can customize the integration to include additional document workflows, or to modify the existing workflows.

These attribute values are assigned as metadata that accompanies the documents, and can be used for filtering within IDM:

- For an invoice, the metadata includes the invoice number, the number of the customer being invoiced, and the number of the customer order associated with the invoice.
- For a purchase order, the metadata includes the PO number and the number of the vendor to whom the PO is assigned.

The API integration has this high-level flow:
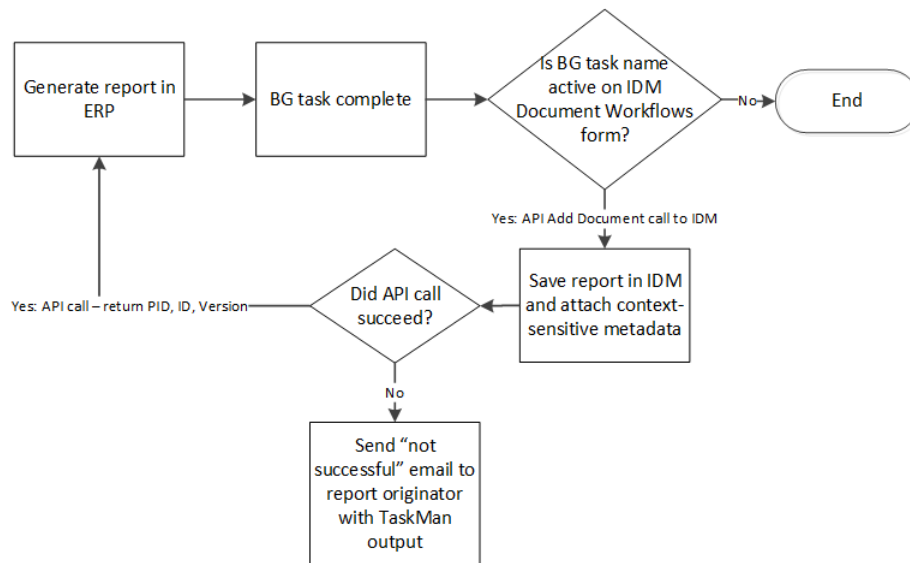
In the case of failure, a notification is sent to the email address that is assigned on the CloudSuite Industrial **Users** form to the user who originated the report. The PDF file that could not be stored in IDM is included as an attachment in the email.

CloudSuite Industrial also supports a BOD-based integration with IDM Capture (using Ephesoft), as shown in this diagram:
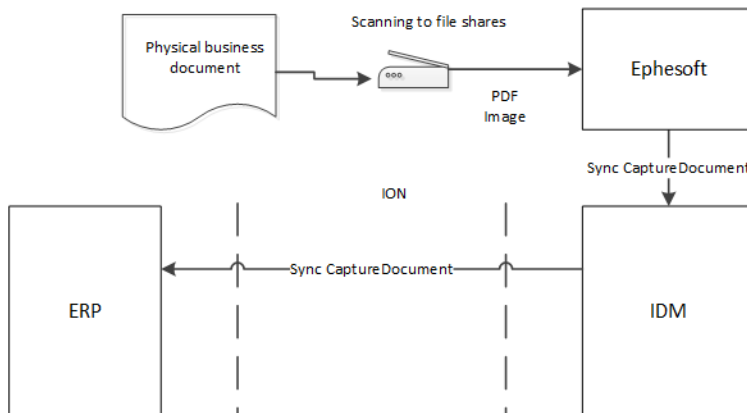
Currently, the BOD-based integration is only used for supplier invoices. When you receive an invoice from a supplier, it is either a paper document or an electronic file. You can perform an OCR scan of the paper document into IDM Capture, or you can load the electronic file into IDM Capture.

In IDM Capture, the parts of the invoice are segmented into fields. IDM Capture sends the invoice information in a Sync CaptureDocument BOD to IDM, where the invoice information is validated and the invoice document is stored. The invoice information is then sent through another Sync CaptureDocument BOD to CloudSuite Industrial, where vouchering against the invoice is performed automatically or through the Voucher Builder. The quantities on the vendor invoice must already have been received in CloudSuite Industrial; otherwise, the invoice is rejected. Also, if the vendor invoice quantity is greater than the PO line received quantity, the invoice is rejected.

You can view the supplier invoice documents in IDM.

You can also find the supplier invoice document in the Related Information context app when associated CloudSuite Industrial forms are displayed. For example, when you view the voucher record in the **A/P Posted Transactions Detail** form, you can see the associated supplier invoice document in the Related Information widget.

Prerequisites for IDM integration

Before you start integrating IDM with CloudSuite Industrial, ensure that these prerequisites are met:

- On the Infor Support Portal, see KB article 1945002 for a list of the APARs that must be downloaded and installed.
- The Application Event Service is configured to monitor the CloudSuite Industrial site, as described in the *CloudSuite Industrial Multi-Site Implementation Guide*. As part of this, ensure that each site which is monitored by the service has a configuration name defined on the **Sites/Entities** form, in the **Configuration Name** field. The name in this field should exactly match the configuration name.
- On the CloudSuite Industrial **Document Types** form, ensure that you have defined a **Document Type** of `PDF` with the pdf extension.
- On the **Event Handlers** form, verify that an event handler called `BGTaskComplete` is defined and active.

Setting up the IDM connection in the ERP

In CloudSuite Industrial, set up the IDM integration:

1 Use the **External App Parameters** form to set up the connection to IDM.

You must use this form at each site to set up a connection to the IDM application. Multiple sites can connect to the same instance of IDM. Specify this information:

Note: If Infor OS is in the Cloud, your Infor representative can provide the URL and connection information.

Name
Specify `IDM`.

Instance
If you are defining more than one instance of IDM, describe the difference.

Active
Ensure that this field is selected for the instance of IDM that you want to use.

URL
Specify the URL of the IDM application. The URL will end in `\ca` and most likely includes the default port of 9543.

Authorization Method
If you select `OAuth1`, the API call functions as a back-end service, facilitating the impersonation of the user who is actually creating the documents. In this case, specify the consumer key as the **User Name** and the secret key as the **Password**. We recommend that you use the OAuth1 method so that multiple CloudSuite Industrial users can generate reports and send them to IDM.

If you select `Basic`, IFS user authentication is used. In this case, specify a domain name and password.

CloudSuite Industrial users are matched to IDM users through the Infor Ming.le (IFS) GUID value, which is shown in the **Workstation/Domain ID** field of the **Users** form.

See the online help for assistance with the fields on this form.

2   Click **Verify**. If a green check mark is displayed beside the button, the connection is working. If a red X is displayed, the connection is not working.

Importing IDM definitions for the ERP

1   Log into the Infor Support Portal site and select **Download > Products** .

2   From the Product List, select **Infor > Enterprise Resource Planning > Infor CloudSuite Business & Industrial (SyteLine) > Infor CloudSuite Industrial**.

3   Download the `IDM_Configuration.xml` file to a local folder from the CloudSuite Industrial Download Center on the Infor Support Portal site.

This file contains document type definitions, Access Control List (ACL) security definitions, and a business context model (BCM) that is used to link context-sensitive documents stored in IDM to the appropriate forms in CloudSuite Industrial.

4   In Infor Ming.le, open the Document Management application and click the Administration menu.
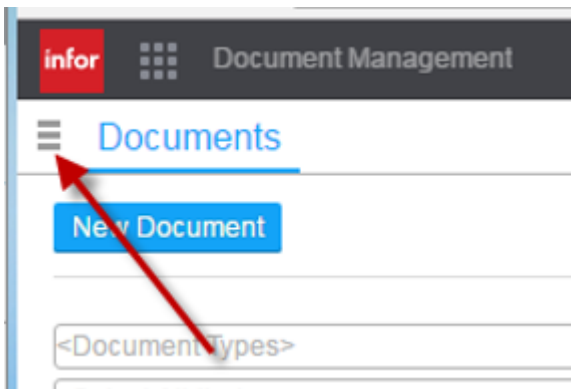
5 Click the Configuration Importer and Exporter icon.

6 Click the **Import** tab.

7 Click **Select XML File** and browse to the `IDM_Configuration` file from step 3.

Depending on the version of IDM, you might see a message that shows the impact of the import configuration file.

8 Click **Import XML File**.

These objects are imported:

- The predefined document types CS_SalesInvoice, CS_ServiceInvoice, CS_PurchaseOrder, and CS_SupplierInvoice.
- A predefined Business Context Model (BCM) for each document type. The BCM is used to map the document type to the entity type. It also maps the web container ID variables that are sent in JSON messages from the CloudSuite Industrial forms. For example, for the CS_SalesOrder document type, the CustNum value is always stored in {id1}, even if the form's JSON message sent CustNum as the second or third variable. See the information about business context models in the *Infor Operating Service Administration Guide*.
- An Access Control List (ACL) that defines the IFS security roles that can access each document type.

9 To confirm that the import was successful, click **Document Type** and look for items with a "CS_" prefix.
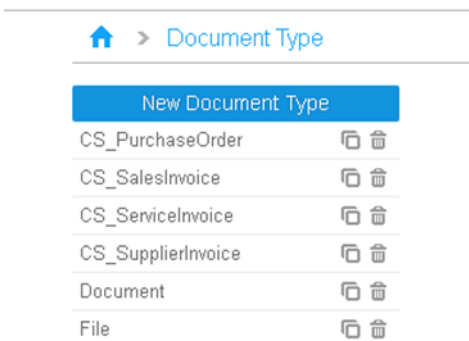
Document types and their assigned attributes

This table shows the predefined CloudSuite Industrial document types in IDM, the entity name associated with the document type, and the attributes that can be used to search and filter within each document type.

Because a service invoice is a type of sales invoice, it uses the InforSalesInvoice entity name. However, the context is slightly different: service invoices have the SRO number attribute, while sales invoices have the customer order number attribute.

If you add attributes to a document type, be aware that the attribute ID in IDM must exactly match the IDO property name that is sent from CloudSuite Industrial. This is true for CS_PurchaseOrder, CS_SalesInvoice, and CS_ServiceInvoice. However, for CS_SupplierInvoice, the attribute ID and IDO property name need not match. If the optional attributes are included for a supplier invoice, CloudSuite Industrial can use them.

Document type	Entity name	Additional attribute IDs *
CS_PurchaseOrder	InforPurchaseOrder	PoNum, VendNum
CS_SalesInvoice	InforSalesInvoice	InvNum, CustNum, CoNum
CS_ServiceInvoice	InforSalesInvoice	CustNum, SroNum
CS_SupplierInvoice	InforSalesInvoice	PoNumber, VendorNumber, InvoiceNumber (Optional: Invoice Date, VendorOrder, Freight, MiscCharges)

* These attributes are common to all document types, so are not listed in the table: Description, AccountingEntity, BOD Reference Accounting Entity, BOD Reference Document ID, BOD Reference Noun, BOD Reference Revision ID, EntityType, and Location.

Document types and their assigned roles

This table shows the predefined CloudSuite Industrial document types, the ACL that is used with each document type, and the IFS roles that are assigned to each document type. The IFS roles are synchronized with CloudSuite Industrial and IDM through BODs. See .

If you are not using the standard CloudSuite Industrial groups, you will need to modify this list in IDM.

Access to read, update or delete the documents in IDM is only allowed for users who belong to at least one of these roles (groups). You can modify the ACL list in IDM.

Document type	ACL name	Security roles	Permissions
CS_PurchaseOrder	InforPurchaseOrder	Accounts Payable, Purchase Reqs, Purchasing, Purchasing Costs	Read, Update, Create, CheckIn, CheckOut
CS_SalesInvoice	InforSalesInvoice	Accounts Receivable, Field Service, Order Entry, Order Entry Invoicing Reprint, Projects, Service	Read, Update, Create, CheckIn, CheckOut
CS_ServiceInvoice	InforSalesInvoice	Accounts Receivable, Field Service, Service	Read, Update, Create, CheckIn, CheckOut
CS_SupplierInvoice	SyteLineVoucher	Accounts Payable	Read, Update, Create, CheckIn, CheckOut

Disabling the Document Type filter

To ensure that all of the document types will be visible in IDM and the Related Information app:

1 In the Infor Document Management application, click the **Administration** menu.

2 Click **Configuration**.
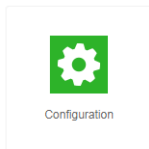
3 Select **Document Type Filter** and disable the filter.
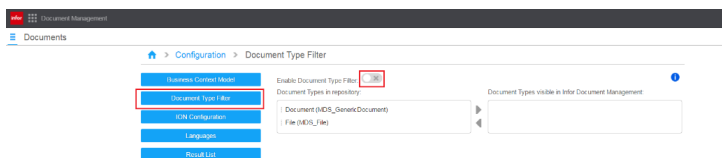
4 Save your changes.

Adding the PDF document type

In the Infor Document Management application, add a document type called `PDF`. This is required for the integration with the CloudSuite Industrial application event system.

1 Navigate to **Control Center > Administration > Document Type**.
2 Click **New Document Type**.
3 Use the wizard to create a PDF document type.

Do not assign a group to the document type.

Enabling the Related Information context app for your application

When you set up the Related Information context app in Infor Ming.le, use the **Applications** tab to add the CloudSuite Industrial application and set it to **Enabled**.

Activating the IDM workflows in the ERP

When CloudSuite Industrial users generate a document that has an active workflow, the document is sent to IDM. To activate the workflows:

1 In CloudSuite Industrial, open the **IDM Document Workflows** form.
2 Select **Active** for each predefined workflow if you want that type of document to be sent to IDM. Your choices should be based on business decisions for the company.

3 Save your changes.

Later, you could use the advanced features on this form, along with the Application Event System, to customize the integration. See the online help for assistance with the advanced fields.

Verifying the configuration for workflows

After the configuration is set up in all applications, use these steps to generate a document in CloudSuite Industrial and verify that the document is available, with the appropriate attributes, in IDM.

Currently the invoice and purchase order reports are predefined for this process, but we will just verify the PO report.

1 In CloudSuite Industrial, open the **Purchase Order Report** form and print a purchase order.

2 Open the **IDM Workflow Logs** form and verify that a record exists for the new PO.

See the online help for an explanation of the fields on this form.

3 In the Infor Document Management application, verify that you can find and preview the document using these options:

Document Type
Specify `CS_PurchaseOrder`.

Select Attribute
Verify that these attributes are in the list: `PO Number` and `Vendor Number`. Select `PO Number`.

Operation
Select `Like`.

Value
Specify the PO number. Use the % wildcard character to allow for leading and trailing spaces.

4 In CloudSuite Industrial, open the **Vendors** form.

5 Select the vendor associated with the purchase order number that you printed.

In the Related Information context app, the document should be displayed automatically. The default entity type is `All`, which displays any document that matches the current record.

6 Verify that you can preview the purchase order.

Troubleshooting:

- When you first try to generate a report that sends a document from CloudSuite Industrial to IDM, if the document does not appear in IDM, check for the following:
  - Verify that the prerequisites were completed. See Verifying the configuration for workflows on page 75.
  - Verify that the document is activated on the **IDM Document Workflows** form. See Activating the IDM workflows in the ERP on page 74.
  - Verify that the IDM connection set up properly on the **External App Parameters** form.
  - After you generate one of the reports that sends a document to IDM, open the **Background Task History** form and ensure that the background task has completed successfully. Also, verify that the name of the task in the**Background Task History** form matches the task name that is defined on the **IDM Document Workflows** form.
  - Open the **Event Queue** form to see if there are entries for `BGTaskComplete`.

    If there are entries, and the **Times Attempted** value is 0, then ensure that the Infor Framework Event Service is running and monitoring your configuration.

If there are entries, but the **Times Attempted** value is less than 0, then check the **Event Status** or **Event Handler Status** forms for a failure message related to the `BGTaskComplete` event.

- If a document cannot be inserted into IDM, an error message is sent to the user who generated the document in CloudSuite Industrial. The user can then attempt to manually attach the document into IDM, using the appropriate document type and attributes. However, if the error occurred because the user does not have the appropriate role assigned in IDM, then the user cannot insert the document into IDM. In that case, you must ensure that the ACL in IDM has the appropriate roles assigned to the document type, and that the user is a member of one of those roles in CloudSuite Industrial and Infor Ming.le (IFS).
- If a user prints a range of purchase orders or invoices, the documents will be generated either in one PDF or in individual PDFs, depending on how the user's **Document Profile** is set up in CloudSuite Industrial. If all of the documents are in a single PDF, the PDF is attached in IDM to the first record in the range. We recommend that users set their Document Profiles to generate individual PDFs for a range of documents.

Configuring IDM Capture with Infor OS

Infor Document Management Capture enables you to convert a high volume of unstructured document data from multiple formats into structured information by using machine learning and analytics. The automated conversion of document data categorizes each document by type and captures and stores relevant data for each document, providing greater efficiency, productivity, and a more detailed analysis of your business processes within the ERP.

When you purchase IDM Capture as part of your CloudSuite, you receive an email with important information about accessing Ephesoft from your tenant. Use this information to configure Ephesoft in Infor Ming.le.

To configure IDM Capture with Infor OS, see the *Infor Document Management Capture Installation and Configuration Guide for Infor Operating Service* (on-premises).

Information received from Ephesoft

When you purchase Infor Document Management Capture as part of your cloud package, Infor notifies the Ephesoft Cloud Ops team about your environment and products. Ephesoft sends an email to Infor with the following prerequisite information and files, which are specific to your environment. Infor forwards this email to you. You will use the information and files when you add and configure Infor Document Management Capture in Infor Ming.le. You must do this for every tenant.

Prerequisite	Example
IDM Capture application URL	https://*server*/dcma/home.html
Single Sign On endpoint for IDM Capture	Link provided
Single Logout endpoint for IDM Capture	Link provided

Prerequisite	Example
Ephesoft certificate file attached to the email	ephesoft.abc

1 Create a folder on your local drive called ephesoft_files. Download the certificate file to the local folder and change the filetype from .abc to .cer. You use this file later..

2 Save the email so you can refer to it later in this guide.

Configuration of IDM Capture in Infor Ming.le

If you plan to use IDM capture with CloudSuite Industrial as part of an IDM solution, follow the steps in this section to add the app, roles, service provider, and ION API file in Infor Ming.le.

Note: You must have Infor-SystemAdministrator access in order to perform these steps.

Adding security roles (if necessary)

1 From the User Menu, select **User Management**.
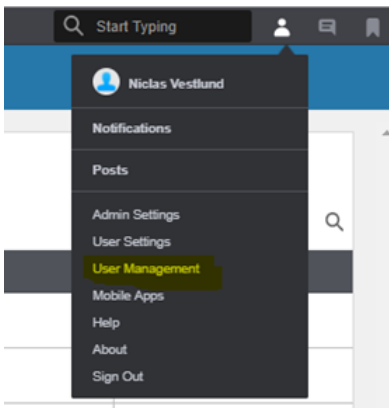
2 Click the menu in the upper left corner.
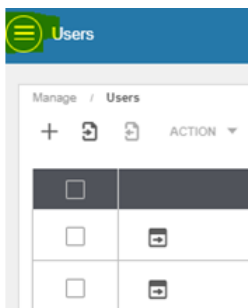
3 Select **Configure > Master Data Types > Security Roles**.
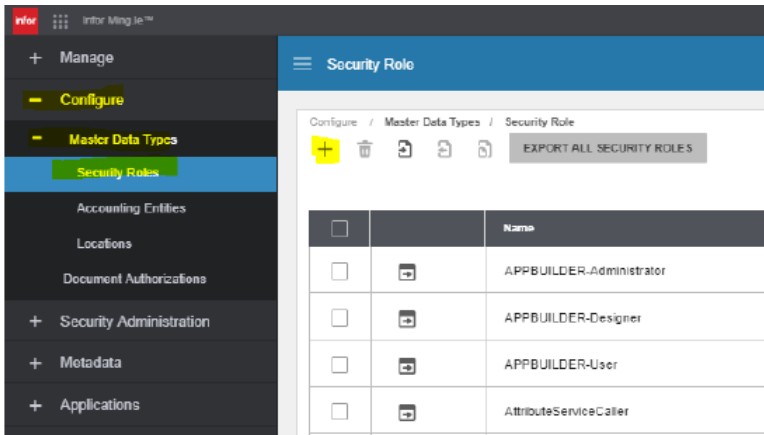
4   Check for these security roles. If not already present, add them. Click + to add a new security role.
- EPHESOFT-USER
- EPHESOFT-Administrator
- EPHESOFT-SystemAdministrator

5   Fill in this information for each security role:

Name	Description
EPHESOFT-User	Access to activities under Operator (view my batches, open next batch, scan new documents, and upload new documents)
EPHESOFT-Administrator	Same security as Ephesoft User with additional access to Administrator activities (batch class management, batch instance management, folder management, and reports)
EPHESOFT-SystemAdministrator	Same security as Ephesoft Administrator with additional access to System Configuration (where an administrator can add and remove access on roles)

6   Click **Save** after you add each role.

Adding the Capture application in Infor Ming.le

1   From the User Menu, select **Admin Settings**.
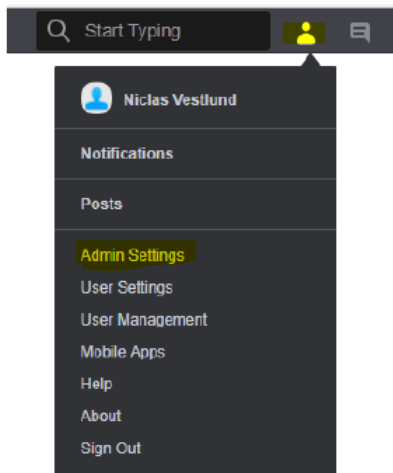
2 Click + ADD APPLICATION.

3 Specify this information:

Application Type

Select **Non-Infor**.

Display Name

Specify **Capture**.

Application URL

This URL is provided in the email from the Ephesoft Cloud Ops team. Verify that this URL follows the format in [Information received from Ephesoft](#) on page 76.

Icon

Choose the IDM capture icon in any color.

4 Click **Save**.

5 In the **Permissions** tab, click A**dd New Users and/or IFS Security Roles**.

6 Search for and select the check boxes for these security roles:

- EPHESOFT-User
- EPHESOFT-Administrator
- EPHESOFT-SystemAdministrator
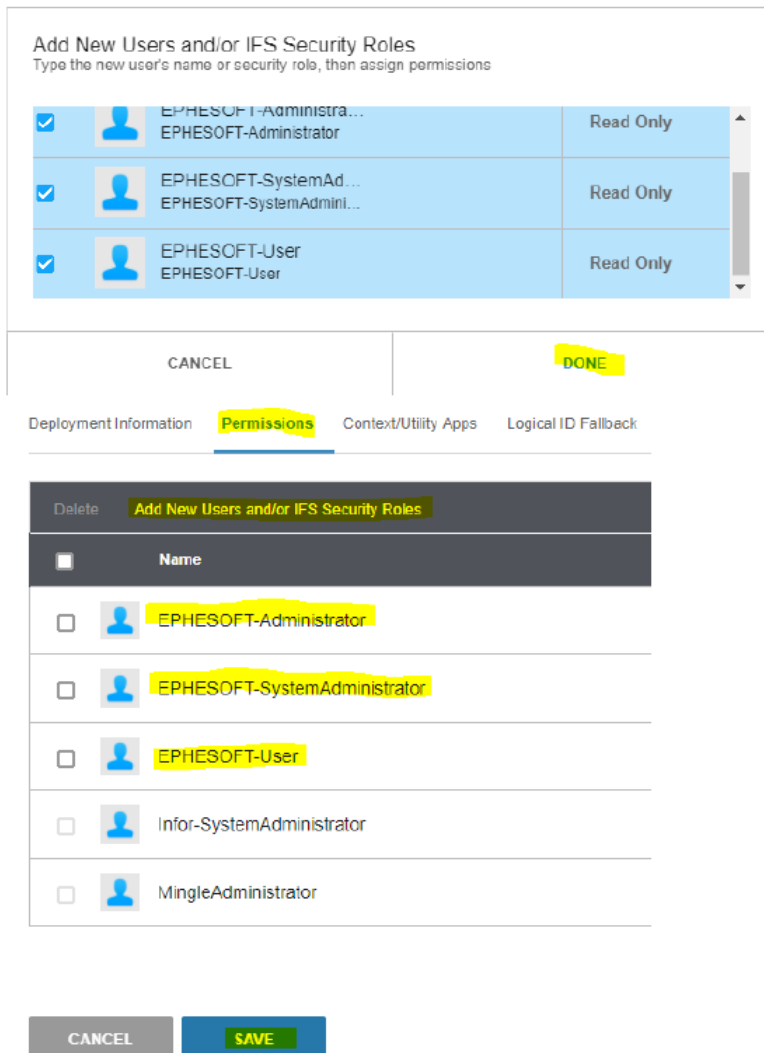
7 Click **Done** and then **Save**.

Adding Infor Document Management Capture as a service provider in Infor Ming.le

1 From the User Menu, select **User Management**.
2 Click the **Users** menu in the upper left corner.
3 Select Security Administration Service Provider.
4 Click **+** to add a new provider.
  Note: If this button is not enabled, contact Infor CloudOps.
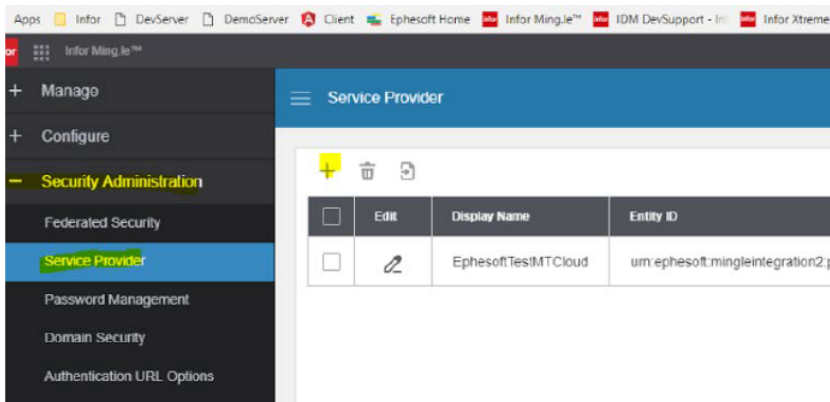
5 Specify this information:

Application Type
Select **DEFAULT_SAML**.

Federation Protocol
SAML is selected automatically.

Display Name
Specify **IDM Capture**.

Entity ID
Specify the URN in this format:

Urn:Ephesoft:*customer-prefix*:portal

Create this URN based on the suggested format, and send it to the Ephesoft Cloud Ops team. See Sending information to Ephesoft Cloud Ops on page 84.

SSO Endpoint
Select **HTTP Post** and specify the Single Sign On endpoint, which is supplied by the Ephesoft Cloud Ops team. See Information received from Ephesoft on page 76

SLO Endpoint
Select **HTTP POST** and specify the Single Logout endpoint, which is supplied by the Ephesoft Cloud Ops team.See Information received from Ephesoft on page 76

Signing Certificate
Click the browse icon and browse to the ephesoft_files folder where you stored the Ephesoft certificate file. Select the **ephesoft.cer** certificate file.

6 Click **Save** and then edit the IDM Capture provider that you just added.
7 Click **View**.
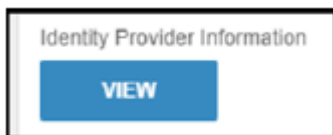
8 In the dialog box, click <u>Export SAML Metadata</u>. Save the IDP file
(ServiceProviderSAMLMetadata_*date*.xml) to the `ephesoft_files` folder. You will send this file
to Ephesoft later. See <u>Sending information to Ephesoft Cloud Ops</u> on page 84.

9 Click **Cancel** to close the dialog box.

10 Click Save at the top of the IDM Capture service provider dialog box .

Setting up the ION API file in Infor Ming.le

To create the ION API file, you must create a service user, register the user in IFS, and create the ION
API file.

Creating the service user

1 From the User Menu, select **User Management**.

2 Click **+** to add a new user.

3 Specify this information:

First Name
Specify `IDM-CaptureUser`.

Last Name
Specify `Capture`.

Email Address
Specify the email address of your administrator

4 Click **Save**.

Registering the user

1 From the User Menu, select **User Management**.

2 On the right side, search for the user IDM-CaptureUser that you made earlier.

3 Click the Details icon for that user.

4 On the **Security Roles** tab, click **+** to add a role.

5 Search for and add these security roles:
- IDM-AdvancedUser
- Infor-SuiteUser
- Mingle-Enterprise

6   Click **Add & Close**.

Creating the ION API file

1   Open Infor ION API in the Infor Ming.le portal

2   Click the **Available APIs**menu. Ensure that Infor Document Management is among the options. If not, Infor CloudOps must register IDM with ION API via CSP. Contact Infor CloudOps to do this. Then, continue with these steps.

3   Select **Authorized Apps**.

4   Click **+** to add a new application. Specify this information:

Name
Specify `IDM-Capture`.

Type
Specify `Backend Service`. If you do not see this option, see <u>Enabling a back-end service</u> on page 85.

Description
Specify `IDM Capture`.

5   Use the default values for the rest of the fields and click **Save**.

6   Reopen the newly added application.

7   Click **Download Credentials**.

8 Under **User Name**, search for and select `IDM-CaptureUser`. The user name must be blue to be a valid user name

9 Click **Download**.

Note: You can download this file only once. Do not perform this step again.

10 Save the file to your ephesoft_files folder. You will need it when verifying the integration.

Sending information to Ephesoft Cloud Ops

Send an email to Cloud.Operations@Ephesoft.com. Set the subject of your email as the Entity ID as shown below. Make sure that your email has the following files and information:

Output	Description
IDP Metadata	This file was generated in Adding Infor Document Management Capture as a service provider in Infor Ming.le on page 80.

Output	Description
Entity ID	This URN was specified in <u>Adding Infor Document Management Capture as a service provider in Infor Ming.le</u> on page 80.

Ephesoft Cloud Ops will complete the setup on their end and send you a confirmation email when you can start testing the application in your environment.

Enabling a back-end service

1 In the User Menu, select **User Management**.

2 Select **Security Administration > General Settings** and click **Manage Features**.

3 Select **Enable Service Accounts**.
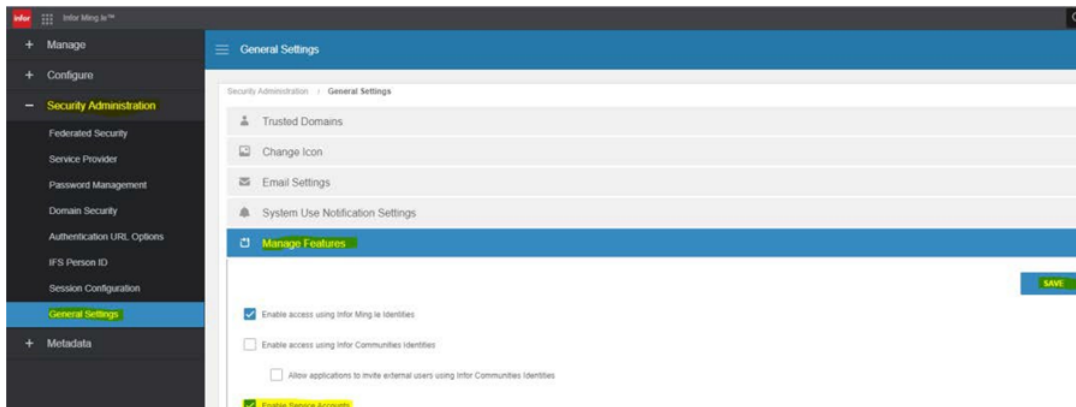
4 Sign out and sign back in.

5 Add the IDM-Capture authorized app again. The Backend Service should now be available.

Configuring the IDM Capture integration with the ERP

Use these steps to configure the BOD integration of CloudSuite Industrial with IDM Capture.

Note: These steps might require assistance from an Infor consultant or Ephesoft support. See the Ephesoft wiki pages (http://www.wiki.ephesoft.com) for more information about batch class configuration.

1 Download the sample batch class file `CSI_BatchClass.zip` from the Download Center.

2 Import the `CSI_BatchClass.zip` file into Ephesoft:

   a Open the IDM Capture (Ephesoft) application.

   b Select **Administrator > Batch Class Management**.

   c On the **Batch Class Management** page, drag and drop the file into the **Import Batch Class** section at the bottom of the page, or click the <u>Select Files</u> hyperlink and select the file.

The sample batch class corresponds to the supplier invoice documents that you plan to scan. The Batch Class index fields describe the fields from the invoice that should be captured, for both the header and line sections of the invoice.

3 Use this sample batch class as a starting point. You can include additional supplier invoice samples, to support new file layouts. A sample of each supplier invoice is needed to ensure that the field names, positions and formats are set up so that capturing can occur

The sample has already mapped these Batch Class index fields for each supplier invoice to the XML paths in the Sync CaptureDocument BOD:

Note: Mapped fields must be spelled exactly as they will be validated in CloudSuite Industrial. The invoice amount is not validated.

In order for CloudSuite Industrial to correctly read the Sync CaptureDocument BOD, these CaptureDocument/DocumentField/Name values must be used.

- VendorNumber: The CloudSuite Industrial vendor number. This field must exist in the file. The vendor number is validated when the inbound BOD is processed. Leading spaces can be omitted, because they are added during processing.
  Note: Some supplier invoices do not include the vendor number. In that case, you must manually add the vendor number here.
- InvoiceNumber: The vendor's invoice number. This value can be omitted, but if it exists, it is used as a reference number on the voucher transaction.
- InvoiceDate: The date when the vendor invoiced the purchase order. This field is used if it exists. Otherwise, the invoice date is set to the current date.
- PONumber: The CloudSuite Industrial purchase order number. This field is used if it exists. Otherwise, the purchase order number is found by using the VendorOrder number.
- VendorOrder: The vendor's purchase order number. If this field exists and the PONumber is not provided, this field is used to find the PO. If both fields exist, this field is not used.
- Freight: The freight charges for the order. If no value is provided, the value is set to zero.
- MiscCharges: The miscellaneous charges for the order. If no value is provided, the value is set to zero.

In order for line level information to be correctly read, these CaptureDocument/DocumentTable/Row/Column/Name values must be used:

- Item: The CloudSuite Industrial item from the purchase order that is being vouchered. This field is used if it exists. Otherwise, the item number is found by using the VendorItem number.
- Quantity: The quantity of the item that is being vouchered. This value must be provided. The value is expected to be in the same unit of measure that was used for the item on the PO line.
- UnitPrice: The unit price of the item. If this value exists, it is used. Otherwise, the unit price from the PO line is used.
- VendorItem: The vendor's item number. If this field exists and the Item is not provided, this field is used to find the item number. If both fields exist, this field is not used.

For more information, go to the **IDM Home Page** in the IDM application and click How to Capture a Document.

See the Ephesoft wiki pages for more information.

4 In IDM, ensure that the IDM_Configuration.xml has been imported and the CS_SupplierInvoice document type is available.

5 Configure the IDM Capture plug-ins for each Batch Class that is set up within IDM Capture.

Configuring the Generate BOD XML Plugin

The BOD XML plugin manages the mapping of SyncCaptureDocument BOD and the creation of the BOD XML file.

1 Select **Modules > Export** and select **Generate BOD XML Plugin** for the batch class..

2 Ensure that **Mapping File Path** references `PluginMappings/captureBODMappingsWithTable Mapping.properties` and that **Create BOD XML** is set to `ON`.

Note: In MT cloud, the folder structure is always the same, so the folder path is preset, and only the **BatchClassID** must be changed. This ID is set by the system, so it differs for every customer and batch class.

In the template batch class, you can replace **BatchClassID** in the path `C:/Ephesoft/Shared Folders/BatchClassID/PluginMappings/captureBODMappingsWithTableMapping. properties` folder path with the batch class identifier that is applicable for your batch class. For example:

`C:\Ephesoft\SharedFolders\BC6\PluginMappings\captureBODMappings1.properties`

Configuring the IDM export plugin

The IDM export plugin manages how the supplier invoice document is created in Infor Document Management.

1 Select **Modules > Export** and select **IDM Export Plugin** for the batch class.

2 Specify this information:

Mapping File Path
Reference `/PluginMappings/invoiceIDMMappings.properties` in the batch class folder.

In the template batch class, you can replace **BatchClassID** in the `C:/Ephesoft/SharedFolders/ BatchClassID/PluginMappings/invoiceIDMMappings.properties` folder path with the batch class identifier that is applicable for your batch class. For example:

`C:\Ephesoft\SharedFolders\BC6\PluginMappings\invoiceIDMMappings.properties`

Authentication Type
Specify `ION API`.

Publish BOD
Specify `ON`.

ION API
Browse and select the applicable file.

For instructions on how to create the ION API file, see the *Infor Document Management Capture Configuration Guide - Cloud Ephesoft with Infor Operating Service Multi-Tenant Cloud.*

Appendix A: User and role BOD usage

This appendix provides detailed information about how the security BODs are used between CloudSuite Industrial and Infor Ming.le.

BODs that send roles (authorization groups) from the ERP to Infor Ming.le

Some roles from CloudSuite Industrial are preconfigured in Infor Ming.le when the application is added in Infor Ming.le.

When you create or edit an authorization group in CloudSuite Industrial, a Sync.SecurityRoleMaster BOD is generated. This BOD is defined at the tenant level. The information from this BOD is used in Infor Ming.le to automatically create a matching security role.

If you create a security role in Infor Ming.le that does not exist in CloudSuite Industrial, you must manually create a matching group in CloudSuite Industrial. Remember that CloudSuite Industrial is the system of record for roles/groups.

If you delete a role in either CloudSuite Industrial or Infor Ming.le, you must also delete the group or role in the other application.

Person IDs

Any CloudSuite Industrial users who plan to use Infor Ming.le or other Infor OS components must be set up as users in Infor Ming.le, and the user's Person ID must be synchronized between Infor Ming.le and CloudSuite Industrial.

Person IDs in Infor Ming.le

The user details page in Infor Ming.le includes an ERP Person ID tab. The ERP Person ID tab is populated if CloudSuite Industrial publishes the Sync Person BOD. The ERP Person ID is used as the

identifier of the user in the ERP application, and allows you to link the Infor Ming.le user to the ERP application user. The ERP Person ID tab shows all ERP person IDs that are associated with this Infor Ming.le user.

The IFS Person ID is used as the user identifier in ION, which then links the Infor Ming.le user with the ION BODs. By default, the IFS Person ID is set to the User Principal Name (UPN) of the user. UPN is an AD FS concept.

The IFS Globally Unique Identifier (GUID) is the same as the UPN.

Sending the Person ID from the ERP to Infor Ming.le

When certain information is manually added or updated in CloudSuite Industrial for a user, a Process.SecurityUserMaster BOD is published by CloudSuite Industrial.

The **Workstation/Domain ID** field on the **Users** form in CloudSuite Industrial contains the Person ID for a user. This value should not be changed. It is possible to update this value in CloudSuite Industrial and then manually publish the Process.SecurityUserMaster BOD to Infor Ming.le; however, Infor Ming.le is the system of record for user information, so you should only maintain the Person ID value In Infor Ming.le.

BODs that send user information from Infor Ming.le to the ERP

When you add a user in the Infor Ming.le portal, a SecurityUserMaster BOD is sent through ION to your application at the specified intervals, where a matching user record is created or updated. This BOD contains the user name, login, creation date, status, description, email address, and the roles, or groups, to which the user is assigned.

When CloudSuite Industrial receives the BOD, these actions occur:

- For a new user that does not exist in CloudSuite Industrial:
  - A new user record is added.
  - The **Workstation Domain/ID** field is populated with a row pointer value that should not be changed.
  - The group authorizations for that user are added.
  - A primary email type description is added that contains the user's email address.
  - The user's First Name and Last Name values from Infor Ming.le are combined into the CloudSuite Industrial User Description field, separated by a space.
- For an existing user in CloudSuite Industrial, if the existing user ID has not changed:
  - The existing user group authorizations are deleted.
  - The user status, user descriptions, primary email address, and user group authorizations are updated.

- For an existing user in CloudSuite Industrial, if the existing user ID has changed:
  - The record for the user with the matching Workstation Login is set to a status of disabled, and the Workstation Login for the user is cleared.
  - The **Workstation Domain/ID** field is populated with a row pointer value that should not be changed.
  - A new user record is created, copying the user information from the disabled record. Any existing user group authorizations in CloudSuite Industrial are deleted, and then the groups from the BOD are added. The status, email, and description are updated if they have changed.
  - An Acknowledge SecurityUserMaster BOD is sent back to Infor Ming.le.

BODs that send user information from the ERP to Infor Ming.le

When any of this information is manually added or updated in CloudSuite Industrial for a user, a Process.SecurityUserMaster BOD is published by CloudSuite Industrial:

- User login status
- User description: A value is required in this field if you are passing user information from CloudSuite Industrial to Infor Ming.le through the Process SecurityUserMaster BOD. The field must contain values separated by a space. The first value becomes the **First Name** in Infor Ming.le. Everything after the space becomes the **Last Name** in Infor Ming.le. For example, if the CloudSuite Industrial User Description is Tom Van Winkle, Tom is the First Name and Van Winkle is the Last Name in Infor Ming.le.
- Workstation login
- Primary email address: A value is required in this field if you are passing user information from CloudSuite Industrial to Infor Ming.le through the Process SecurityUserMaster BOD.
- Group authorizations

However, if the user information was changed in CloudSuite Industrial because of an incoming Sync.SecurityUserMaster BOD from Infor Ming.le, the Process.SecurityUserMaster BOD is not published.

CloudSuite Portals users

If a new user is created in CloudSuite Industrial based on a request from the CloudSuite vendor or customer portals, the BOD is not sent to Infor Ming.le.

Appendix B: Troubleshooting

This section describes actions that you can perform to solve Infor OS integration issues.

Data is not flowing properly

Cause: A problem is preventing the flow of BOD data to ION.

Solution: After you complete the configuration setup, if BOD data is not flowing to ION, use ION OneView to identify the problem.

ION OneView can be found in the menu for ION Desk. You can perform these actions in ION OneView:

- Track business documents from a single consolidated view; search for documents using different search criteria.
- View all ION components that were triggered by the incoming document: Connection Points; document flow filters and content-based routing; mappings; ION engines for example, Monitor, Workflow, and Pulse; monitors; activation policies and workflows.
- View more details about these ION components:
  - Detailed properties for each ION component
  - List of events that were logged by each ION component while processing the message
  - Drilldown views that are used to display the appropriate management pages for the selected ION component
  - Visibility and correlation of the different messages sent or generated:
  - Original BOD messages that triggered the whole list of components displayed; Confirm BOD messages that were generated due to any error while processing the Original BOD message. Mapped/Updated BOD messages that were created during the processing of the Original BOD message
  - View content of BOD messages. This information is only available to authorized users, based on the roles and permissions that are configured.

For more information, see the section on ION OneView in the *Infor ION Desk User Guide*.

To avoid business discrepancies between this application and integrated applications, correct any errors as soon possible.

BOD information needs to be purged

Information from every inbound BOD, including sequencing information, is collected in a table in the CloudSuite Industrial application. This data constantly builds up and, over time, could cause performance issues. For this reason, system administrators should periodically use the **Purge BOD Information** form to purge information from that table. You can set up a background task to perform this function automatically

You can also use the **Replication Document Inbox/Outbox Purge Utility** to clear out older BODs from the **Replication Document Inbox** and **Replication Document Outbox**.

ERP help is not working

Verify that the user's web browser has popup blockers turned off. Clear the browser cache, restart Infor Ming.le and try again.

Appendix C: Business events that generate outbound BODs

This table shows the events, which are user actions in CloudSuite Industrial that generate an outbound BOD from CloudSuite Industrial:

Verb	Noun	User action to generate the BOD
Process	AccountingBookDefinition	Run the Replication Document Manual Request Utility with AccountingBookDefinition selected. This should be done once per site.
Sync	AccountingChart	Run the Replication Document Manual Request Utility with AccountingChart selected. This should be done once per site, after the Chart of Accounts is set up at the site.
Sync	AccountingEntity	Run the Replication Document Manual Request Utility with AccountingEntity selected. This should be done once per site, after the tenant ID is set up at the site.
Process	AdvanceShipNotice	Ship the order, either manually with the **Transfer Order Ship** form, or automatically in response to a received Sync Shipment BOD.
Acknowledge	BillofMaterials	Acknowledge the receipt of a BillofMaterials from an external application.
Sync	BillofMaterials	Indicate that changes have been made in the application after receipt of a Process BillofMaterials from an external application
Acknowledge	BillToPartyMaster	Acknowledge the receipt of a BillToPartyMaster from an external application.
Sync	BillToPartyMaster	Change any information on the Customers form. Change any information on the Ship Tos form.
Sync	Calendar	Add or update a shift calendar in Scheduling Shifts. Add a holiday. This creates a BOD that indicates all resources are busy on that day.

Verb	Noun	User action to generate the BOD
Sync	CarrierRoute	Select the Physically Shipped check box on the Special tab of the Delivery Orders form.
Sync	ChartOfAccounts	Create or update an account record in the Chart of Accounts form. Statistical and allocation accounts are not included.
Acknowledge	CodeDefinition	Acknowledge the receipt of a CodeDefinition from an external application
Sync	CodeDefinition	* Add an Education Major * Add an External Expense Type * Add an Indirect Labor Code * Add an Inventory Adjustment Reason Code * Add or update an ISO U/M on the Unit of Measure Codes form * Add an Item Category * Add an Obsolete Slow Moving Reason Code * Add an Opportunity Source * Add an Opportunity Stage * Add a Payment Type * Add a Position * Add a Price Code * Add a Product Code * Add a Project Cost Code * Add a Province/State * Add a Shift ID on the Scheduling Shifts form * Add a Ship Via Code * Add a Skill * Add a Tax Code of type Exempt * Add a Tax Jurisdiction * Add a Territory * Add a Training Course * Add a unit code on the Unit Code 1 - 4 forms * Add a Work Code * Add a Work Experience BODS for some other codes, such as language IDs and cost methods, are automatically generated when the Replication Document Manual Request Utility is run.

Verb	Noun	User action to generate the BOD
Process	ConstrainedResource	Insert or modify a Shift ID (creates a BOD for associated resources)
Acknowledge	ContactMaster	Acknowledge the receipt of a ContactMaster from an external application
Sync	ContactMaster	* Add or change a Contact * Create a Customer Sales Contact Cross-Reference
Sync	Contract	* Add or update Customer Order header * Add or update Customer Order Blanket Line
Sync	CreditTransfer	Create a Bank Reconciliations record for a vendor payment, employee payment, or customer payment
Sync	CurrencyExchangeRateMaster	Add or update a Currency Rate
Acknowledge	CustomerPartyMaster	Acknowledge the receipt of a CustomerPartyMaster from an external application
Sync	CustomerPartyMaster	* Change any information on the Customers form, Ship Tos form, or Customer Sales Contact Cross References form * Add a prospect on the Prospects form to send this BOD with a status of "Pending"
Sync	CustomerReturn	* Print the RMA Order Verification Report * Change the status of an RMA
Sync	DebitTransfer	Post a direct debit transaction from a customer on the A/R Direct Debit Posting form.
Acknowledge	ExpenseReport	Acknowledge the receipt of an expense report.
Sync	FinancialCalendar	* Change any information on the Accounting Periods form * Run the change Reports To Entity utility

Verb	Noun	User action to generate the BOD
Sync	InventoryAdjustment	* Perform Quantity Adjustment
		* Perform Miscellaneous Receipt or Miscellaneous Issue
		* Perform Cycle Count Posting - one BOD is generated for each combination of item, warehouse, and location where the quantity on hand has changed
		* Perform Physical Inventory Posting - one BOD is generated for each combination of item, warehouse, and location where the quantity on hand has changed
Sync	InventoryCount	* Run the Cycle Count Posting utility
		* Run the Physical Inventory Posting utility
		One InventoryCount BOD is sent for each item/warehouse combination
Sync	Invoice	* Print and post an invoice through the Consolidated Invoicing form
		* Post an invoice through the Invoice Posting (A/R) form
		Note: The Invoice BOD publishes one line for every order line included in the Invoice. When Line Summarization is turned on in Consolidated Invoicing, the summary invoice lines are not published; instead, each customer order line will be published as a line in the Invoice BOD.
Acknowledge	ItemMaster	Acknowledge the receipt of a Process ItemMaster from an external application.
Sync	ItemMaster	* Create a new item on the Items form
		* Make a change to these fields on the Items form: Item, Description, ABC Code, Commodity, Cost Method, Material Status, Reason, Backflush, Last Change, U/M, Unit Cost, S/N Track, Lot Track, Source, Order Minimum, Order Maximum, Alternate Item
		* Add or change an item description on the Multi-Lingual Items form
Sync	LCLTradeStatistics	* Print EU Sales List Report
		* Print SSD Transaction Listing Report
Sync	Location	* Create a new Warehouse
		* Update General Parameters form (creates a Location BOD with the site as the location)

Verb	Noun	User action to generate the BOD
Sync	Opportunity	* Create or update a record on the Opportunities, Customer Orders, or Opportunity Tasks form
Sync	PayableTracker	* Post a voucher or an Adjustment through the A/P Voucher Posting form
		* Post a payment from any of these forms: A/P Check Printing/Posting, A/P Draft Printing/Posting, A/P EFT Posting, A/P Wire Posting
Sync	PayableTransaction	* Post a voucher through the A/P Voucher Posting form
		* Post a payment from any of these forms: A/P Check Printing/Posting, A/P Draft Printing/Posting, A/P EFT Posting, A/P Wire Posting
		* Set or release a Hold status on a voucher
Acknowledge	PayFromPartyMaster	Acknowledge the receipt of a PayFromPartyMaster from an external application
Sync	PayFromPartyMaster	* Change any information on the Customers form
		* Change any information on the Ship Tos form
Sync	Person	* Add or update information about a salesperson or sales manager on the Salespersons form
		* Update information related to a salesperson on the Employees form (for employee sales people) or Vendors form (for outside sales people)
Sync	Personnel	* Add or update information on these forms: Employee, Employee Skills, Employee Cert/License, Employee Education, Employee Training Courses, Employee Work Experience, or Employee Position
Acknowledge	PlanningSchedule	Acknowledge the receipt of a Planning Schedule from an external application.
Acknowledge	ProductionOrder	Acknowledge the receipt of a ProductionOrder from an external application

Verb	Noun	User action to generate the BOD
Sync	ProductionOrder	* Applied filters on the Background Task generate this BOD for a firm job that is scheduled for the first time. This does not apply to jobs that have just been processed by the TriggerProductionOrderBGSyncSp Background task. You can add subsequent filters to reduce the number of BODs triggered by this task. Without filtering, after every scheduling or planning function a significant number of BODs could be created. * Change the status of a job or production schedule. * Change the Qty Released of a job or production schedule when the status is Released. Notes: Creating a job generates this BOD, but changes to a firm job do not generate this BOD. This BOD must be included in an initial load of ProductionOrder data.
Sync	ProjectMaster	Create a Project or change the project status.
Process	PulseAlert	One or more of these publications is triggered by a system event: CustomerCreditHoldAlert; CustomerInteractionFollowupAlert CustomerOrderCreditHoldAlert; CustomerShipmentAlert; DCShopFloorTransactionErrorAlert; JobMaterialCostAlert; JobOperationHoursAlert; JobOverProductionAlert; JobProjectedLateForCustomerAlert; LateOrderShippingAlert;LeadAssignedAlert; LockedUserAlert; OpportunityDueAlert; OverBudgetAlert; ProjectedLateShipAlert; ProspectInteractionFollowupAlert; ScheduledMaintenanceAddedAlert; ScheduledMaintenanceAlert; TransactionAmountAlert
Sync	PurchaseOrder	* Print the Purchase Order Report * Print a Change Order Report
Acknowledge	Quote	* Print the Purchase Order Report * Print the Builder Purchase Order Report * Change the Purchase Order status to Complete * Print a Change Order Report
Sync	Quote	Acknowledge the receipt of a Quote from an external application.
Sync	ReceivableTracker	Change the Estimate status to Quoted

Verb	Noun	User action to generate the BOD
Sync	ReceivableTransaction	* Generate an invoice for customers with an 'Open Item' balance method. The status is set as Open.
		* Generate a debit memo/finance charge for customers with an 'Open Item' balance method. The status is set as Open.
		* Make a payment and apply it to an invoice for customers with an 'Open Items' balance method. The status changes to Paid.
		* Generate a credit memo and attach it to an invoice for customers with an 'Open Item' balance method. This changes the status to Paid.
		(For bullet points 2, 3, and 4: If all or part of the debit memo/finance charge, payment, or credit memo is left unapplied, a second BOD is generated. Similar transactions are grouped and shown under an invoice number '0' with a status of Unapplied Cash.)* Create an invoice, payment, credit memo, debit memo or finance charge transaction for a customer with a 'Balance Forward' balance method. The system maintains one balance under invoice number '0'. Its status is set as follows: for a debit balance, the status is set as Paid; for a credit balance, the status is set as UnappliedCash.
Sync	ReceiveDelivery	* Perform material transactions that add inventory tied to these types of orders: Project, Job, Customer Order (with a negative quantity), Purchase Order, RMA, Production Order or Transfer Order that cause a material transaction to occur
		* Run the Multi-Site Quantity Move utility
Sync	RemittanceAdvice	* Post a payment from any of these forms: A/P Check Printing/Posting, A/P Draft Printing/Posting, A/P EFT Posting, A/P Wire Posting, or Print/Post Payroll Checks
Sync	RemitToPartyMaster	* Add or update Vendor information
		* Update the vendor's address information
		* Update Bank Address information
Acknowledge	Requisition	Acknowledge receipt of a Requisition from an external application

Verb	Noun	User action to generate the BOD
Sync	Requisition	* Print the requisition on either the Purchase Requisition Report or the PO Requisition Report forms * Convert a requisition to a purchase order * Convert additional items on an existing requisition (in this case, another BOD is created, replacing the original BOD)
Acknowledge	SalesOrder	Acknowledge the receipt of a SalesOrder from an external application
Sync	SalesOrder	* Print the Customer Order Verification Report * Change order header status to Completed
Sync	SecurityPermissionMaster	Add, delete or change the objects that a group or user can access.
Sync	SecurityRoleMaster	Add or delete a Group Authorization or change the group description.
Acknowledge	SecurityUserMaster	Acknowledge the receipt of a SecurityUserMaster from an external application.
Process	SecurityUserMaster	Add or change the user status, user description or workstation login.
Sync	ServiceOrder	Add or update Service Order or Service Order Operations or Lines.
Sync	ShipFromPartyMaster	* Add or update Vendor information * Update the vendor's address information * Update Bank Address information
Process	Shipment	* For customer orders or lines that are assigned to the local site and that are assigned to an external controlled warehouse, print the **Order Verification Report**. * For transfer orders or lines where the Ship From site is the local site and the Ship From warehouse is an external controlled warehouse, print the **Transfer Order Report**.
Sync	Shipment	* Perform material transactions that remove inventory tied to these types of orders: Project, Job, Customer Order, Purchase Order (with a negative quantity), RMA, Production Order or Transfer Order * Run the Multi-Site Quantity Move utility

Verb	Noun	User action to generate the BOD
Acknowledge	ShipmentSchedule	Acknowledge the receipt of a ShipmentSchedule from an external application
Acknowledge	ShipToPartyMaster	Acknowledge the receipt of a ShipToPartyMaster from an external application
Sync	ShipToPartyMaster	* Change any information on the Customers form, Ship Tos form, or Customer Sales Contact Cross References form
Sync	SourceSystemGLMovement	* Run the Change Reports To Entity utility * Run the Copy Balances to Budgets utility * Modify Chart of Accounts Budget and Plan information * Run the Rebalance Ledger Period Totals utility * Run Ledger Posting for Journals * Run the Mass Journal Posting utility
Sync	SourceSystemJournalEntry	* Post journal entries to a ledger
Sync	SupplierPartyMaster	* Add or update Vendor information * Update the vendor's address information * Update Bank Address information
Sync	Transfer	* Perform a Transfer Order Ship * Perform a Transfer Order Receive * Perform a Combined Transfer Order Ship/Receive
Sync	WorkCenter	Add a Work Center

Appendix D: Inbound BOD usage

This table shows the incoming BODs that CloudSuite Industrial can accept. It also indicates, when possible, what area of CloudSuite Industrial shows the processed inbound data.

Verb	Noun	Destination of processed data in CloudSuite Industrial
Load	BankStatement	Bank Statements form, and A/P automatic payments generated
Process	BillOfMaterials	Engineering Workbench, Current Operations, Engineering Board
Process	BillToPartyMaster	Customers form and related forms
Sync	CaptureDocument	tmp_voucher_builder table
Process	ChartOfAccounts	chart table
Process	CodeDefinition	Depends on type of code
Process	ContactMaster	Contacts form and related forms
Process	CurrencyExchangeRateMaster	currate table
Process	CustomerPartyMaster	Customers form and related forms
Sync	EmployeeTimesheet	Service order transactions, attendance, project Labor transactions, unposted job transactions (Indirect, Run or Setup)
Sync	ExpenseReport	prtrx table
Sync	InventoryAdjustment	Miscellaneous Receipt and Miscellaneous Issue forms
Sync	InventoryCount	Miscellaneous Receipt and Miscellaneous Issue forms
Process	ItemMaster	Items form and related forms
Process	PayableTransaction	Updates Vendor Paid YTD, Paid Fiscal YTD and Last Paid Date
Sync	PlanningSchedule	coitem table (blanket items)
Process	ProductionOrder	job table

Verb	Noun	Destination of processed data in CloudSuite Industrial
Process	Quote	Estimates form and related forms
Acknowledge	PulseAlert	N/A
Process	ReceivableTransaction	Updates Customer Posted Balance
Sync	ReceiveDelivery	If Type="Transfer" and Status="Received" create transfer order receipt. If Type="Purchase Order" and Status="Received"create PO receipt If Type="Customer Return" create RMA receipt If Type="Sales Order" create negative CO receipt.
Process	Requisition	preq table
Process	SalesOrder	Customer Orders form and related forms
Sync	SecurityUserMaster	coitem or trnitem table (depending on record type), last_external_shipment_doc_id
Acnowledge	Shipment	If Type="Transfer" and Status="Shipped" create Transfer Order Shipment If Type="Purchase Order" create Purchase Order Return If Type="Sales Order" and Status="Shipped" create Customer Order Shipment
Sync	Shipment	coitem or trnitem table (depending on record type), last_external_shipment_doc_id
Sync	ShipmentSchedule	coitem table (blanket items)
Process	ShipToPartyMaster	Customer Ship Tos form and related forms

Appendix E: BODs used in integrations with this application

This section contains the list of BODs that are available for integrations with CloudSuite Industrial.

Outbound BODs from the ERP to integrated applications

This table shows the BODs that are available with CloudSuite Industrial. Where the application is blank, the BOD is not currently used by interfacing applications, but the BOD is generated by CloudSuite Industrial and is available to be processed through ION and any application that is set up to receive it.

Verb	Noun	To applications
Sync	AccountingChart	d/EPM
Sync	AccountingEntity	d/EPM
Process	AdvanceShipNotice	SCE Warehouse Management
Acknowledge	BillOfMaterials	PLM Accelerate
Acknowledge	BillToPartyMaster	Infor Back Office Connect
Sync	BillToPartyMaster	CPQ/EQ CRM e-Commerce Infor Back Office Connect SCE Warehouse Management
Sync	ChartOfAccounts	d/EPM

Verb	Noun	To applications
Sync	CodeDefinition	CPQ/EQ CRM d/EPM EAM Expense Management Infor Back Office Connect PLM Accelerate
Sync	ContactMaster	CRM Infor Back Office Connect
	CurrencyExchangeRateMaster Sync	CPQ/EQ Expense Management
Process	CustomerPartyMaster	Infor Back Office Connect
Sync	CustomerPartyMaster	CPQ/EQ CRM e-Commerce Infor Back Office Connect PLM Accelerate SCE Warehouse Management
Sync	CustomerReturn	CRM Infor Back Office Connect
Sync	Invoice	CRM e-Commerce Infor Back Office Connect
Acknowledge	ItemMaster	PLM Accelerate
Sync	ItemMaster	CPQ/EQ CRM e-Commerce Infor Back Office Connect PLM Accelerate SCE Warehouse Management
Sync	Location	CRM e-Commerce Infor Back Office Connect

Verb	Noun	To applications
Acknowledge	PayFromPartyMaster	Infor Back Office Connect
Sync	PayFromPartyMaster	CRM Infor Back Office Connect
Sync	Person	CRM
Sync	Personnel	Expense Management
Sync	ProductionOrder	Expense Management
Sync	ProjectMaster	Expense Management
Process	PulseAlert	Infor Ming.le
Sync	PurchaseOrder	EAM SCE Warehouse Management
Sync	Quote	CRM Infor Back Office Connect
Sync	ReceivableTransaction	CRM Infor Back Office Connect
Sync	ReceiveDelivery	EAM
Sync	RemittanceAdvice	Expense Management
Acknowledge	Requisition	EAM
Sync	SalesOrder	CRM e-Commerce Infor Back Office Connect
Sync	SecurityRoleMaster	Infor Ming.le
Process	SecurityUserMaster	Infor Ming.le
Sync	ServiceOrder	Expense Management
Sync	ShipFromPartyMaster	SCE Warehouse Management
Process	Shipment	SCE Warehouse Management
Sync	Shipment	CRM e-Commerce Infor Back Office Connect

Verb	Noun	To applications
Sync	ShipToPartyMaster	CPQ/EQ CRM e-Commerce Infor Back Office Connect SCE Warehouse Management
Sync	SourceSystemGLMovement	d/EPM
Sync	SourceSystemJournalEntry	d/EPM
Sync	SupplierPartyMaster	EAM PLM Accelerate SCE Warehouse Management
Sync	WorkCenter	PLM Accelerate

Inbound BODs to the ERP from integrated applications

This table shows the BODs that can be received and processed by CloudSuite Industrial. Where the application is blank, the BOD is not currently used by integrating applications.

Verb	Noun	From applications
Load	BankStatement	Infor Local.ly
Process	BillOfMaterials	PLM Accelerate
Process	BillToPartyMaster	CRM Infor Back Office Connect
Process	CodeDefinition	Infor Back Office Connect
Process	ContactMaster	CRM Infor Back Office Connect
Process	CustomerPartyMaster	CRM Infor Back Office Connect
Sync	EmployeeTimesheet	Expense Management
Sync	ExpenseReport	Expense Management
Sync	InventoryAdjustment	SCE Warehouse Management
Sync	InventoryCount	SCE Warehouse Management

Verb	Noun	From applications
Process	ItemMaster	PLM Accelerate
Acknowledge	PulseAlert	Infor Ming.le
Process	Quote	CRM CPQ/EQ
Sync	ReceiveDelivery	SCE Warehouse Management
Process	Requisition	EAM
Process	SalesOrder	CPQ/EQ CRM e-Commerce
Sync	SecurityUserMaster	Infor Ming.le
Acknowledge	Shipment	SCE Warehouse Management
Sync	Shipment	SCE Warehouse Management
Process	ShipToPartyMaster	CRM Infor Back Office Connect