RFgen 5.1 Installation and Upgrade Procedures

RFgen's Mobile Unity Platform™
Mobile Development Studio
Android Client
iOS Client
Windows CE Client
Windows Desktop Client

RFgen

TABLE OF CONTENTS

Terminology

Authorization – See Device Authorization or Server Authorization**.**

Mobile - This option allows the user to leave the RF environment and manually or automatically switch to and from a connected state when collecting data and mobile applications. Is also referred to as a "Mobile Client" or "Offline mode".

CAB file – A single file which stores and compresses a set of other files in a file library. These files are used by the Windows CE Client.exe to complete the installation and build of the RFgen Client and configure the client as a Thin or Mobile Client. They are only used for Windows CE Devices and are NOT needed on Windows Desktop, Android or iOS devices.

Client Network Control (CNC) Service - The purpose of this service is to allow requests from the server to be performed on the device when device is not physically connected (i.e. via a USB cable to the server) and is only accessible via a wireless or cellular connection. It also enables the server to discover the device using UDP protocol. Device authorization by the server is not required for this level of communication.
You can install the CNC Service on a server or device from the *Windows CE Client*.exe, or you can build CNC.CAB files from the Mobile Development Studio > Device Management > Application Deployment.

Device Authorization - In the Mobile Development Studio > Device Management > Access / Authorized Devices screen, and in the Mobile Unity Platform Console > Device Authorizations screen is a table that tracks devices which have attempted to connect to or have connected to the server.

Unchecked boxes under *Offline Authorization* indicate the approval status of Mobile Clients, (devices that have a Mobile Profile installed). In this table, only Mobile Clients are tracked. Thin Clients (devices with a Thin Profile installed) are authorized automatically if the server has the necessary volume of licenses to allocate to them, AND the *Restrict Online Access* item remains unchecked. Mobile Clients also require licenses before they can be authorized. The Online Access and Offline Authorization columns are controlled by the *Restrict Online Access* setting under the Mobile Development Studio > Configuration > Environment Properties. See *Restrict Online Access* for more details about this setting.

Disconnect Mode – Refers to the startup state of the Mobile profile. When the RFgen offline (Batch) client is launched, it can be set to connect to the server or startup to run and not connect to the server.

Mobile Client – This term applies to any device (Android, iOS, Windows CE or Windows Desktop) that allows you to collect and transact business while connected to a wireless network, via cellular connection or while disconnected from the network.

Mobile Profile – In the Mobile Development Studio > Solution Explorer > Mobile Profiles option creates a "recipe" and instructions on what menus, databases, tables, applications, and connection startup and server connection settings a device should use when running as a RFgen client. For Windows CE devices, the CAB files include the Mobile Profile ID.

Online – In the Mobile Development Studio > Device Management > Access / Authorized Device screen, the "Online" header describes the connection authorization status for Thin clients.

Offline - In the Mobile Development Studio > Device Management > Access / Authorized Device screen, the "Offline" header describes the authorization status of Mobile Clients, which have the capacity to run mobile apps offline from the network, BUT switch to online (connected to network) for the purpose of synchronizing information with the server.

Restrict Online Client Access – controls how the server accepts or rejects device connection requests in the Mobile Development Studio > Device Management > Access / Authorized Device screen, and in the Mobile Unity Platform Console > Device Authorizations screen. The *Restrict Online Access* enable/disable setting is located under the Configuration > Environment Properties.

If *Restrict Online Access* is checked, all online client's connection requests will be rejected by the server unless the server finds they have been approved at a prior time. This also displays the "*Online Access*" column in the Device Authorization screen. If its unchecked, all devices requesting a connection will be automatically approved unless the client has a Mobile profile installed. Mobile Clients with a Mobile profile will require manual approval (a checkmark under *Offline Authorization*), on the **Access / Authorized Device screen or** the Mobile Unity Platform Console **Device Authorization** screen regardless of whether *Restrict Online Access* is checked or unchecked.

Server – Unless otherwise stated, in this document, "server" refers to the Mobile Development Studio which also provides RFgen server services and is installed when you install the Mobile Unity Platform.

Server Authorization – To run the Mobile Unity Platform services from the console or Mobile Development Studio, a license (required for both) must be installed on the server where the products are installed AND each must have an authorization code granted by RFgen Support. See *Authorizing the Server* for details. There is different from *Device Authorization* which is the process of accepting device connection requests from the server.

Thin Client – A mobile device which can only run Mobile Applications developed in the RFgen Mobile Development Studio when its connected to the RFgen server.

Introduction

RFgen's *Mobile Unity Platform™* provides software programs that enables database management systems and Enterprise Resource Planning (ERP) system users to:

- Easily develop advanced Radio Frequency data collection (RFDC) applications
- Deploy RFDC applications to mobile devices
- Collect and transact data while connected to or disconnected from the network
- Manage and monitor the server, ERP connections, RFgen clients/users, and transaction processes.

This document covers the installation and upgrade procedures for all the executables and add-on modules which can be downloaded from the RFgen Portal. These are:

- Mobile Development Studio
- Mobile Unity Platform™
- Android or iOS Client
- CE Client (for Windows CE or Windows Mobile devices)
- Windows Desktop Client

The **Mobile Unity Platform** is a session enabler and manager that allows data collection devices to interact with the databases or (optionally) with legacy /Host screens and ERP packages in multi-user/pooled connection mode. Management of services, devices, users, transactions as well as other administrative functions are controlled from various consoles and dashboards. Access the RFgen server is through the RFgen Mobility Unity Platform Services console.

The **Mobile Development Studio** is graphical and script-based solution for rapid development, test, deployment and management of wireless, data collection solutions (mobile applications). The Mobile Development Studio system is structured to interface with systems using ODBC/SQL, Host Screen Mapping protocols, XML, and select ERP packages. Development of applications is described in the next section under *Solution Designer*.

The **RFgen Mobile Client**, **Windows CE Client,** and **Windows Desktop** software enables your devices to communicate with the RFgen server in online mode (Thin client) and online/offline mode (Mobile client). They also help the server discover RFgen clients on the network.

The **Mobile Enterprise Dashboard, Transaction Management Dashboard, and User Management Console** help you monitor your connected sessions, transactions, and users respectively. These dashboards can be downloaded for installation from the RFgen portal and use the same installer as the *Mobile Unity Platform/Mobile Development Studio*.

The **Team Foundation Server Integration** is automatically installed with the *Mobile Development Studio*. If installed using the Team Foundation Server Integration, it must be installed on the same system where your Mobile Development Studio is installed. It also uses the same installer as the *Mobile Unity Platform/Mobile Development Studio*.

Documentation

This guide covers the installation process for all RFgen products. If you are planning on upgrading from an existing version of RFgen, see the Upgrade section of this guide.

Refer to the *User Manual* for information on using all the products. Its available under the RFgen v5 location of your Windows Start menu and on the RFgen Portal.

Server Requirements

Licensing Requirements

- RFgen 5.1 requires a RFgen 5.1 server license to operate. If the server is not licensed, the Mobile Unity Management console will show the License Status is "**Not Authorized**", and the server will start-up in a paused mode and will not accept connections. If you had the Mobile Unity Platform console icon installed to your Microsoft Windows tray, the "**Start Mobile Unity Service**" from the Windows Tray Menu will be greyed out.

- A RFgen 5.0 license on the server cannot be upgraded to a 5.1 license. If you plan on upgrading from RFgen 5.0 to 5.1 please contact Support or your Sales Rep to receive a new, temporary or permanent RFgen 5.1 license.

- If issued a Temporary license, make sure that when you are ready for permanent usage, that you request a permanent license for the number of Thin or Mobile Clients you intend to use from your sales rep or RFgen Support.

Server Supported Platforms

Windows Servers 2008, 2012, 2016 and 2019.
(Also, compatible with Windows 8, 8.1 and 10)
Virtual Machine Server - Configure to use just one CPU. From experience, RFgen and the Host System work faster and more reliable on one CPU.

Trial Servers and Test Servers

RFgen recommends the purchase of an RFgen Development/Test Server. This server is not for production, but for application development and testing purposes only. A license is required to run a server for a trial period. A permanent license is required for the Mobile Development Studio and the Mobile Unity Platform. Contact your sales representative to obtain a license.

Minimum Hardware Requirements

Processor - 2 GHz or better; Intel or AMD chip
Memory – See *Memory Requirements by Connection Type* below.
Hard disk space - An RFgen installation can use up to 500 megabytes of hard drive space depending on how many options are installed.

Memory Requirements by Connection Type

ERP or System	RFgen Server	Client Connection	Database Connection	Screen Mapping	ERP Connection
Deltek CostPoint	15	10	10	NA	NA
General Connectivity/Legacy Systems	15	10	10	25	NA
Oracle E-Business Suite	15	10	10	NA	NA
Oracle JD Edwards	15	10	10	25	100
Oracle SCM	15	10	NA	NA	NA
SAP	15	10	NA	NA	30

Notes:

Deltek CostPoint

Deltek CostPoint uses a Web Service object in place of an ERP Connection and the memory usage by the web service is nominal.

General Connectivity & Legacy Systems

If your data connector is setup for Connection Pooling (a licensed database connection shared by multiple clients), each pooled connection would use approximately 10 megabytes. To estimate your memory requirements, multiply the total number of pooled connections by 10. For example, 5 pooled connections would require approximately 50 megabytes.

If Connection Pooling is disabled, each active client would have its own connection, and each connection would use approximately 10 megabytes. To estimate your memory requirements, multiply the total number of client connections by 10. For example, 5 client connections would require approximately 50 megabytes.

Oracle JDE

If your JDE is setup for Connection Pooling, (a single licensed database connection shared by multiple clients), each pooled connection would use approximately 100 megabytes. To estimate your memory requirements, multiply the total number of pooled connections by 100 megabytes. For example, 5 pooled connections would require about 500 megabytes of memory.

If Connection Pooling is disabled, each client would have its own connection, and each connection would use approximately 100 megabytes. To estimate your memory requirements, multiply the total number of client connections by 100 megabytes. For example, 5 client connections would require approximately 500 megabytes of memory.

Oracle EBS

If your ERP is setup for Connection Pooling (a licensed database connection shared by multiple clients), each pooled connection would use approximately 10 megabytes. To estimate your memory requirements, multiply the total number of pooled connections by 10. For example, 5 pooled connections would require approximately 50 megabytes.

If Connection Pooling is disabled, each active client would have its own connection, and each connection would use approximately 10 megabytes. To estimate your memory requirements, multiply the total number of client connections by 10. For example, 5 client connections would require approximately 50 megabytes.

|	
Oracle SCM Cloud	If your data connector is setup for Connection Pooling (a <u>licensed</u> database connection shared by multiple clients), each pooled connection would use approximately 10 megabytes. To estimate your memory requirements, multiply the total number of pooled connections by 10. For example, 5 pooled connections would require approximately 50 megabytes.
	If Connection Pooling is disabled, each active client would have its own connection, and each connection would use approximately 10 megabytes. To estimate your memory requirements, multiply the total number of client connections by 10. For example, 5 client connections would require approximately 50 megabytes.
SAP	If SAP is setup for Connection Pooling (a <u>licensed</u> database connection shared by multiple clients), each pooled connection would use approximately 30 megabytes. To estimate your memory requirements, multiply the total number of pooled connections by 30. For example, 5 pooled connections would require approximately 150 megabytes.
	If Connection Pooling is disabled, each active client would have its own connection, and each connection would use approximately 30 megabytes. To estimate your memory requirements, multiply the total number of client connections by 30. For example, 5 client connections would require approximately 150 megabytes.

Installation Security Requirements

Local Administrator permissions are required to install RFgen software. Once its been installed, RFgen can be configured to run as a service. For more details, refer to the RFgen Knowledge Base at https://www.rfgen.com/online-knowledgebase

## Downloading the RFgen Server Software

a. Go to https://www.rfgen.com/product-portal

b. Follow the prompts to log in. If you do not have a Product Portal user account, please register. Once you are done, return to the portal, select **Product Downloads** and navigate to the **version 5.1.x**

c. Select the desired file and download it.

   To install the RFgen Server, all its dashboards, and the Mobile Development Studio, select the "**RFgen Mobile Unity Platform**" package.

   To install the server for development purposes, select the "RFgen Mobile Development Studio.

   Select the 32-bit or 64-bit version. The 32-bit version will run on a 64-bit system.

Installing RFgen Products

To get started, simply click on **RFgen's Mobile Unity Platform.exe** or **Mobile Development Studio.exe**. The Welcome screen displays. Click **Next** to continue.
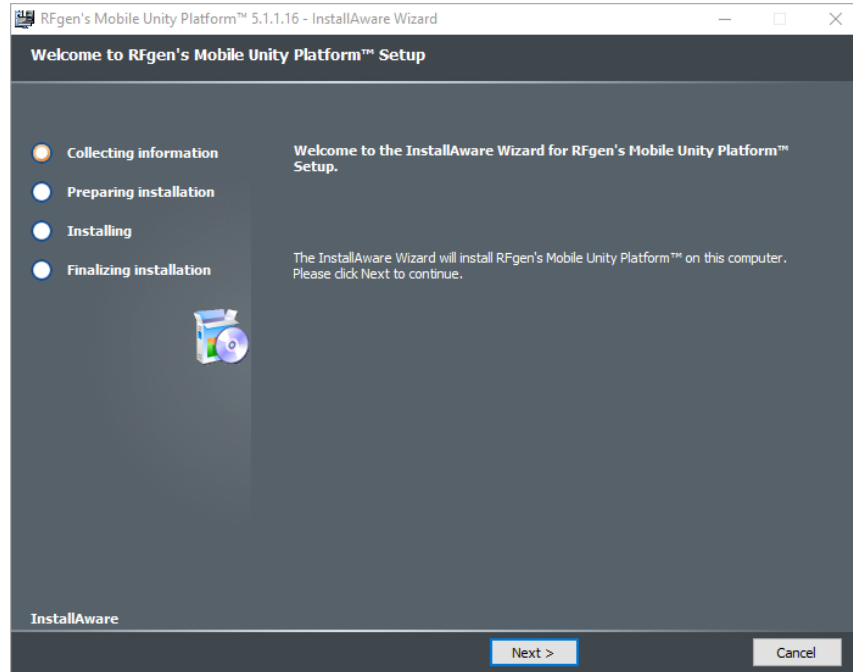

License Agreement
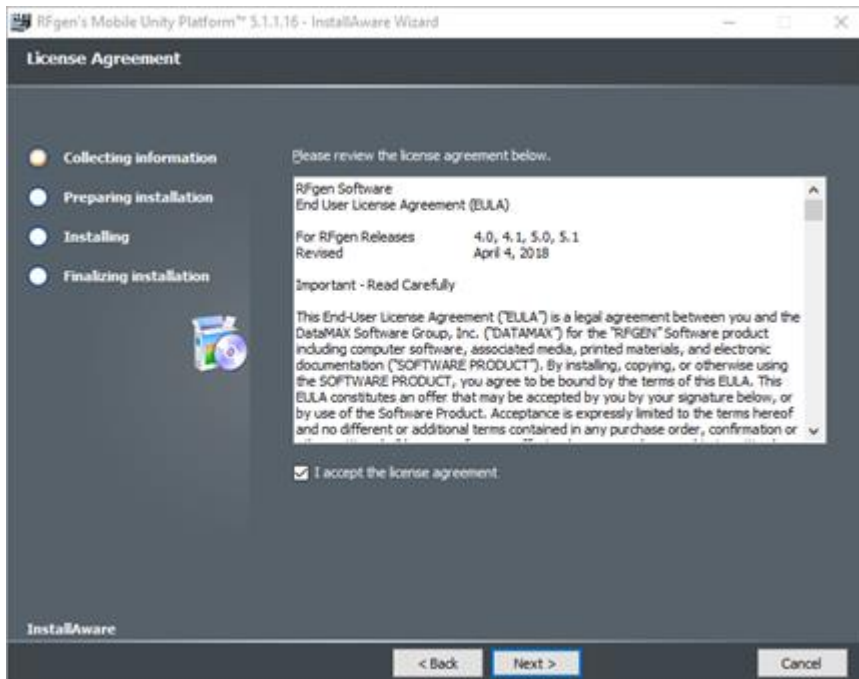
If you are installing RFgen for the first time, this screen displays. Click the "I accept the license agreement" then click Next to continue.

Select Type
If you want to install all products – *Mobile Development Studio*, the *RFgen Mobile Unity Platform* server and console, *Mobile Enterprise Dashboard*, *User Management Console*, and the *Transaction Management Dashboard* -- select **Complete Setup**.

If you want to install a specific product such as the Mobile Unity Platform server and its console but not any of the other products, select **Personalized Setup**.
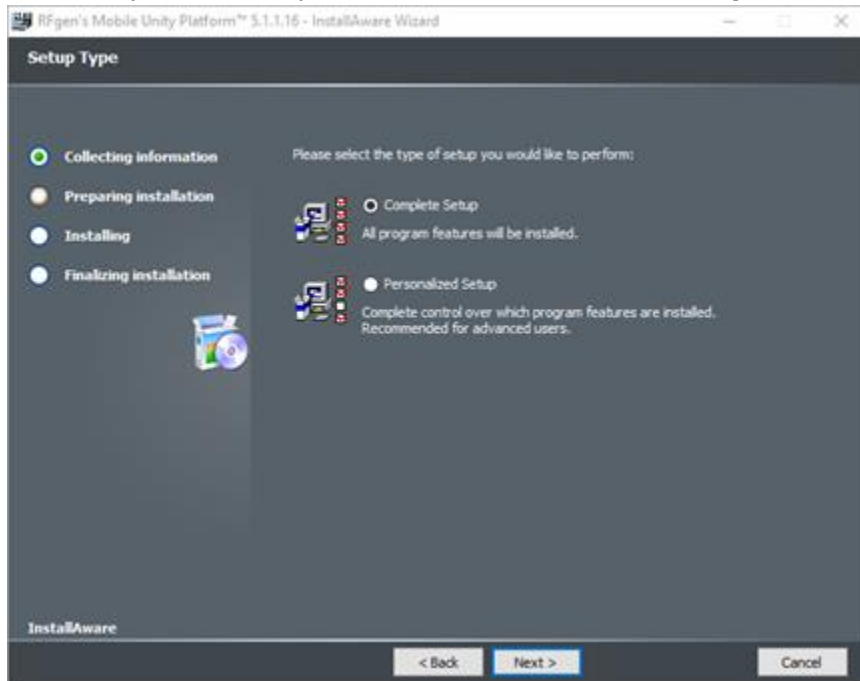
Select Features

If you had selected *Personalized Setup*, you to select which programs to NOT install.
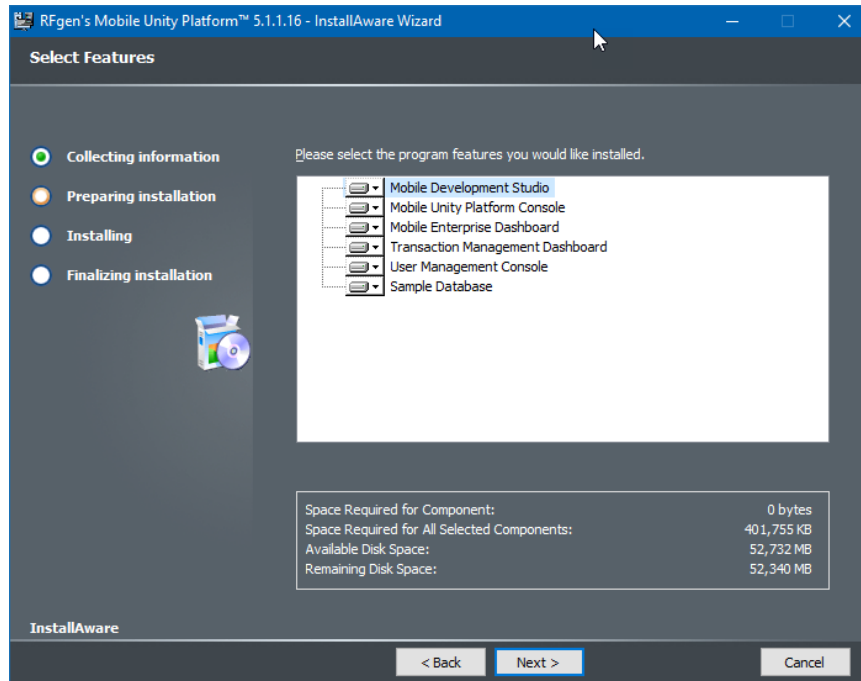

Select Features

To exclude a program from installation, click on the down arrow and select "X Entire feature will be unavailable" then click Next. The other options on the menu install the product to the location setup in the Destination screen (next screen after this one).
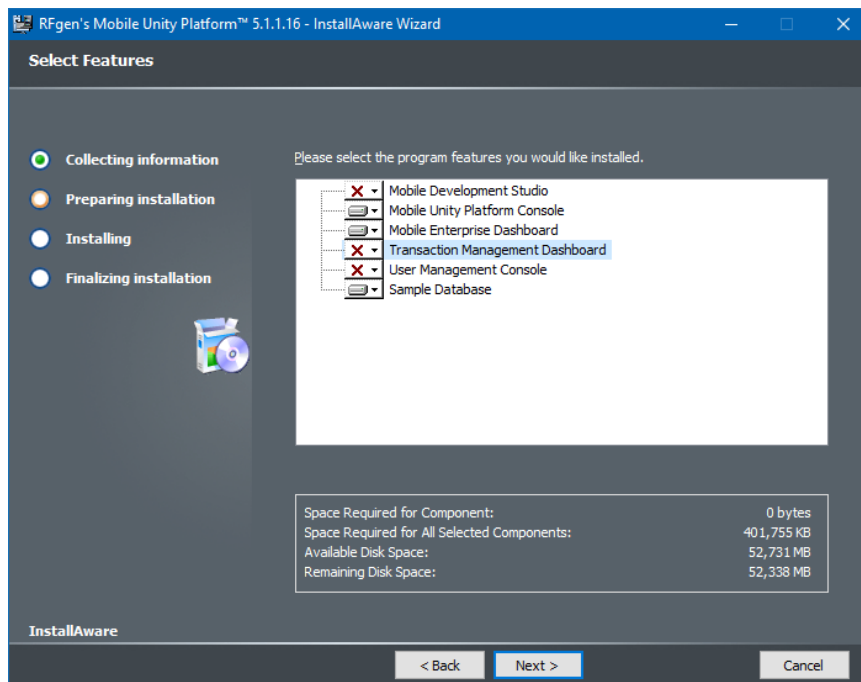
In this example above, only the *Mobile Unity Platform* server/console, and *Mobile Enterprise* dashboard will be installed. The *Sample Database* is only installed if you are performing an upgrade.

Destination Folder
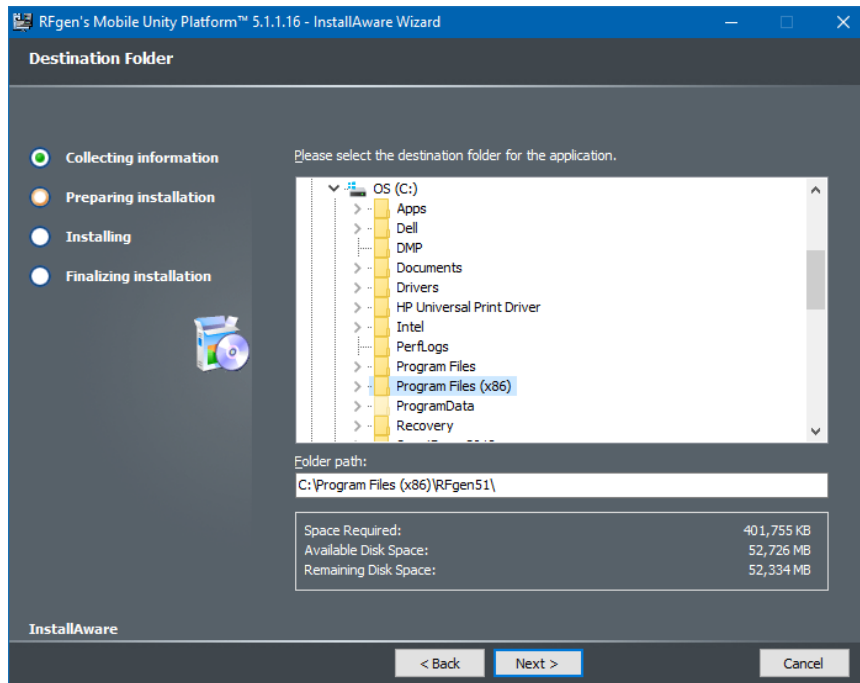
If you are installing the 64-bit version or x86-bit version, the installer defaults to these locations respectively:
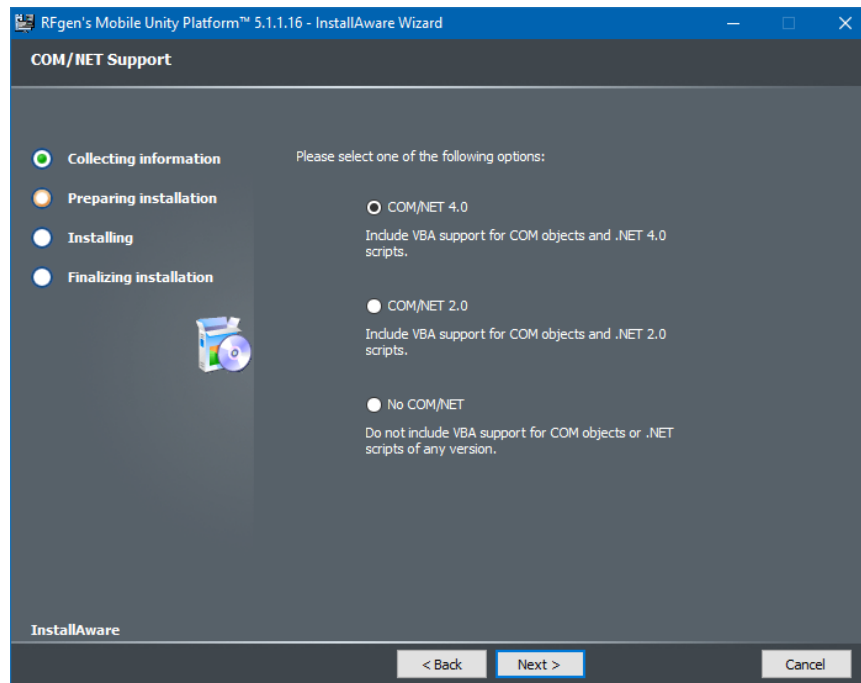`\Program Files\RFgen51` or `\Program Files (x86)\RFgen51`

The default database (RFgen.db) installs to:
`C:\ProgramData\RFgen51`

Change the folder path if you wish to install to a different folder, then click Next to continue.

COM/NET Support (Visual Basic Application Environment Extensions)

The COM/NET Support screen allows you to install additional software that extends the functionality of Microsoft Visual Basic for Applications (VBA). VBA is the programming language used to develop mobile applications in the Mobile Development Studio.

No COM/NET - Choose this option if you are only planning on using the server, and DO NOT plan on developing applications in the *Mobile Development Studio*, or, you want to simply skip installation of COM/NET right now. You can choose to install it later via this installer.

COM/NET 4.0 – Choose this option if you plan on developing or customizing applications in the *Mobile Development Studio* and do not have mobile apps using scripts coded with dependencies to older versions COM or NET. COM/NET 4.0 is not backwards compatible with older versions of code.
**Note 1:** Once you install COM/NET 4.0, it cannot be removed individually without removing the entire set of products.

Note 2: If you are planning on connecting the *RFgen Mobile Development Studio* to the Microsoft Team Foundation Server for code management (source control) purposes, the Microsoft .Net Framework 4.5 is required on the same system where your RFgen Mobile Development Studio is installed.

COM/NET 2.0 – Choose this option if you plan on developing new mobile applications or mobile applications that you plan on modifying and you know these use the VBA code used this version of COM/NET.
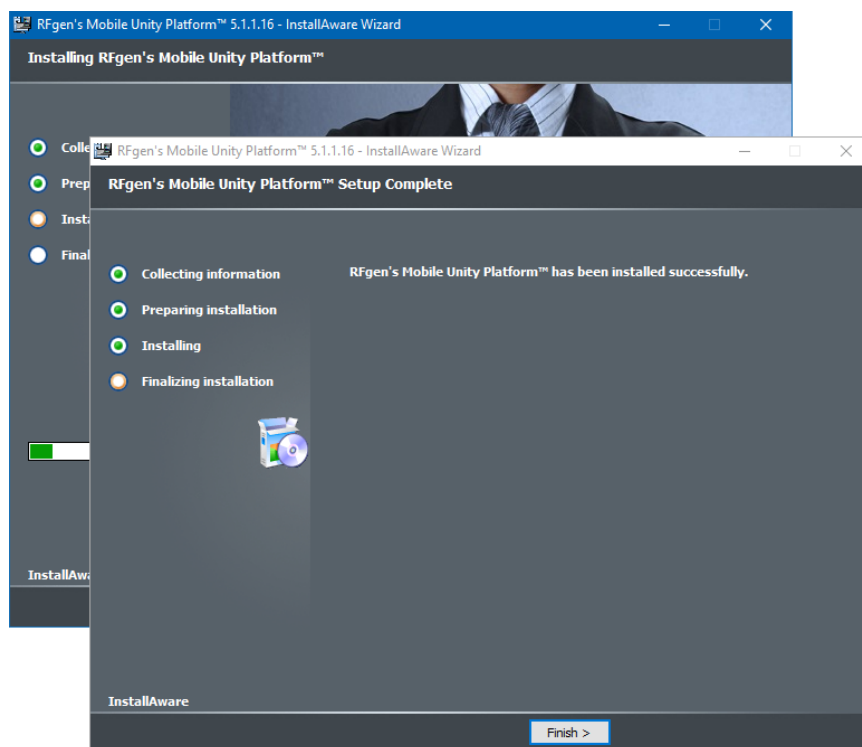
Note: Once you install COM/NET 2.0 it cannot be removed individually without removing the entire set of products.

**Ready to Install**
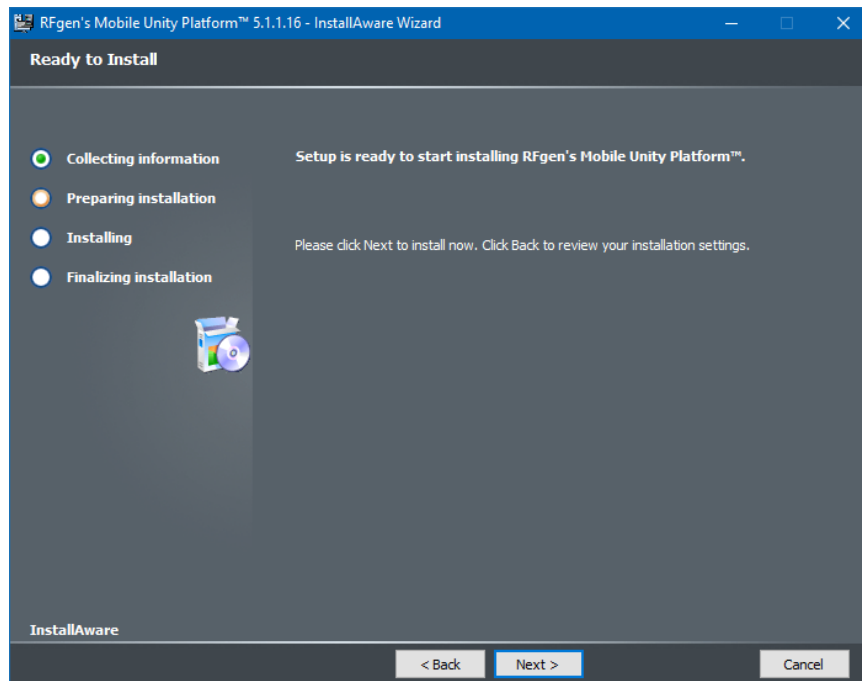
Click Next to complete the process.

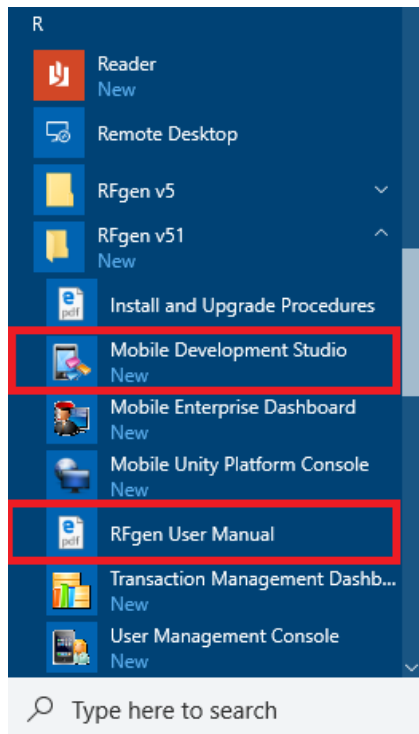**Installing RFgen's Mobile Unity Platform™/Setup Complete**

Click Finish to complete the installation.

To View the Console or Mobile Development Studio

To launch/view the Mobile Unity Platform console/server, or the Mobile Development Studio, click on your Microsoft Windows tray and select the icon shown below to display the console
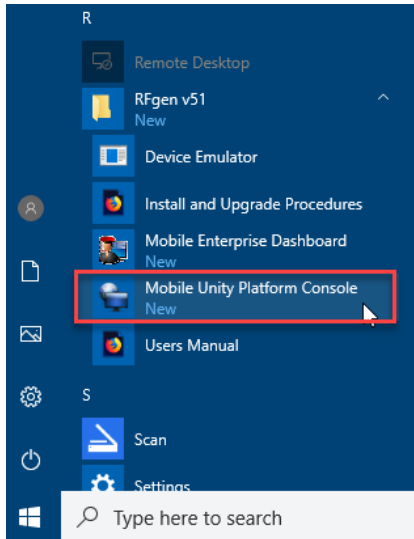
Example of the Personalized Setup (where Mobile Unity Platform Console was selected) installation from the Windows Start > Programs Menu.

Example of Complete Setup Installation from the Windows Start > Programs Menu.

To launch the *Mobile Unity Platform* server service or the Mobile Development Server, click on your Start > Program Menu. Click on the RFgen Services icon to launch the console.

The RFgen Services icon (server with a person) displays in your Windows Tray, the server service is running.

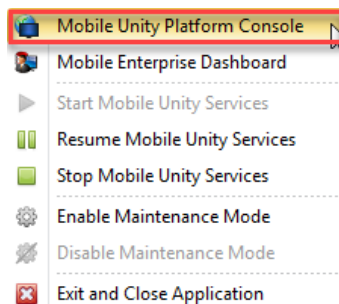If this icon (server with a red circle) displays the services are not running.

If this icon (server with an orange triangle) displays, the service is suspended.

This icon will also launch the console from your Windows menu tray.

Right-click on any of the icons above and select *Mobile Unity Platform Console* from the menu.

The following screen displays. If the License Status shows "Unauthorized" you will need to obtain a license and have it authorized in order to run the RFgen services. The next section describes how to authorize your server once you have obtained
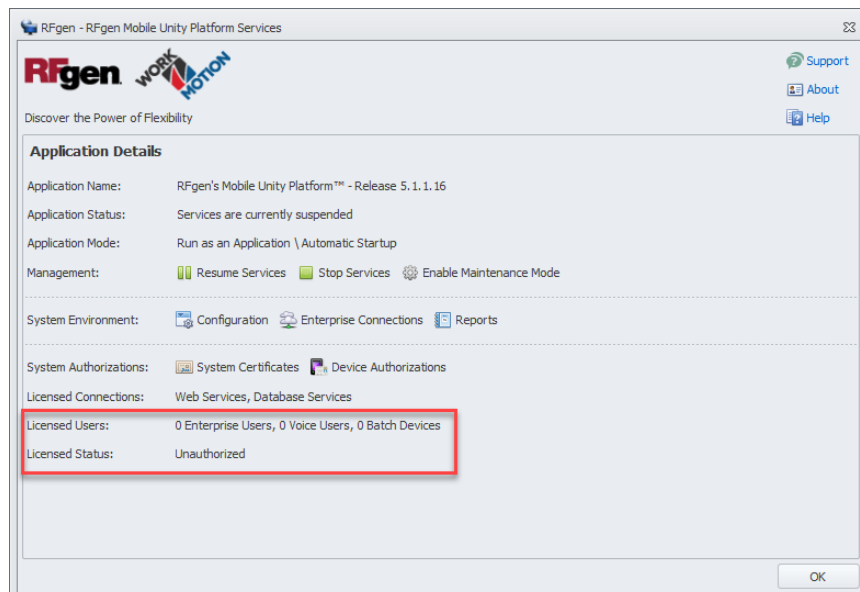
a license.

Authorizing Server Services

Option one: Authorization via email

This option is for those who may want to manually install the authorization certificate to their Mobile Unity Platform server and/or their Mobile Development Studio server.

1. Upon purchase of a license, RFgen assigns and emails you a Customer ID and serial number. The Customer ID and Serial Number will look like the example below:

   ```
   Customer ID  7382
   Serial Number  KXI8N-9384
   ```

2. Submit your Customer ID, serial number, and your server system's ID/fully qualified domain name to:
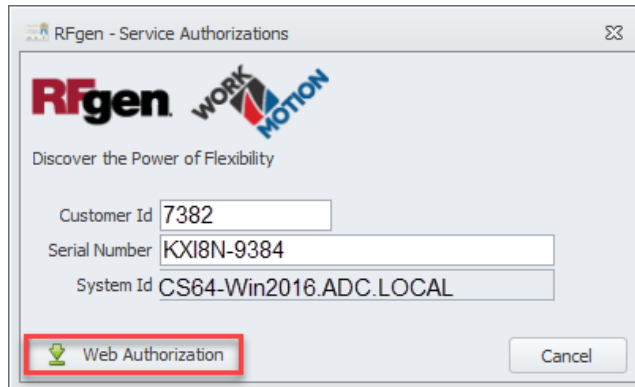   > Support@RFgen.com
   > Subject: Technical \ Licensing

   Note: If you lost your customer ID or serial number, you can still request an authorization certificate via email. Be sure to include your company's information, **server's system ID/fully qualified domain name**, and your email address. The server system ID is necessary to help RFgen create the authorization certificate.

3. Support will verify your purchase information and then email your: Customer ID, serial number, authorization certificate (RFgen.cert), and certification installation instructions.

4. Once you receive the certificate from RFgen Support, follow their email instructions.

Option two: Authorization via RFgen Web Authorization

This option is best for fresh installs of the Mobile Unity Platform.

It requires you to enter your customer ID and serial number. Your system ID is located automatically by the Mobile Unity Platform server and submitted for you when you click on Web Authorization button.
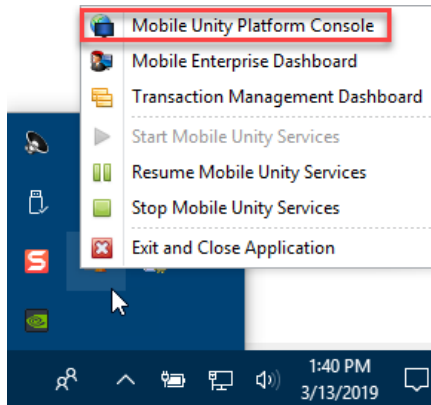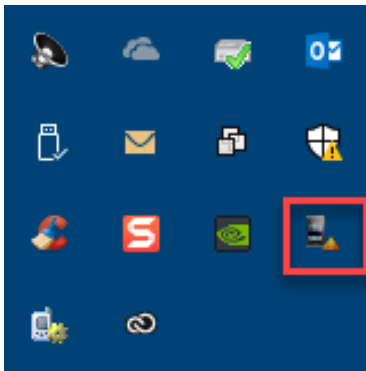
1. From your Windows system tray, click on the Mobile Unity Platform Console icon and select the Mobile Unity Platform Console.

   Or, from your Windows Start menu, select RFgen v51 > Mobile Unity Platform Console.
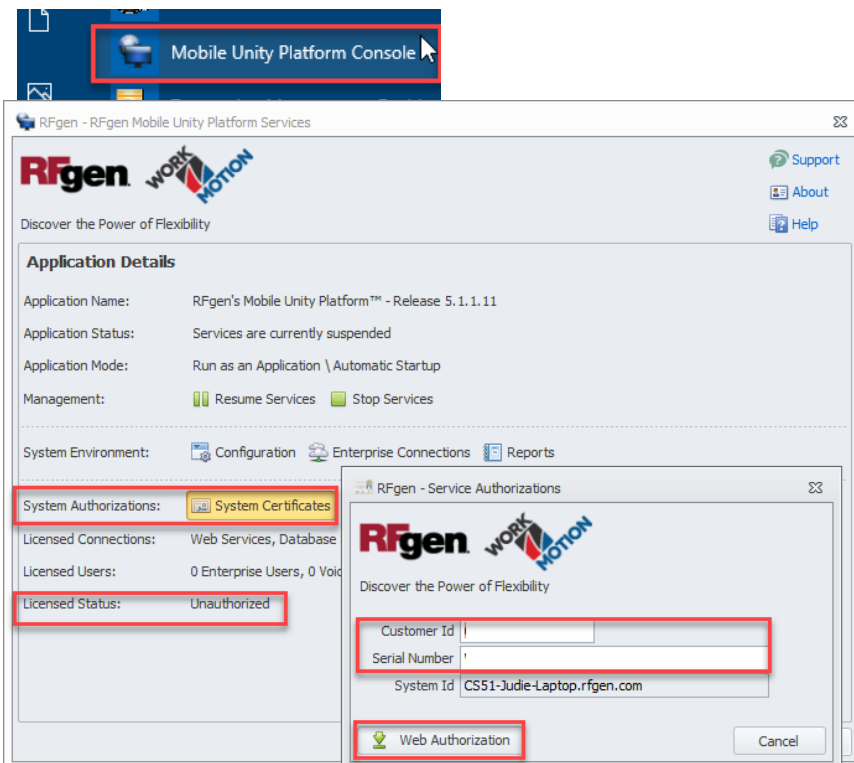
2. The Mobile Unity Platform console displays. The Application Status will be "Services are currently suspended" and the License Status will be "Unauthorized."

3. Click on the System Certificates icon. The RFgen – Service Authorization screen displays.

Enter your customer ID and serial number. For example:

```
Customer ID  7382
Serial Number  KXI8N-9384
```
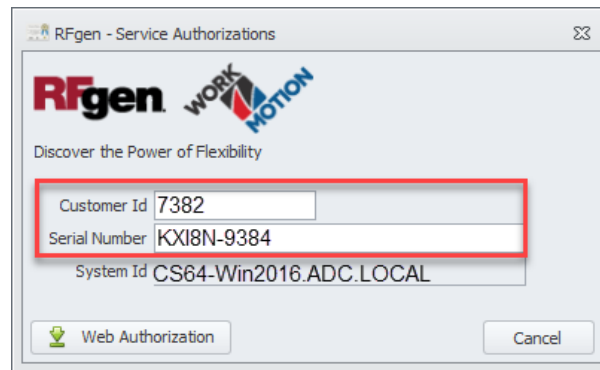

4. Click on Web Authorization button again to exit the screen if it doesn't close automatically.
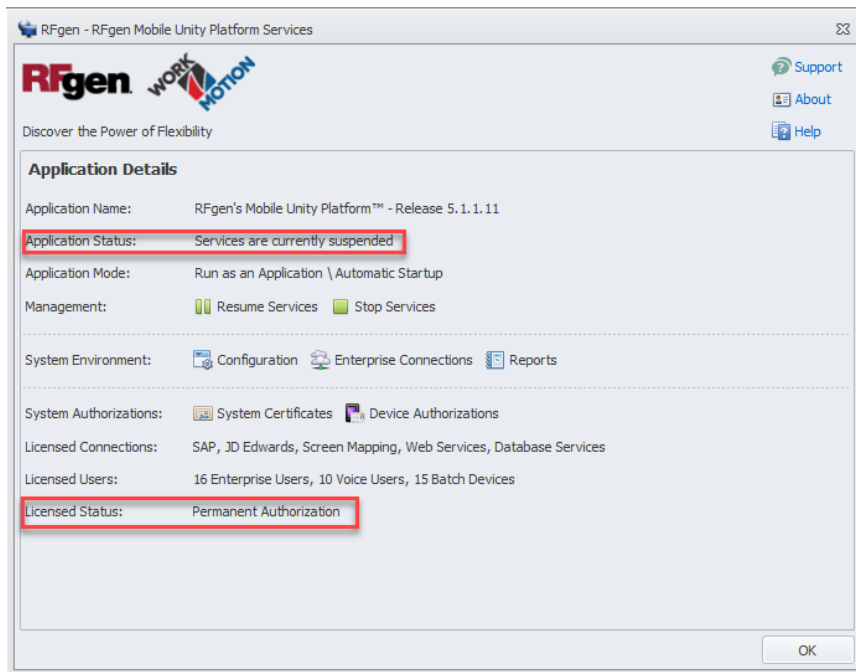
The Application Status will be "Services are currently suspended."
The License Status will change to "Permanent Authorization."

5. Before you can start Mobile Unity Services, click on "Stop Services" in the console. You can also right click on the paused server icon and select "Stop Mobile Unity Services."

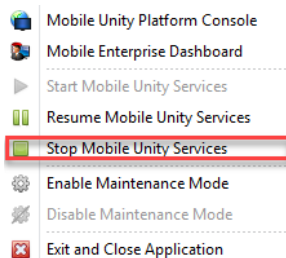6. After the Stopped Services icon displays, right-click on this icon ![icon] and select "Start Mobile Unity Services."

Mobile Unity Platform Console
Mobile Enterprise Dashboard
Start Mobile Unity Services
Stop Mobile Unity Services
Enable Maintenance Mode
Disable Maintenance Mode
Exit and Close Application
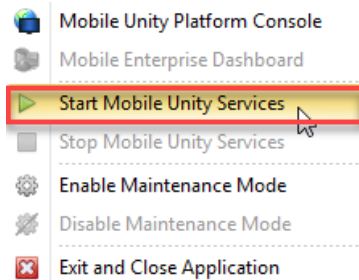
7. The icon changes to the Services Running ![icon] icon and the menu list changes to "Suspend Mobile Unity Services" and "Stop Mobile Unity Services."

Mobile Unity Platform Console
Mobile Enterprise Dashboard
Start Mobile Unity Services
Suspend Mobile Unity Services
Stop Mobile Unity Services
Enable Maintenance Mode
Disable Maintenance Mode
Exit and Close Application
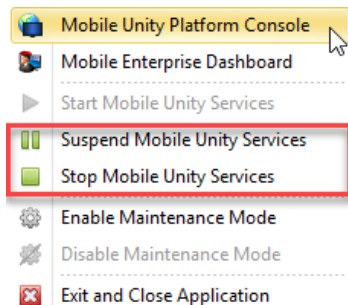
8. Select "Mobile Unity Platform" to view your console. Note: You can also click on the blue server icon in your Windows tray to display the console.

Mobile Unity Platform Console
Mobile Enterprise Dashboard
Start Mobile Unity Services
Suspend Mobile Unity Services
Stop Mobile Unity Services
Enable Maintenance Mode
Disable Maintenance Mode
Exit and Close Application
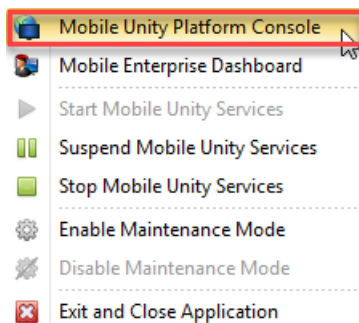
The Mobile Services Console displays.

9. In the console, the Application Status shows "Services are currently up."
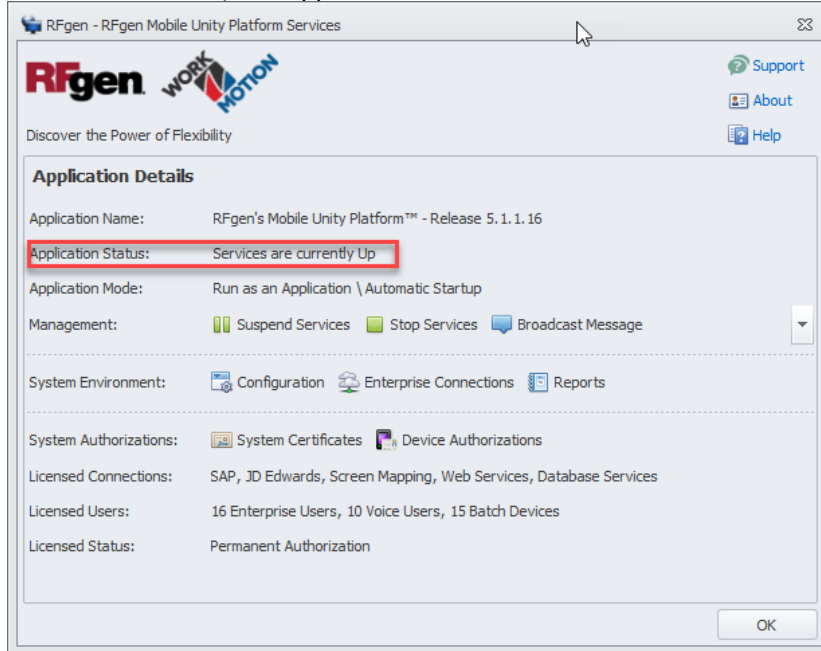
Now you can begin configuring and setting up connections if desired.

For more information, refer to the online help:
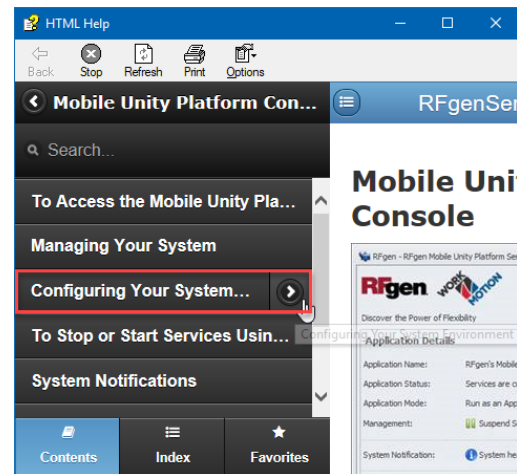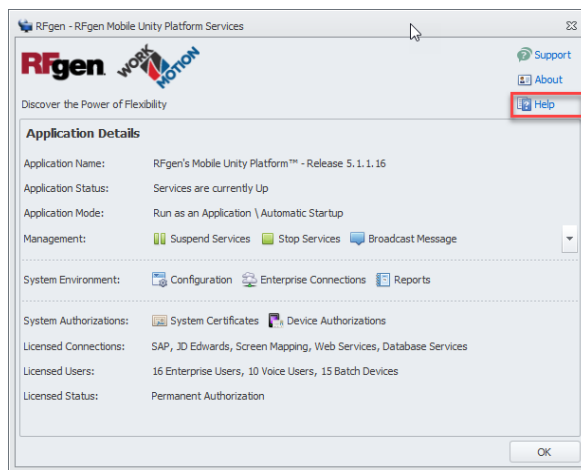
Or, you can refer to the **RFgen User Guide** for more details. This user guide is available from your windows Start > RFgen51 programs menu.
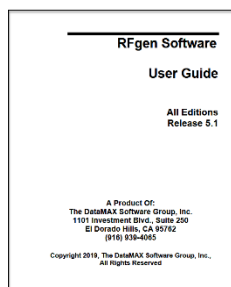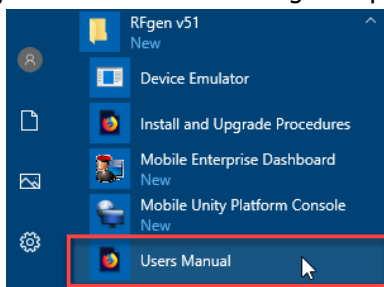
Client Overview

RFgen provides client software which must be installed to the device prior to deploying your mobile application to the device. The four basic device platforms are Android, Apple iOS (but not Macintosh or Apple computer platforms), Windows desktop systems, and the compact embedded, Windows CE.

The **RFgen** client packages install software to Android, Apple (iOS), Windows Desktop Systems and Windows CE/Windows mobile devices, and enables them to communicate with the server, run applications developed in the Mobile Device Studio, and allow the user to configure the Mobile Clients to start up offline or online mode, and make changes such as modifying or renaming tables in the mobile database.

The ***Windows CE Client*** package which installs to Windows CE\Windows Mobile also requires the installation of CAB files which help the installer build the RFgen client.

Supported Mobile Operating Systems

- **Android** devices – v3 and higher
- **iOS** – v8 and higher
- **Windows CE\Windows Mobile –** v7 and lower
- **Windows Desktop** systems (i.e. Windows 8, 10, etc.)

Package Download Locations

The client installation software locations are:

- RFgen portal – Windows Desktop or Windows CE/Mobile Client
- Apple App Store – RFgen Client for iOS
- Google Play Store – RFgen Client for Android
- Note: If you have experience with developing Android apps, you can also download the Android Client software and manually install the client.

RFgen Portal Download

    a. Go to https://www.rfgen.com/product-portal
    b. Follow the prompts to log in. If you do not have a Product Portal user account, please register. Once you are done, return to the portal, select **Product Downloads** and navigate to the **version 5.1.0**
    c. Select the desired file and download it.

Server and Database Preparation (All Platforms)

- Do you want to install a Thin or Mobile Client?
  If you select "Thin" the RFgen Client will try to connect with the server when its launched.

  If you select "Mobile," the RFgen Client which startup mode do you want?
  a) Offline?   b) Online?

- If creating a Mobile Client, which type of database do you plan on using? Will a subset of the database type (i.e. SQLite) be supported on the device you plan on installing it to?

o   Have you licensed and installed your authorization certificate to your server?

Is your license setup for the volume of Thin or Mobile (fat) Clients you intend to install? Open your Mobile Unity Platform Console to view Licensed Users.

Note: If the server is not licensed, (License Status is "Not Authorized"), it will start-up in a paused mode and will not accept connections, or the "Start Mobile Unity Service" from the Windows Tray Menu will be greyed out.
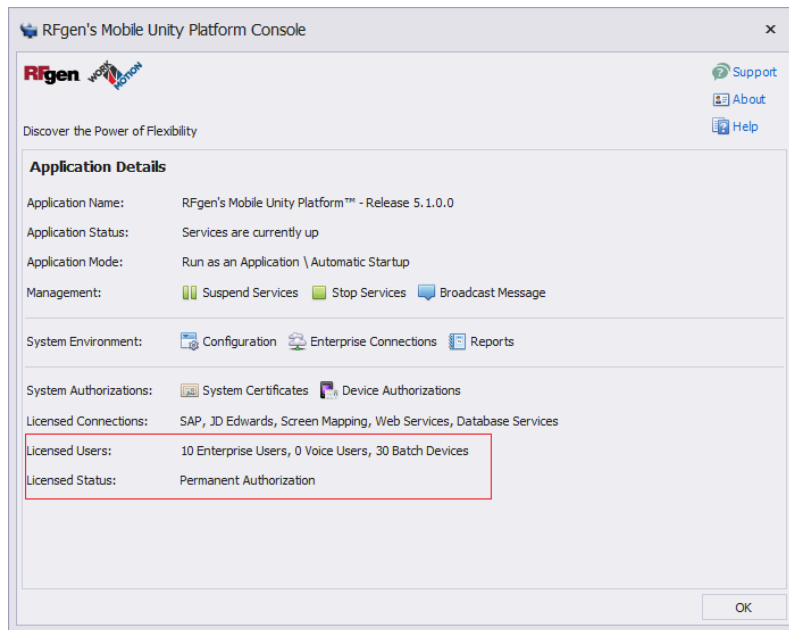
Example of a server that has been licensed

How do you want the server to authorize clients?

a) Do you want the server to automatically authorization all online client requests?
or
b) Do you want to manual authorize all online clients?

If you want option a, do not check the **Restrict Online Access** box in Configuration > Environment Properties. The RFgen – Authorization screen under Device Management > Access / Authorized Device will display the "Offline Authorization" column and hide the "Online Authorization" column.
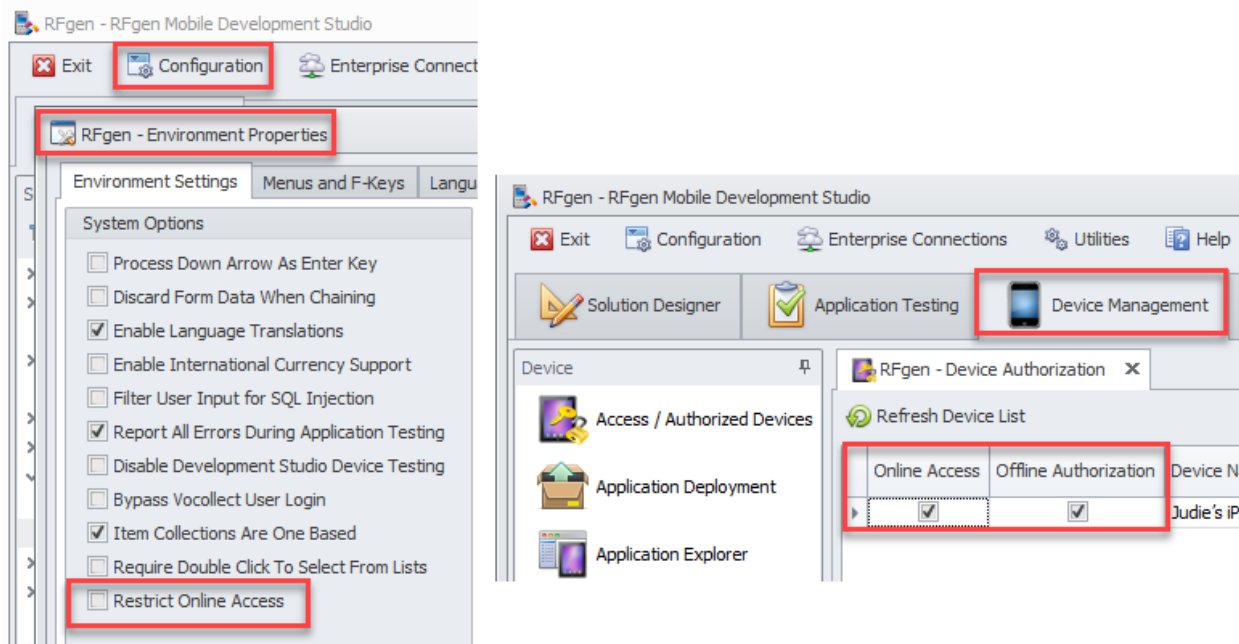
If you want option b, (manual authorization of online client connections to the server), check the **Restrict Online Access** box. The Device Management > Device Authorization screen will look like the screen below. Notice the Online Access column is displayed. You will have to manually check the device's *Online Access* box before the server accepts Thin Client connection. In options a or b, if a Mobile Client needs to connect, the server rejects the connection unless you check the *Offline Authorization* box for the client.
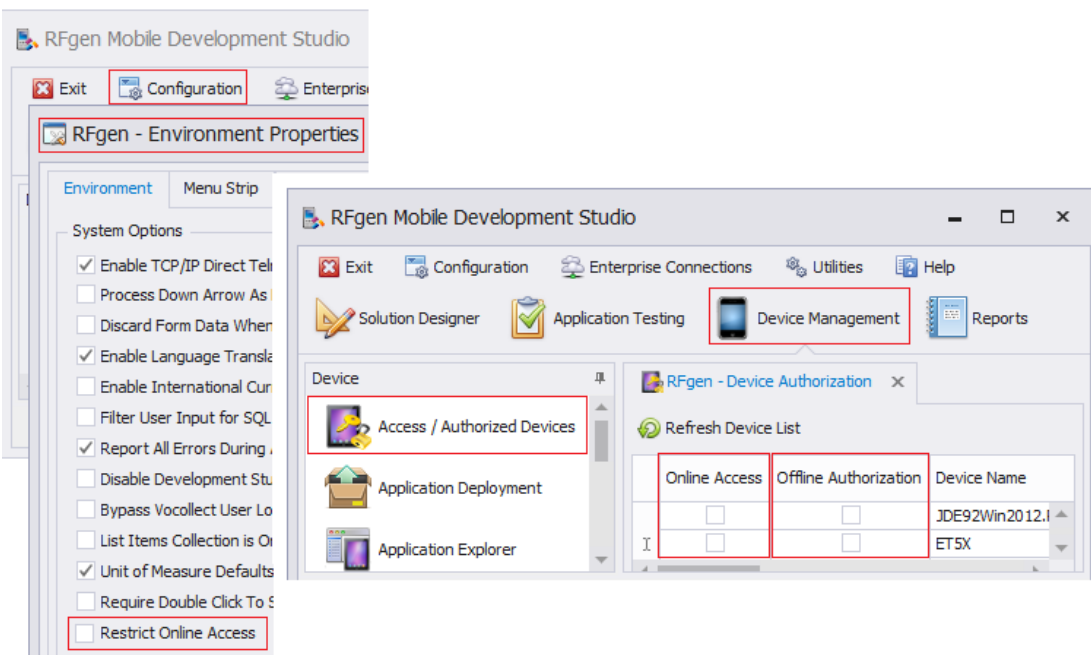
Client Requests and Server Authorization Examples

Here are four scenarios on the device's next steps AFTER the client software is installed and the Mobile Profile was received, but before the user can login and work. (The download of mobile profiles to the client does not require server connection approval.)

Client Profile: Thin; **Startup mode**: Connect Online; **Authorization Setting:** Restrict Online Client Access is underlined. underlined unchecked. (All Thin Clients are automatically approved.**)**

Client		Server	Device Authorization
Requests connection	→	Receives request	Authorizes Thin Client
Device user logins and selects app	← →	Begins supplying mobile apps	Retains authorization history

Client Profile: Mobile; **Startup mode:** Connect Online; Authorization **Setting:** Restrict Online Client Access is unchecked. (The server automatically approves all Thin Client requests. Mobile Client requests require manual approval.)

Client		Server	Device Authorization
Request connection	→	Receives request	Authorizes Thin Client but Rejects Mobile
"Server connect failed for Mobile"	←	Rejects Mobile	
		RFgen Administrator checks "Offline" for the device	
Request connection again	→	Receives request	Device is authorized for Online & Offline
Device uploads data	← →	Accepts connection and communicates with device	

Client Profile: Thin; **Startup mode:** Connect Online; Authorization **Setting:** Restrict Online Client Access is checked. (All Thin Client requests are rejected until manually authorized.)

Client		Server	Device Authorization
Requests connection	→	Receives request	No history of device exists. Rejects Thin Client
	←	Rejects Connection	
"Server connect failed for Thin" displays			
		RFgen Administrator checks "Online"	
Request connection again	→	Receives request	Device is authorized for Online
Device user logins and selects app	← →	Begins supplying mobile apps and communicates with device	

Client Profile: Mobile; **Startup mode**: Disconnected; Authorization **Setting:** Restrict Online Client Access is checked. (Connection is rejected until Online and Offline are authorized.)

Client		Server	Device Authorization
Use switches from offline to online	→	Receives request	No history on device exists Rejects Client
	←	Rejects Connection	

"Server connect failed for Mobile" displays			
		RFgen Administrator checks "Online and Offline"	
Request connection again	→	Receives request	Device is authorized for Online and Offline
Device user logins and selects app	← →	Keeps session open and communicates with device	Retains authorization history

Installing the Android Client

These steps describe how to install and configure the RFgen Client so it can run in Thin or Mobile Mode.

When a new client connects to the server for the <u>first time</u>, the server downloads a **Mobile Profile to the client.** Mobile Profiles contain special settings that enable an Android or iOS client to run as a ***Thin Client*** *or **Mobile Client.*** Depending on how the profile was created, the user may choose to install a Thin or Mobile Client after the initial connection with the server.

Thin Clients collect data which is transacted only while the device is connected to the server. *Mobile Clients* can collect and transact data while disconnected or offline from the RFgen server. Upon reconnection, the transactions are uploaded to the RFgen Server.

Once the Mobile Profile is received by the client, if the device is setup with as a Thin Client, it will then attempt to connect online with the server. Whether its allowed to connect depends on the authorization scheme as described in the Server and Database Preparation (All Platforms) section of this guide. If the device is setup as a Mobile Client, if the startup is set to "connect" it will behave similarly as a Thin Client but have additional connection restriction as a Mobile client.

If the device is setup a Mobile Client, and set to disconnect mode, the user may be able to start working offline, but when ready to synchronize data with the server, it will require the authorization as a Mobile Client.

For information on how to create a Mobile Profile, refer to the RFgen v5.1 User Guide.

Step 1. Preparation

Ensure the Server and Database Preparations have been met. Also ensure:

- The server is running on your network
- You have the network IP of your server
- Your Android or iOS device has network access to the RFgen server
- The Thin or Mobile Client Profile is ready to be deployed

Step 2. Download RFgen Client (From Google Play)

a. On the Android device, start the *Google Play Store* application. Do not launch this from a web application. You must use the Google Play Store application itself to download the RFgen Client software.

b. Google Play Store app, search for the words "RFgen."
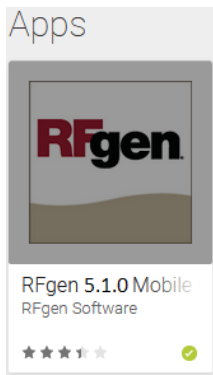
Apps

RFgen 5.1.0 Mobile
RFgen Software

★★★✰☆   ✓

Select the version of the client that most closely matches the version of your RFgen
server up to three digits. For example, if you are running RFgen 5.1.0

c. Click **Install**.

When installing, you may be asked to **Sign In** for various permissions. Sign In with your
account information. If your device is not associated with Google Play, it may say you
have to "**Open in Play Store App**" to install the application to this device. When this is
done, complete the install process.

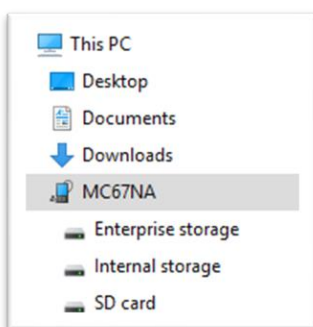Continue to **Step 3** to configure the RFgen client.

Step 2. (Optional) Download Android Client from RFgen.com

Use this method to save the files to an internal resource or on a USB drive for connection
between your computer/PC and an Android device.

a. Go to https://www.rfgen.com/product-portal
b. Follow the prompts to log in. If you do not have a Product Portal user account, please
   register. Once you are done, return to the portal, select **Product Downloads** and
   navigate to the **version 5.1.0.**
c. Select the **RFAC_510.apk**. (The RFgen client software installer for Android.)

Transfer the RFAC_510.apk file to your Android device

d. Connect your Android device via a USB connection to your PC. The Android device
   displays your PC's desktop. For example, it may look like this:

🖥 This PC
🖥 Desktop
📄 Documents
⬇ Downloads
📱 MC67NA
  ▭ Enterprise storage
  ▭ Internal storage
  ▭ SD card

e. Open your PC's file explorer and copy the **RFAC_510.apk** to your Android device. For example, **Internal Storage** > **Download**. You can also copy it to your **SD card** (if it exists) > **Download**.

f. On your Android device, open the File Browser and navigate to the location where you just copied the file. For example, /sdcard/Download/RFAC_510.apk. Tap the RFAC_510.apk.

g. The question: "**Do you want to install this application? It will get access to** . . ." displays. Select Yes.

Or, your version of Android may require you to turn on "Allow unknown sources" then run the APK.

Scroll down until you see the "Install" and tap on "Install." The Android device will begin installing the client software. When its done, the following message displays:

*Tap on **Open** to configure the client and set the server IP address.*

*Tap **Done** to stop and exit the app.*

If a screen with the "Set an RFgen Server" displays, continue to Step 3.

Step 3. Connect to Server (Android)

a. If you selected "Open" from Step 2g, the "**Set an RFgen Server**" screen displays. This screen also displays if you launch the RFgen client icon and no server IP was set.

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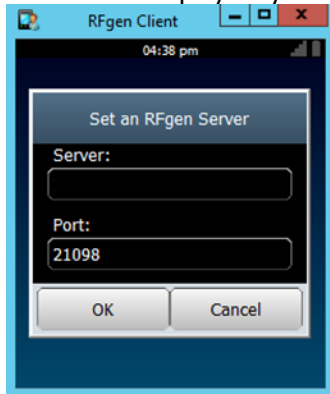
b. Enter the IP address of the server. If the connection is successful, the server will download the profile to the device. The Select Profile screen displays.
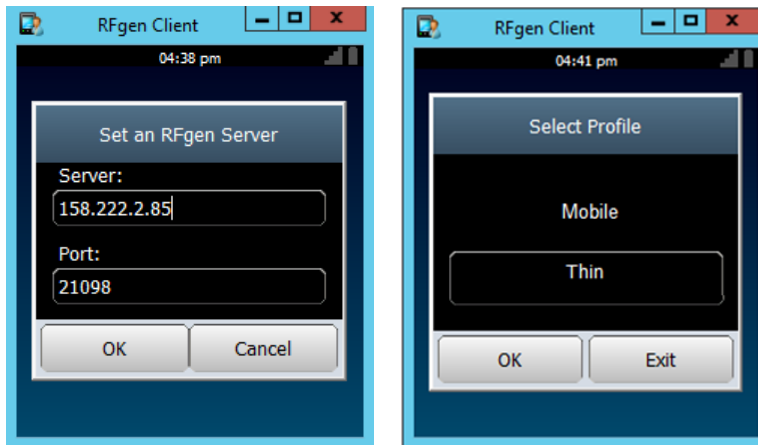

In this example the Thin Profile is selected.

c. Select a profile and select **OK**. Depending on how your mobile applications and menus were setup, a synchronization of information will occur before a login screen displays.
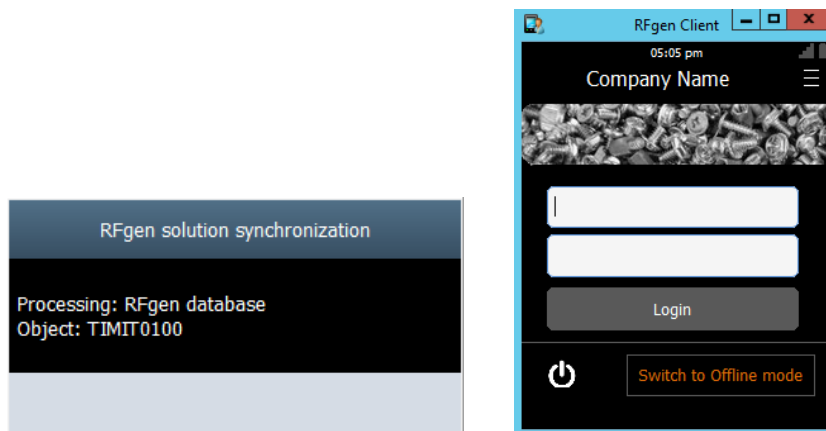
In Step b, we selected "Thin". Since the RFgen server Environment Property Restrict Online Access was unchecked, the device was able to connect. Once they synchronized the user can login.

If the user selected "Mobile" in Step b, the device would have been rejected. *The server automatically rejects the connection unless two conditions are met: a) You manually authorize the device on the server; and b) The server is licensed for the Mobile client(s).*
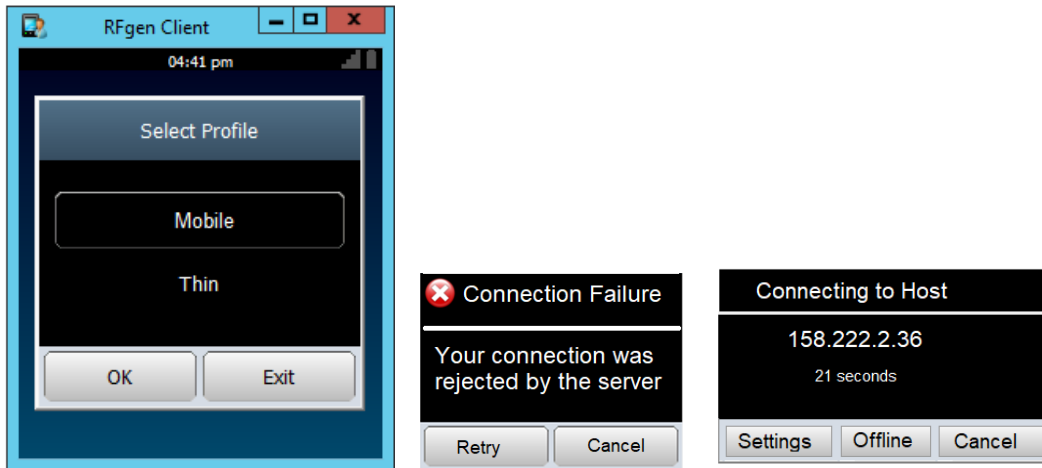
If you select "Retry" then "Offline" the following screen may display:

If you see an error message that states:

 "Connection Failure
   Your connection was rejected by the server"

Its possible that the device was not approved for connection by the server.

Mobile Clients require a license (deployed by the server) and manual authorization (user must check "Offline Authorization" from the **Server > Device Authorization screen**.

Once these conditions are met, the server will deploy the solution to the device and the user will be able to login and either work offline or online, depending on how the profile was setup.

For details about device approval schemes, refer to the terms ***Device Authorization*** and ***Restrict Online Access*** described in the **Terminology** and ***How do you want the server to authorize clients?*** sections in this guide.

Installing the iOS Client

These steps describe how to install and configure the RFgen Client so it can run in Thin or Mobile Mode.

When a new client connects to the server for the <u>first time</u>, the server downloads a **Mobile Profile to the client.** Mobile Profiles contain special settings that enable an iOS client to run as a ***Thin Client*** or ***Mobile Client.*** Depending on how the profile was created, the user may choose to install a Thin or Mobile Client after the initial connection with the server.

Thin Clients collect data which is transacted only while the device is connected to the server. *Mobile Clients* can collect and transact data while disconnected or offline from the RFgen server. Upon reconnection, the transactions are uploaded to the RFgen Server.

Once the Mobile Profile is received by the client, if the device is setup with as a Thin Client, it will then attempt to connect online with the server. Whether its allowed to connect depends on the authorization scheme as described in the Server and Database Preparation (All Platforms) section of this guide. If the device is setup as a Mobile Client, if the startup is set to "connect" it will behave similarly as a Thin Client but have additional connection restriction as a Mobile client.

If the device is setup a Mobile Client, and set to disconnect mode, the user may be able to start working offline, but when ready to synchronize data with the server, it will require the authorization as a Mobile Client.

For information on how to create a Mobile Profile, refer to the RFgen v5.1 User Guide.

Step 1. Preparation

Ensure the Server and Database Preparations have been met. Also ensure:

- The server is running on your network
- You have the network IP of your server
- Your iOS device has network access to the RFgen server
- The Thin or Mobile Client Profile is ready to be deployed

Step 2. Download the RFgen Client

a. From your iOS device, tap on the App Store icon.
b. Search for "RFgen".

RFgen Client For V5.1.0 Server Environments

By DataMAX Software Group

This app is only available on the App Store for iOS devices.

View More by This Developer

Description

The RFgen emulation client allows iOS devices to connect to the RFgen Mobile Framework which is used by thousands of companies worldwide to extend their ERP systems onto mobile devices. It enables automated data collection and real-time updates to backend enterprise systems like SAP, Oracle, JD Edwards and more.

DataMAX Software Group Web Site ▸   RFgen Client For v5.0.8 Server Environments Support ▸

What's New in Version 5.1.0

– Compatibility with RFgen 5.1.0.0

⊞ This app is designed for both iPhone and iPad

c. Select the version of the client that most closely matches the version of your RFgen server up to three digits. For example, if you are running RFgen 5.1.0, download the RFgen Client version 5.1.0.
d. You may be asked to sign in or enter passwords for security purposes.
e. Verify the RFgen client has been downloaded to your iOS device.
f. Continue to step 3.

Step 3. Configure the Client (iOS)

a. From your iOS device, tap on the RFgen client icon. If you are launching the RFgen Client for the first time, the Connection status with a **Settings** button will display. Click the **Settings** button to bring up the configuration menu.
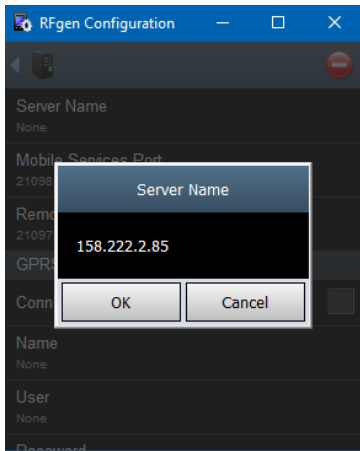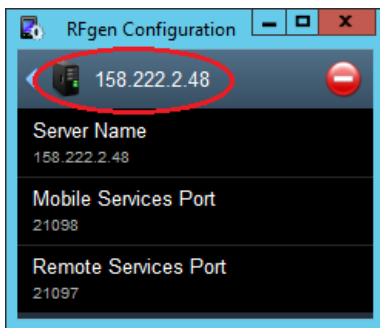
    The RFgen Configuration menu displays.
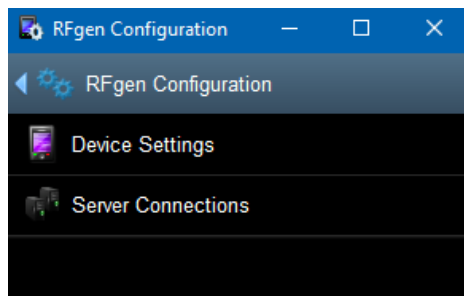
b. To connect to the RFgen server, tap on Server Connections, then New Server.
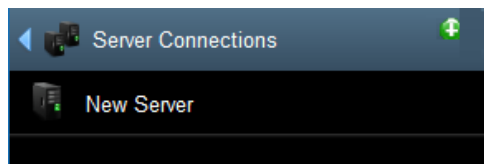
c. Enter the IP Address or Server Name that's configured on the RFgen server. If testing against the RFgen Development Studio, use the IP address of that system.

d. Tap **OK** when done.

e. To exit Settings, tap the back icon until your return to the beginning of the top Configuration menu. Exiting the Settings menu will save your changes and initiate a connection session between the server and the client.
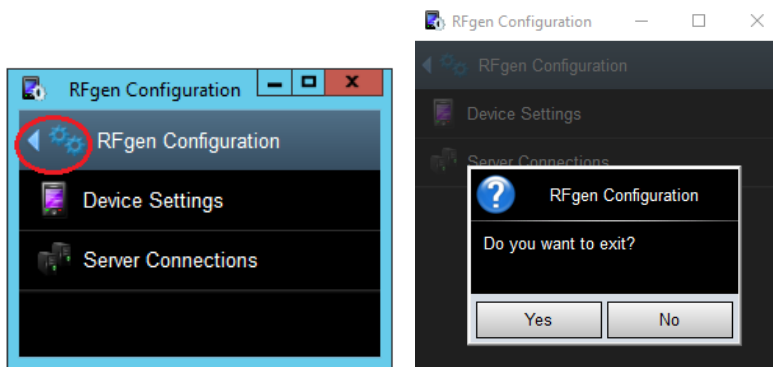

f. Tap "Yes" to exit the Configuration session. Continue to Step 4.

## Step 4. Connect to Server (iOS Devices)

a. Validate the iOS device has been set up to allow access <u>to the same network where your RFgen is running</u>. This is a common problem where the device is not in the same network as the RFgen server.

b. On the iOS device, tap the [icon] RFgen Client.

It should display a message like the one below.
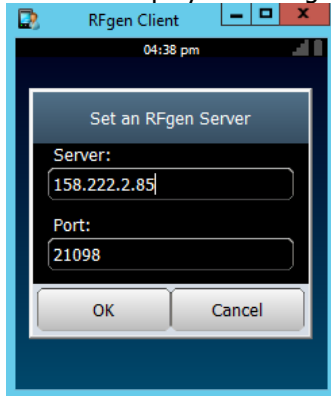
If this is the first time its being run, and the server has not been configured, the option to go to settings menu will automatically come up.

If it connects, it will download some files. Depending on how the profiles are setup, you may be given the option to choose between Mobile and Thin profiles.
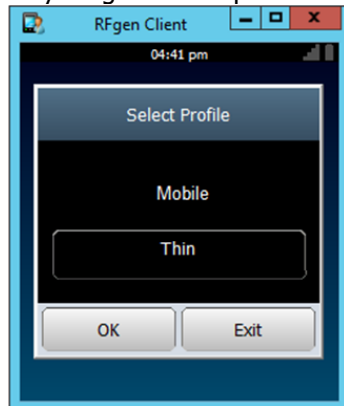
c. Select the profile and select **OK**. Depending on how your mobile applications and menus were setup, a synchronization of information will occur before a login screen displays.
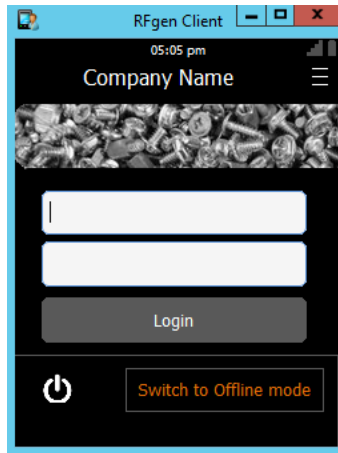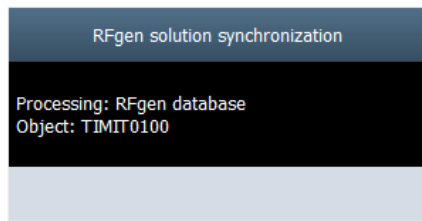
In Step b above, we selected "Thin". The Server Environment Property "Restrict Online Access" was unchecked, so the device was able to connect. After synchronization, the user login may display.

If the user has selected "Mobile" in Step b, the device would be rejected unless its first authorized by the server. *The server will automatically reject the connection unless two conditions are met: a) You manually authorize the device on the server; and b) The server is licensed for the Mobile client.*
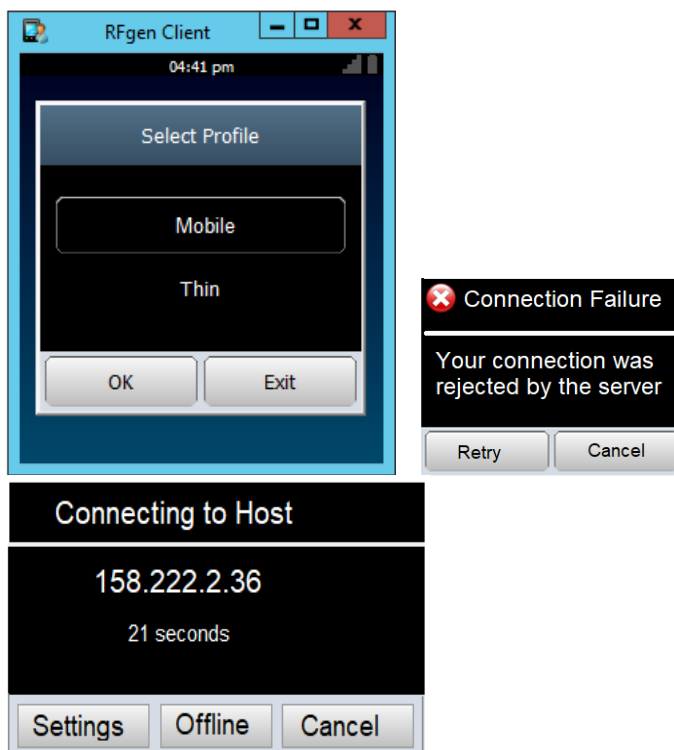
If you select "Retry" then "Offline" the following screen may display:
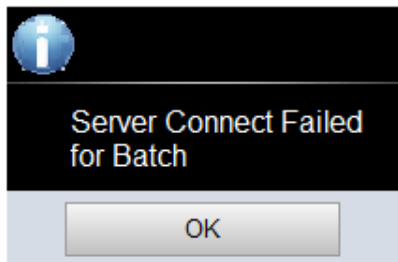
If you see an error message that states:

 "Connection Failure
   Your connection was rejected by the server"

Its possible that the device was not approved for connection by the server.

Client connection requests from Mobile Clients require manual authorization on the server. If the "Restrict Online Access" is enabled, those too may require manual authorization on the server.

For details about device approval schemes, refer to the terms **_Device Authorization_** and **_Restrict Online Access_** described in the **Terminology** section of this guide and **_How do you want the server to authorize clients?_** section in this guide.

Installing the Windows CE/Mobile Client

The **RFgen Windows CE Client** package installs software to **Windows CE/Windows Mobile** devices which enables them to communicate with the RFgen server and access applications developed in the RFgen Mobile Development Studio. Windows CE/Mobile obtain their mobile profiles with the help of CAB files which need to be built on the server and before the profile can be received by the client.

These steps describe how to install and configure the RFgen Client and build CAB files so the device can be setup run as a Thin or Mobile Client.

Checklist of items

- Windows CE Client.exe
- Windows CE Device Name: <Enter your device name or id here>
  and IP Address: <Enter your device IP address here>
- Server Name: <Enter your server name here>
  and IP Address: <Enter your server IP address here>

** Any special User IDs and Passwords to enable access from client to server
** Any special User IDs and Passwords to enable access from server to client

- The Mobile Client and/or Thin Client Profile to be deployed
- Ensure the device has wireless access to the server
- (Optional) If planning to transfer CAB files using a USB Connection, ensure the Active Sync software is installed
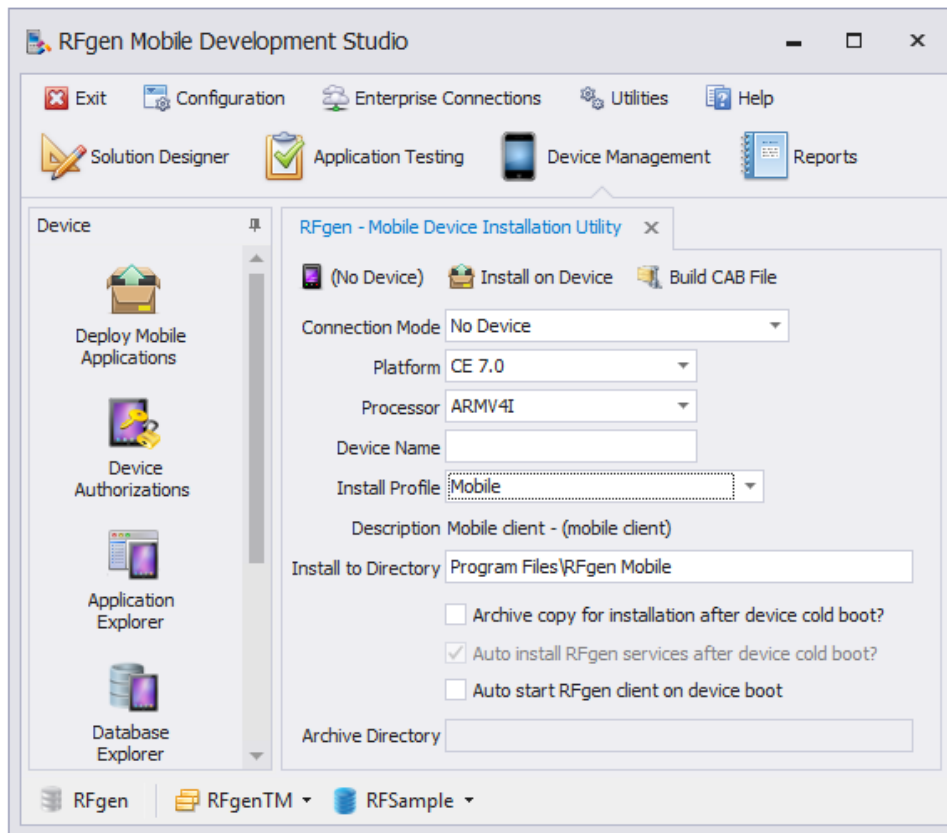
Step 1. Install the Windows CE Client to Server

- Install the *Windows CE Client*.exe. This installs the server's CNC which enables it to discover the client and download the mobile profile files. This is helpful for communication with devices over a wireless network.
- Install the Windows Design Center if you plan on using Active Sync to transfer files to the device via a physical connection. This is optional.

Step 2. Install the Windows CE Client to Device

- Install the *Windows CE Client*.exe (to install the CNC service)
  If you cannot install the Windows CE Client.exe, you can build and install the CNC through *Deploy Mobile Applications. See Step 3 Build and install CAB Files.*

Step 3. Build and install CAB Files

Note: If **Install Profile** is set to Client Network Control (CNC), the CAB file will be comprised only the CNC service files. Since the Windows CE Client installs the CNC service, you do not need to build CNC CAB files unless you were unable to install the Windows CE Client to the device.

If the **Connection Mode** is **No Device**:
a. Fill in form fields and select **Build CAB File**.
    The RfgenMobile.CAB file is created in a temp directory.
b. Copy RFgenMobile.CAB file to your storage media (i.e. USB stick).
c. Connect media to device and transfer CAB files over.
d. CAB files will install when the Windows CE Client is launched.
e. Continue to Step 4.

If the **Connection Mode** is **Active Sync**:
- Physically connect the device/cradle to the server.
- Use **Select Device** to select the discovered device.
a. Fill in the form fields.
b. On server launch Windows Mobile Center.
c. Navigate to install location using the File Explorer in the Windows Mobile Center.
d. Click on **Install Device**. This build and installs CAB files.
e. Exit Windows Mobile Center and unplug connection.
f. Continue to Step 4.

If the **Connection Mode** is **Client Network Control (CNC)**:

- Use **Select Device** to select the discovered device.
a. Fill in the form fields.
b. Click on **Install Device**. This build and installs CAB files.
c. Continue to Step 4.

Step 4. Connection and Device Authorization

a. Validate your Windows CE device has been set up to allow access <u>to the same network where your RFgen is running</u>. This is a common problem where the device is not in the same network as the RFgen server.

b. On the device, tap the RFgen 5.1 icon.

It should display "**Set an RFgen Server**" screen, depending on how the CAB files were installed. If this screen does not display, refer to *Configuring the Windows CE/Mobile Client* at the end of Step 4.
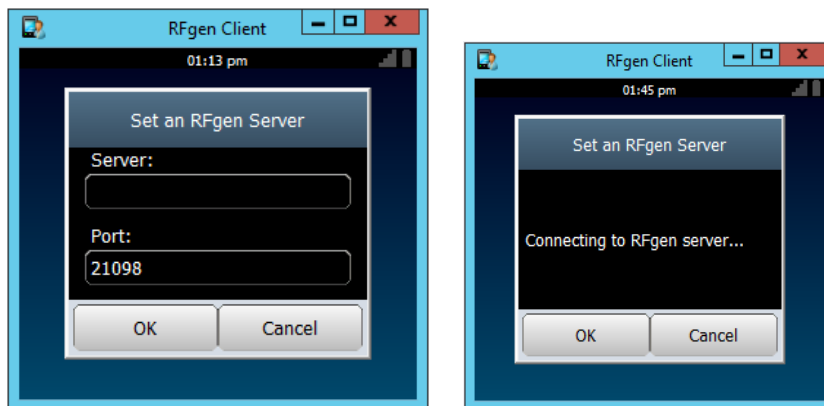
c. If the client connects, the server will download the profile(s). Select the desired profile.
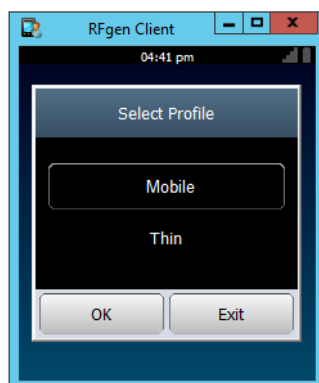
Depending on how your mobile applications and menus were setup, a synchronization of information will occur before a login screen displays.
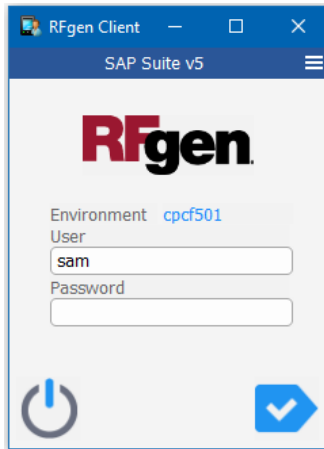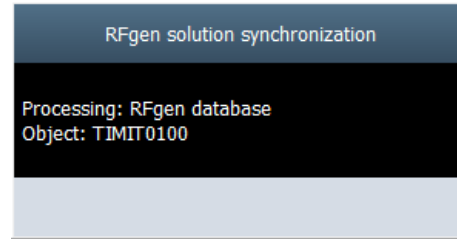

Connection Issues

If you see an error message that states:

"Connection Failure
Your connection was rejected by the server"

its possible that the device was not approved for connection by the server.

Client connection requests from Mobile Clients require manual authorization on the server. If the "Restrict Online Access" is enabled, all online client connection requests will also require manual authorization on the server unless previously authorized.

For details about device approval schemes, refer to the terms **Device Authorization** and **Restrict Online Access** described in the **Terminology** and **How do you want the server to authorize clients?** sections in this guide.

Configuring the Windows CE/Mobile Client

Once you have installed the CAB files and run the Windows CE Client.exe on the device, two icons will show up on your desktop. A **RFcfg 5.1** and **RFgen 5.1**

a. Tap the RFcfg 5.1 icon. The following Configuration Screen displays:
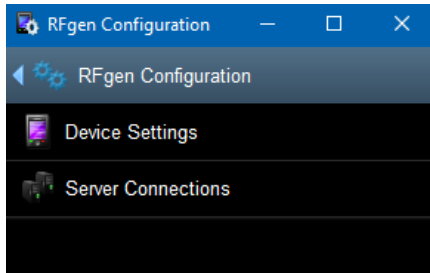
b. To connect to a specific RFgen server, tap **Server Connections**, then **New Server**.
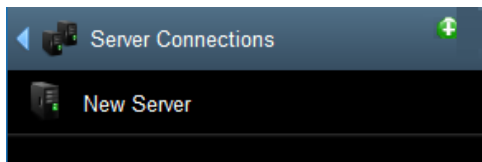
c. Enter the IP Address or Server Name that's configured on the RFgen server. If testing against the RFgen Development Studio, use the IP address of that system. Tap **OK** when done.
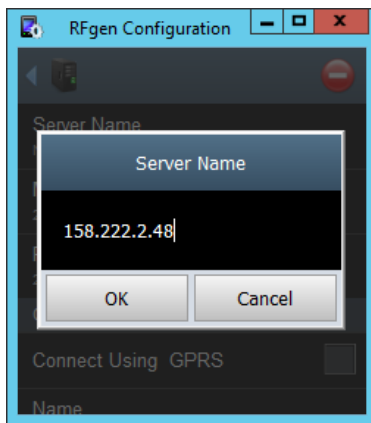
d. To exit the server configurations, tap the Back button until you've returned to the top menu. Exiting the Settings menu will save your changes and initiate a connection session between the server and the client.
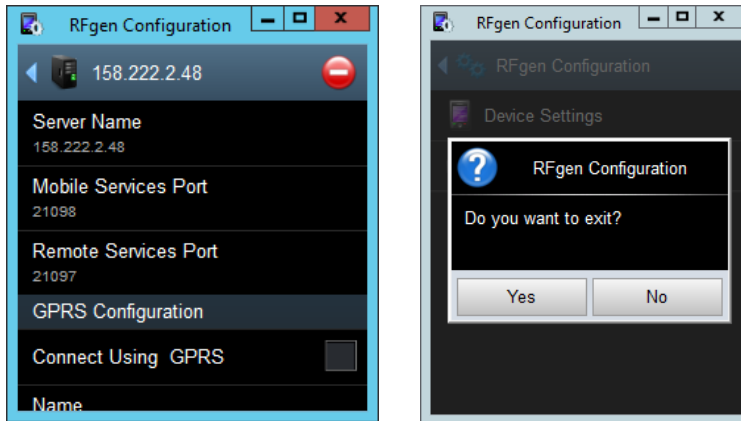
Installing the Windows Desktop Client

The steps for installing and configuring the Windows Desktop Client are very similar to the process for installing an Android or iOS client and is very easy.

When a new client connects to the server for the <u>first time</u>, the server downloads a **Mobile Profile to the client.** Mobile Profiles contain special settings that enable a Windows Desktop client to run as a **Thin Client** or **Mobile Client.** Depending on how the profile was created, the user may choose to install a Thin or Mobile Client after the initial connection with the server.

Thin Clients collect data which is transacted only while the device is connected to the server. *Mobile Clients* can collect and transact data while disconnected or offline from the server. Upon reconnection, the transactions are uploaded to the server.

Once the Mobile Profile is received by the client, if the device is setup with as a Thin Client, it will then attempt to connect online with the server. Whether its allowed to connect depends on the authorization scheme as described in the Server and Database Preparation (All Platforms) section of this guide. If the device is setup as a Mobile Client, if the startup is set to "connect" it will behave similarly as a Thin Client but have additional connection restriction as a Mobile client.

If the device is setup a Mobile Client, and set to disconnect mode, the user may be able to start working offline, but when ready to synchronize data with the server, it will require the authorization as a Mobile Client.

For information on how to create a Mobile Profile, refer to the RFgen v5.1 User Guide.

Step 1. Preparation

Ensure the Server and Database Preparations have been met. Also ensure:

- The server is running on your network
- You have the network IP of your server
- Your Windows desktop system has network access to the RFgen server
- The Thin or Mobile Client Profile is ready to be deployed
- Decide if you want to the Desktop Client to run as a Thin Client, Mobile Client or support the ability for Thin or Mobile.

Step 2. Download Windows Desktop Client

a. Go to https://www.rfgen.com/product-portal

b. Follow the prompts to log in. If you do not have a Product Portal user account, please register. Once you are done, return to the portal, select **Product Downloads** and navigate to the **version 5.1.0.**

c. Select the **RFgen Windows Desktop Client**.
    Choose the version which matches your server. For example, if you installed the 5.1 version of the Mobile Unity Platform (32) or the 5.1 version of the Mobile Development Studio, then choose the RFgen 5.1 Windows Desktop Client 32-bit version.

d. Download the package to your system.

Step 3. Install the client
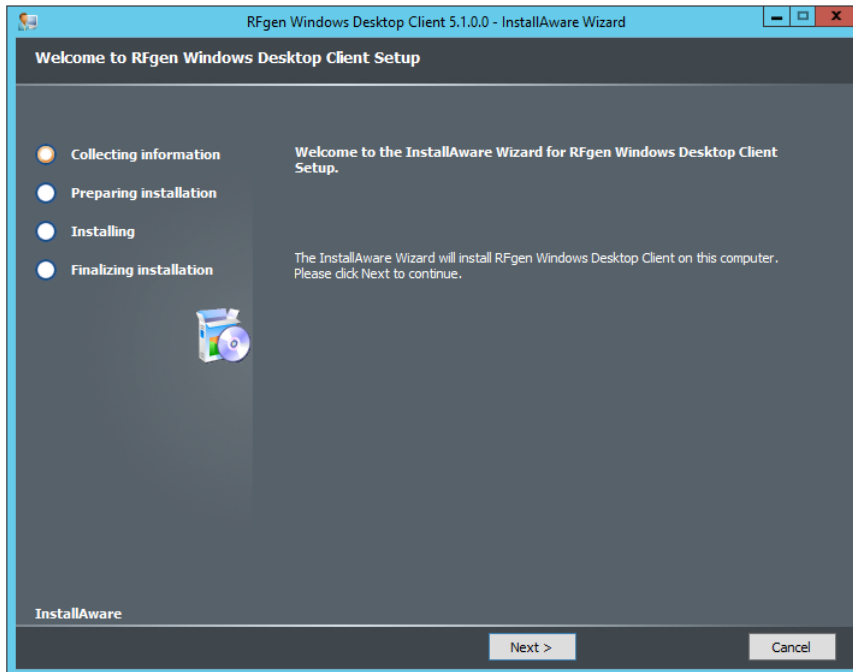
a. Navigate to your Downloads folder or location where you downloaded the file and click on the Windows Desktop Client. Click on the **RFgen Windows Desktop Client.exe** to install the client.

b. The **License Agreement** screen displays. Check the box "I accept the license agreement." then click **Next**.
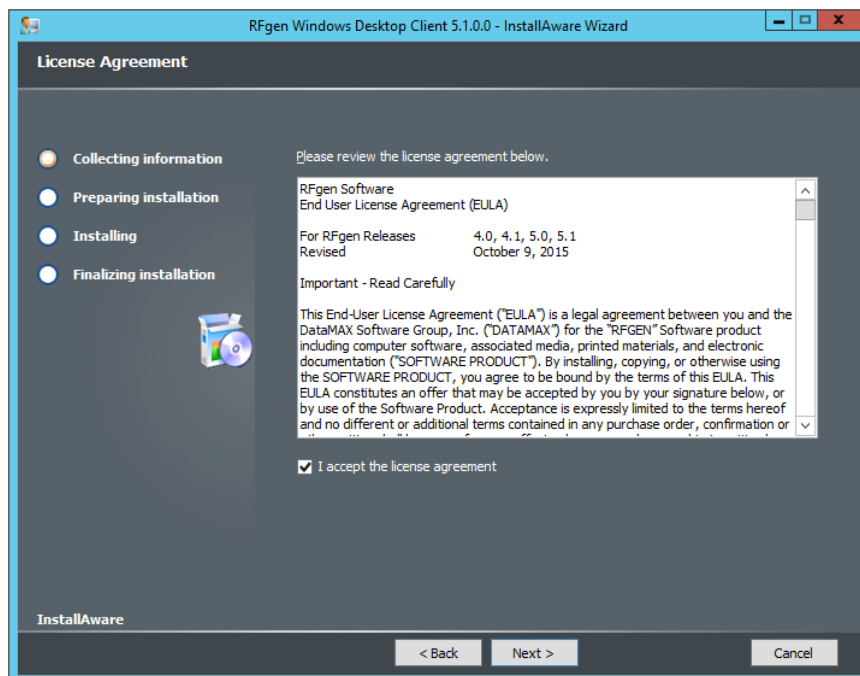
c. The **Setup Type** screen displays. Here is where you can set which Mobile Profile type the Windows Desktop will support when it connects to the Client.
- For *Thin Client*, select **Minimum Setup**. Continue to step e.
- For *Mobile Client* support, or *Thin or Mobile Client* support, select **Personalized Setup.** Continue to step d.
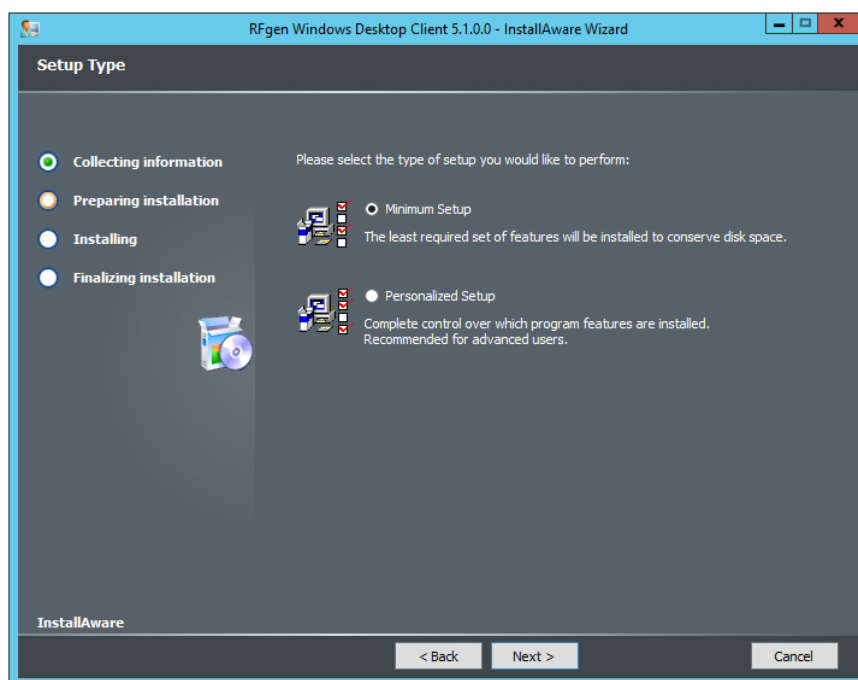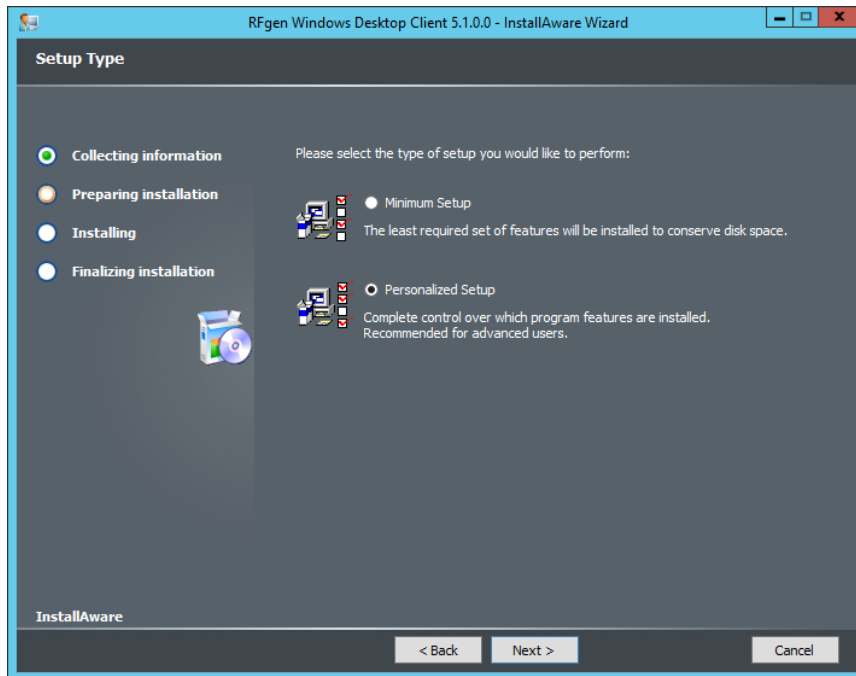
d. If you had selected **Personalized Setup** in the previous screen, the **Select Feature screen displays**. Skip this step if you had selected "***Minimum Setup***" in step c.

Click on the down arrow and select "**Will be installed on local hard drive**" or "**Entire feature will be installed on local hard drive**." This will enable support for the Mobile Client or Mobile Client and Thin Client if your server provides both profiles. Click **Next**.
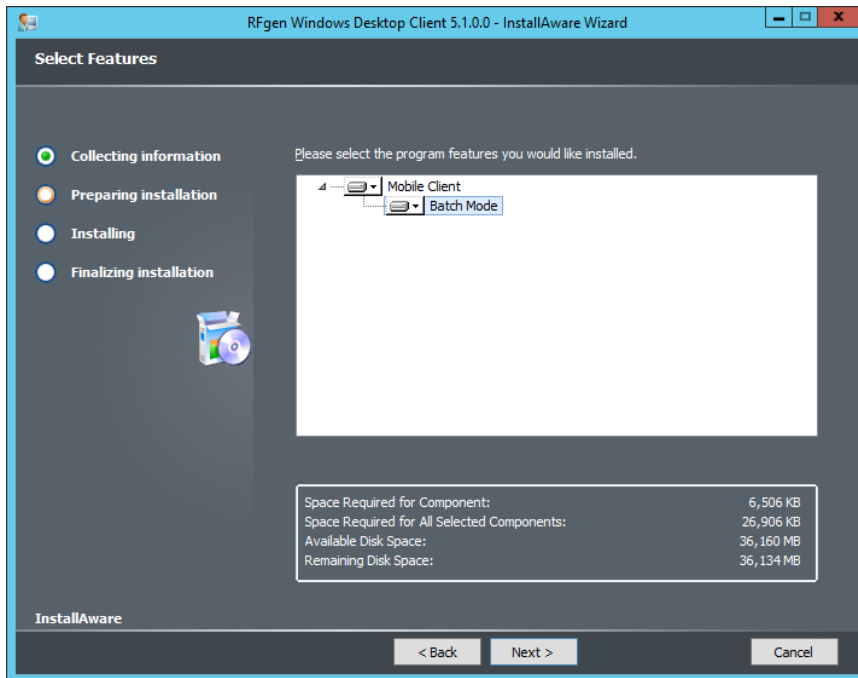
Note: If you are not ready to choose ***Mobile Client***, click on the down arrow and select "**X** ***Entire feature will be unavailable***" which will ignore the Mobile Client/Batch and support the Thin Client.

When you are ready to use Mobile Client, you can simply run the installer, select "**Repair**" in the **Welcome to RFgen Windows Desktop Client Setup**, and change the installation to use the Mobile Client.
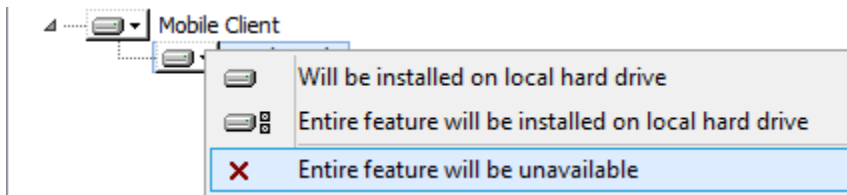
e. The **Destination Folder** displays.
-   If you chose the 32-bit version, it installs to C\Program Files(x86)\RFgen51 folder.
-   If you chose the 64-bit version, it installs to C:\Program Files\RFgen51 folder.
Click **Next** to continue.
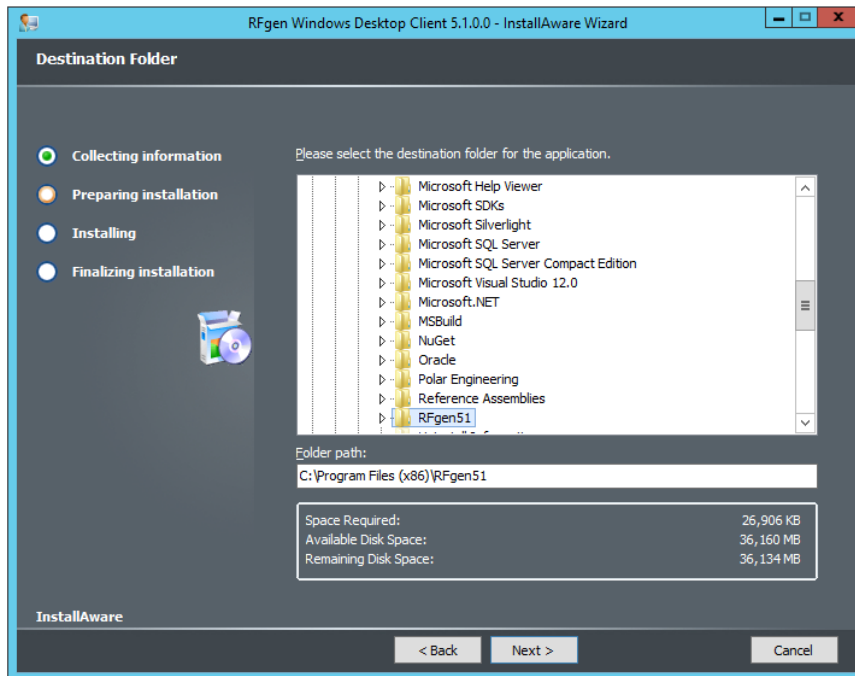
f. The **Database Location** screen displays. Select the option which meets your needs. Click **Next** to continue.
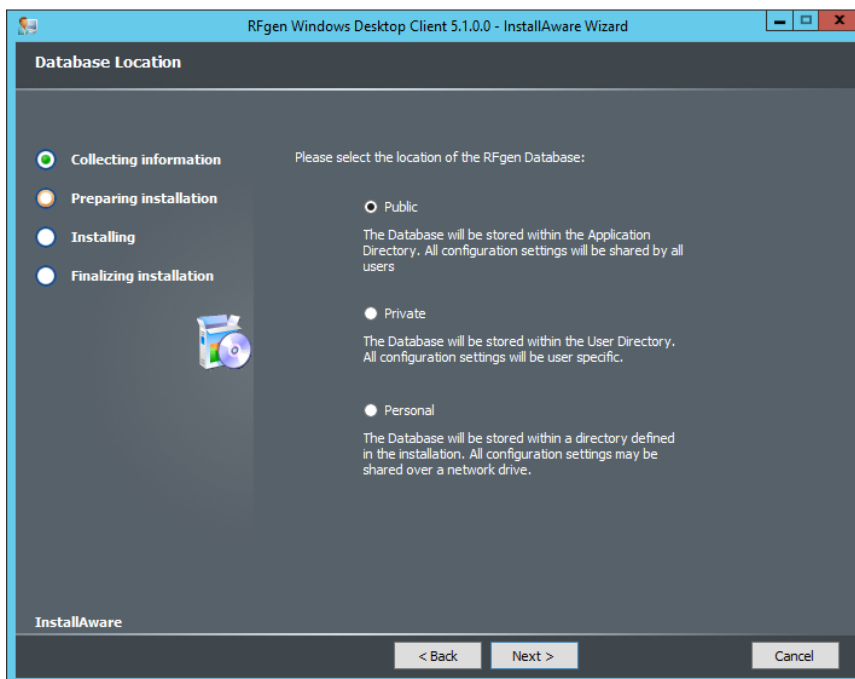
g. The **Ready to Install** screen displays. Click **Next** to continue.
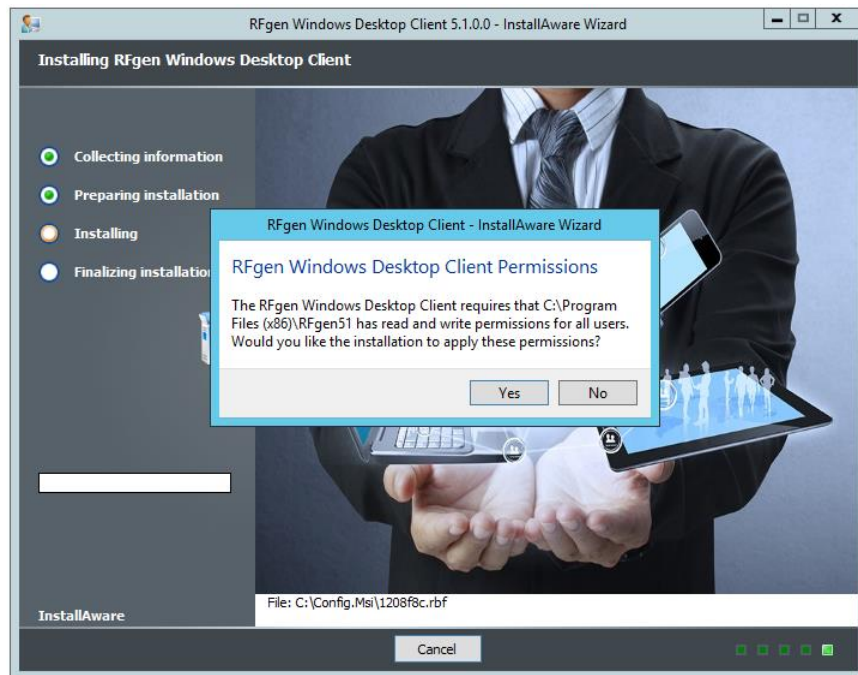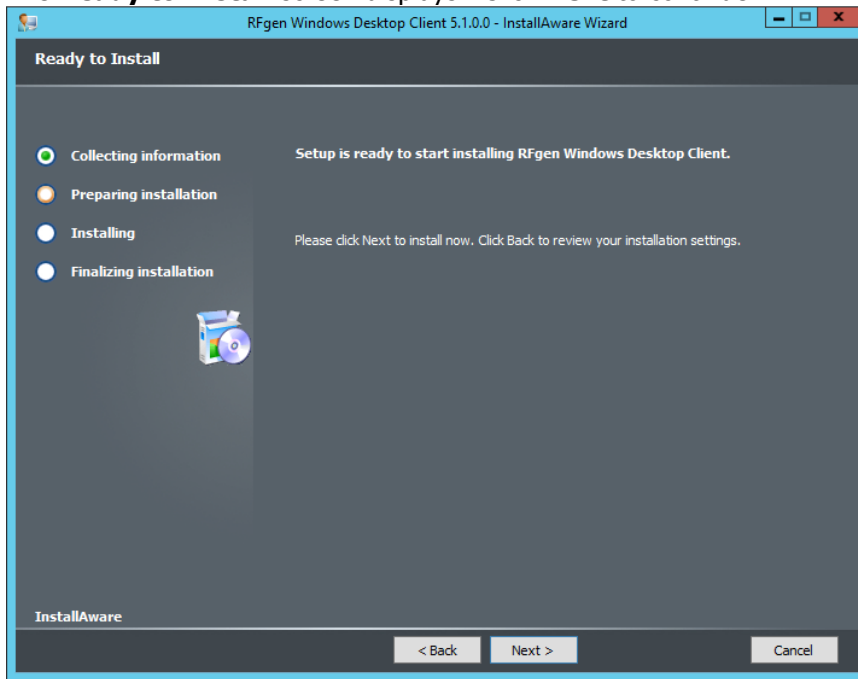
h. When the installer is done, the RFgen Windows Desktop Client Setup Complete screen displays. Click on **Finish** to exit.
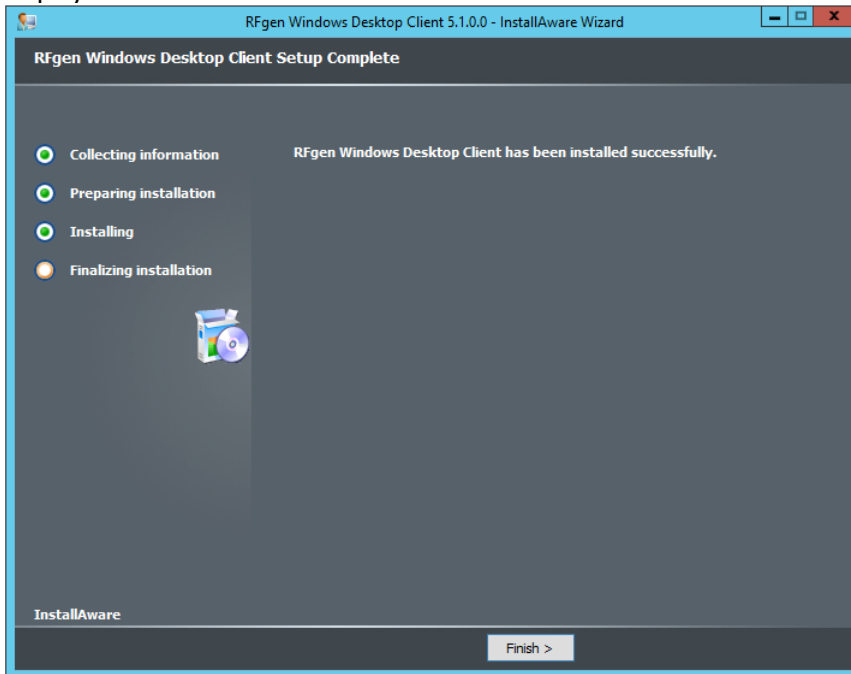
i. The Windows Desktop Client and Windows Desktop Client Configurator are installed.

Step 4. Configure the Client

Before you start, ensure the **Server and Database Preparation (All Platforms)** *steps* have been met.

a. From your Windows Start, click on the **Windows Desktop Client** to run the client.
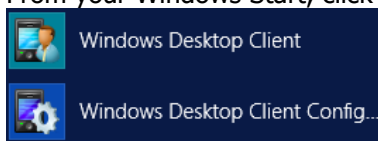
b. The **Windows Desktop Client**, a Settings screen displays.
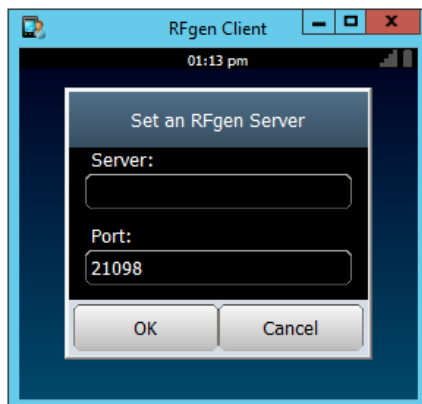
- If you want to see and configure more properties beside entering the server, click on **Windows Desktop Client Configurator**. For more detail, see the ***RFgen User Guide*** or installation instructions for **CONFIGURING THE WINDOWS CE/MOBILE CLIENT**. The configuration properties for the Windows Desktop are the same as for the Windows CE/Mobile Client.

c. Enter the server IP or LocalHost.
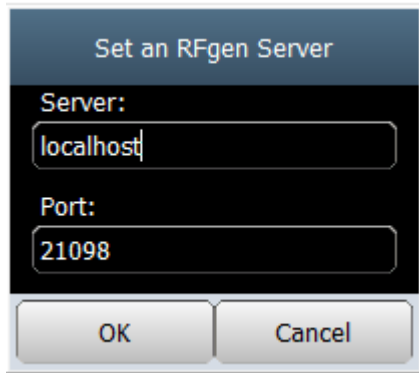
Ensure your Windows Desktop system has access to the same network where your RFgen is running.

This is a common problem where the device is not in the same network as the RFgen server.

This step will attempt a connection with your server once the IP address of the server is entered. Continue to Step 5.

Step 5. Connect to the Server and Authorize Device

a. Once you have entered the IP address, a connection status message displays.
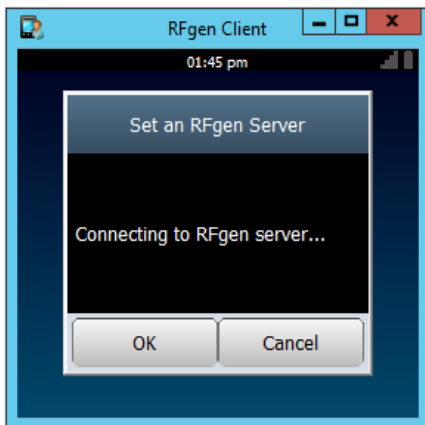
b. **If the server accepts** the client's connection request, a screen like the ones below will display. If for example your Windows Desktop installer was setup for a:
 - *Mobile Client*, a Mobile and Thin profile option displays
 - *Thin Client*, only the Thin profile option displays
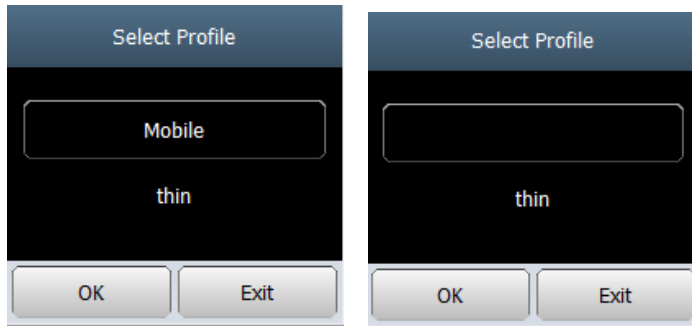
c. Choose the desired profile. Once that profile is selected, its installed to the Windows Desktop, and cannot be removed/changed unless the Windows Desktop client is re-provisioned.

A RFgen solution synchronization message briefly displays while the profile is transferred to the client.
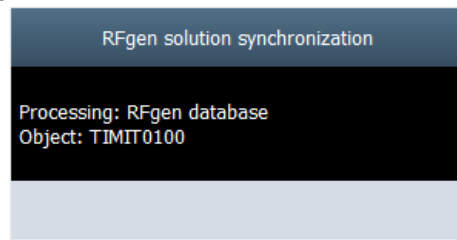
d. If the synchronization is completed, a login screen, a menu or application will display depending on how the mobile solutions was setup.
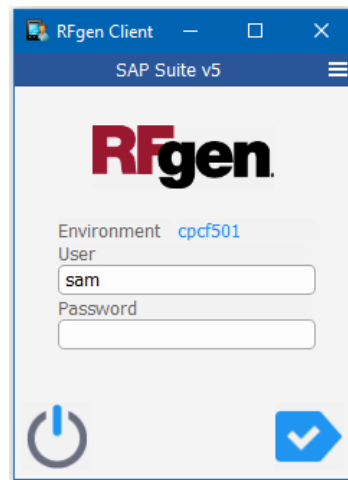
Authorization and Connection Issues

If you see an error message that states:

"Connection Failure
Your connection was rejected by the server"

its possible that the device was not approved for connection by the server.

Client connection requests from Mobile Clients require manual authorization on the server. If the "Restrict Online Access" is enabled, all online client connection requests will also require manual authorization on the server unless previously authorized.

For details about device approval schemes, refer to the terms **Device Authorization** and **Restrict Online Access** described in the **Terminology** section of this guide and **How do you want the server to authorize clients?** section in this guide.

Installing Consoles and Dashboards

When you choose to install all products or modules in RFgen's Mobile Unity Platform™, the following management consoles and dashboards are also installed:

- Mobile Unity Platform Console
- Mobile Enterprise Dashboard
- Transaction Management Dashboard
- User Management Console

You can also install the *Mobile Enterprise Dashboard*, *Transaction Management Dashboard*, and/or the *User Management Console* by using the installer for each console or dashboard.

Note that you should install the 32-bit or 64-bit version that corresponds with the 32-bit or 64-bit version of the server installed. For example, if you installed the 32-bit version of the Mobile Unity Platform™, then the 32-bit version of the *Mobile Enterprise Dashboard*, *Transaction Management Dashboard*, and/or the *User Management Console* should also be installed.

To install a console or dashboard, simply select the installation package from the RFgen portal and accept the defaults in the installer.

Mobile Unity Platform Console
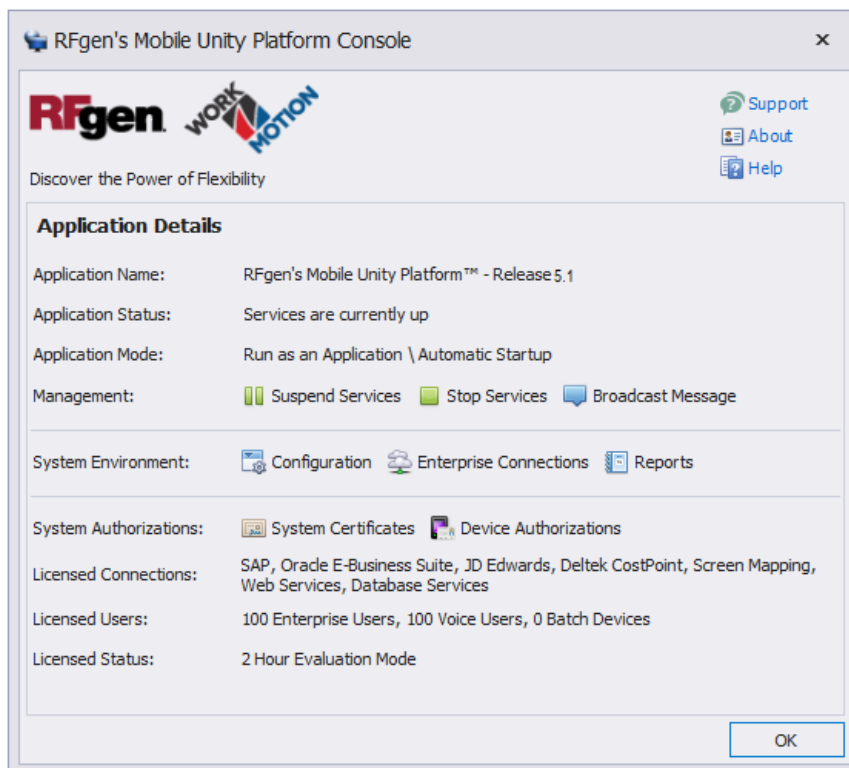
The **Mobile Unity Platform Console** is primarily used to start and stop server services, and configure server services, databased, ERP connections, environmental settings, and track server status information. It also shows the license or authorization status of the server and clients.

Mobile Enterprise Dashboard
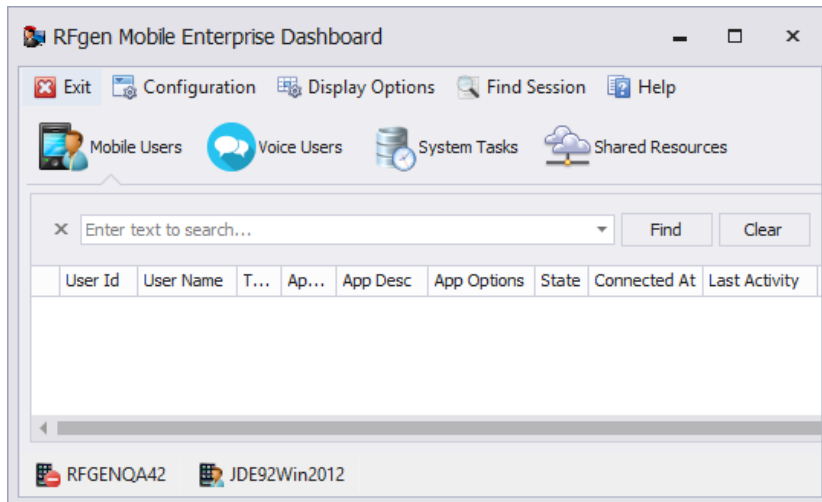
The **Mobile Enterprise Console**, also referred to as the "Administrator Console" allows you to manage other RFgen distractors and configure and manage data collection devices.

It also allows you to interact with databases, or (optionally) with legacy/Host screens and ERP packages, in a multi-user/pooled-connection(s) mode, using the programs developed by the Mobile Development Studio. Active data devices may be viewed and managed from the Mobile Unity Platform Service Console.

Transaction Management Dashboard
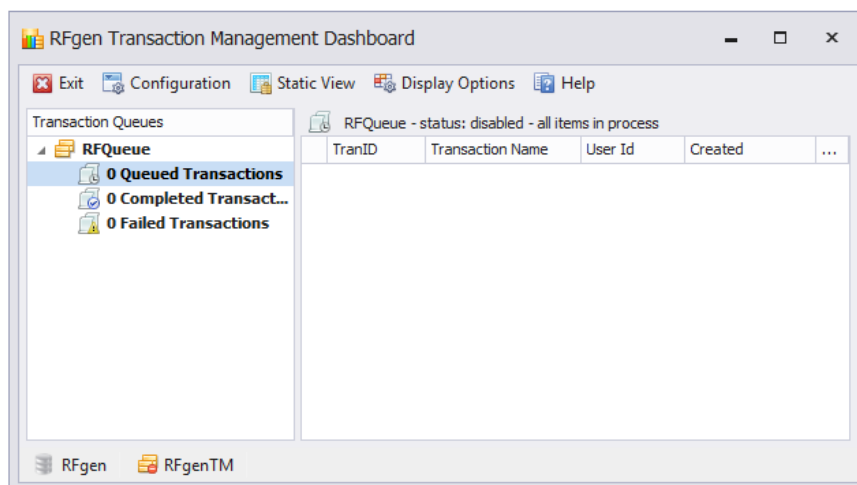
The **Transaction Management Dashboard** – The dashboard consolidates views and management of queues. For example, it shows transactions that have been queued, completed successfully or, have failed to be edited and reposted for another attempt at placing the data into the backend system.

User Management Console
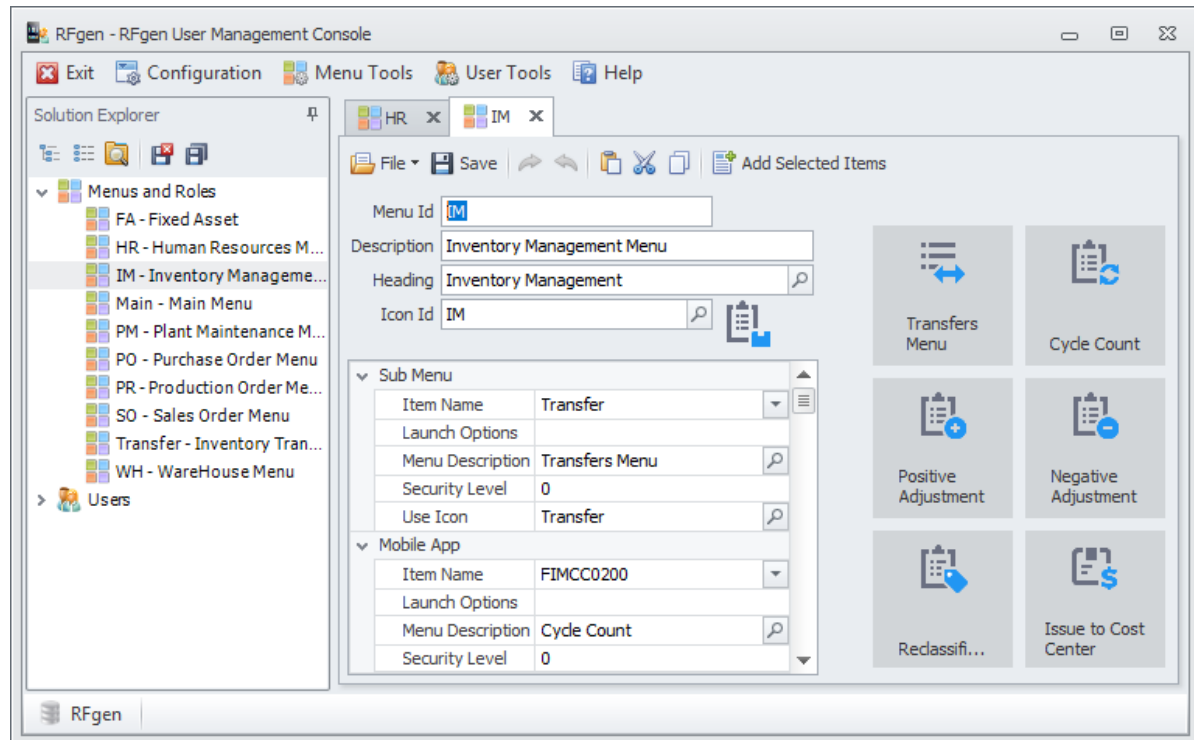
The ***User Management Console*** – Installation of this component is optional. It provides tools to add, remove and monitor users, and create and modify the menus that enable users to access applications.

It also allows you to observe or control another user's work being done via the client. You can also temporarily stop one or many users and permanently shutting down one or many users provides complete control over the RFgen network.

RFgen v5.1 Upgrade Procedures

Upgrade Overview

The upgrade to RFgen 5.1 may perform an upgrade of the RFgen database environment. Once the RFgen database has been upgraded, that database may **not** be stepped back down to the user's prior version.

It is highly recommended that you test your upgrade in a test environment using test data that is very similar to your production environment and test your apps before moving to production.

If you would like help with the upgrade of your database so it can managed on a newer major version of RFgen, we offer three levels of services.

Level 1 Upgrade Once-A-Year For Free

If you want to upgrade to the most current major release of RFgen (i.e. upgrading from version 5.0 to 5.1), and you have **an active RFgen Support Maintenance contract**, our Support team will upgrade a copy of your database at no charge, once a year. When done, we'll provide a report on issues that may need your attention and a copy of your updated database. This service helps you plan your own upgrade in your own test and production environments.

Level 2 Upgrade Service for a Fee

RFgen Services reviews the upgraded Level 1 database and provides a Services quotation to visually enhance the applications to take advantage of new features like control anchoring, docking, layout controls, and column sets.

The primary focus for this task is to make sure the application can better support multiple resolutions via scaling and auto-sizing as well as to improve the overall aesthetics. The quote for this service needs to be based on a review of the application's visual complexity, especially if multiple display views are being used.

Contact your RFgen Sales representative to obtain a quote for this service.

Level 3 Upgrade Service for a Fee

RFgen Services reviews the upgraded (Level 2) database and provides a Services quotation to adjust the application codebase to take advantage of new product features and enhancements within the standard, open source suite for the solution.

Services shall conduct this engagement as a billable, mini-BAW to determine the total scope of the project. Items that might be discussed are:

- Reworking application logic to better support synaptic touch based, keyboard-less devices.
- Control swaps to better support the data being accessed (Listbox conversion to a Treeview control) for lists with parent-child relationships.
- Upgrades to JDE processing option object to better support JDE upgrades.
- Upgrades to SAP HANA syntax for customers migrating to S4.
- Upgrades to class-based web services integration model.

- Implementations of new workflows or processes (remote inventory management, proof of delivery, directed picking / put-away, license plating, etc.).

Contact your RFgen Sales representative to obtain a quote for this service.

Best Practices/Upgrade Paths

If you are on RFgen 3.x, and want to upgrade to 5.1 or higher, this upgrade path is no longer supported. Contact your RFgen Representative to discuss which upgrade options.

If you are on RFgen 4.x and want to upgrade to 5.1, the upgrades should be performed by upgrading sequentially. For example, 4.0 to 4.1, 4.1 to 5.0, then 5.0 to 5.1.

If you are on RFgen 5.0 and want to upgrade to 5.1, please be aware that starting with 5.1 telnet clients are no longer supported.

While the upgrade process does create a backup, we recommend you:
- Consider requesting consultative assistance from RFgen Services to take advantage of the 5.1 visual and usability features. For more details, contact your RFgen representative.
- Copy your RFgen application database to another location.
- Perform the upgrade in a test environment.

Licensing Requirements

RFgen 5.1 requires a **5.1 license and authorization code on the server** where you will be upgrading and/or running the Mobile Unity Platform and/or RFgen Mobile Development Studio. The RFgen 5.0 license is not compatible with the RFgen 5.1. Contact RFgen Support for assistance. This requirement applies to test servers and trial servers.

Upgrade Methods

There two methods you can use to upgrade your environment.

- The **SAVE MY OLD ENVIRONMENT** method allows you to keep a working version of your existing RFgen environment (databases, connections and RFgen server) and then upgrade to RFgen 5.1.

- The **TRANSFER EXISTING DATABASE/CONNECTIONS TO A NEW ENVIRONMENT** option installs RFgen 5.1 to a server/virtual machine where RFgen has not be previously installed, then transfers your existing RFgen databases/configurations into the new RFgen 5.1 environment. This method is often used by Support.

What's Changed

Releases notes are always posted with the latest version of RFgen. However, for a summary of changes, and how they compare to RFgen 5.0, refer to the Appendix at the end of this guide.

Save My Old Environment Option

Step 1. Perform a Script Validation

The RFgen upgrade process will not correct any pre-existing issues within your current RFgen solution set. Before starting the upgrade process, you should perform a full script validation to determine which items are not currently functional. If any are found, make a note of which applications are affected.

Step 2. Determine existing database location

Determine the location of your existing RFgen Application Database.

For RFgen 5.0
From your Application Database menu, open **Configuration > Application Database**. Image the screen and/or take a note on *each of these settings* as you will be copying (in step 4) the actual database (generally shown just above the Database Login field).

For RFgen 4.1
This information is found under the Mobile Application Database menu, under Configuration OR under the Select RFgen Master Database, found under Options. Note the top three elements:
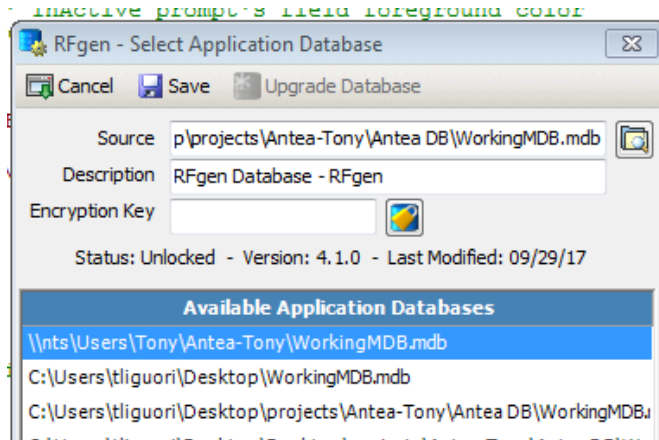
Step 3. Create a new folder to use for RFgen 5.1 testing

For our example, we created folder *C:\RFgenTestMDBs\RFgen51*.

Step 4. Copy your existing RFgen Application Database

Copy your database into the new folder. (This database is generally named RFgen.mdb.)
You will be upgrading this new copy into your RFgen 5.1 environment.

Step 5. Change your existing desktop icon

If you have a RFgen 5 desktop icon, now is good time to change the icon as the new version
of Mobile Development Studio might have the same icon as your older one.

Step 6. Install RFgen software

Using a local administrator account, install the RFgen software if you have not done so
already.

- Close all RF* services before starting the update. This includes *RFIPC500.exe*.
- During the installation, RFgen will create a new 51 folder in *%AppData\%Program Data*.

Step 7. Run the Service

If you have been running RFgen 5.0, you will need to run the RFIPC500 -SERVICE option
from CMD as shown below:

Check that your Original RFgen5 Mobile Development Studio is working.

Step 8. Run the RFgen 51 Mobile Development Studio

The system might advise that an upgrade is required to the *%APPDATA\RFgen51\rfgen.mdb* is required. If so, click **Yes** to perform this quick upgrade.

Step 9. Create a new configuration file

RFgen 5.1 should now be running with either a blank database, or one that's populated -- depending on the setup type downloaded from RFgen. In either case, create a new RFgen51 configuration file by selecting from the new RFgen Mobile Development Studio, **Configuration > Application Database** menu.

a. Below is the application database configuration setting currently setup. To add our new file, select the **+** sign found next to the **Configuration File** name, and enter the new configuration file name you wish to use. In this example we have used RFgen51 as the name.
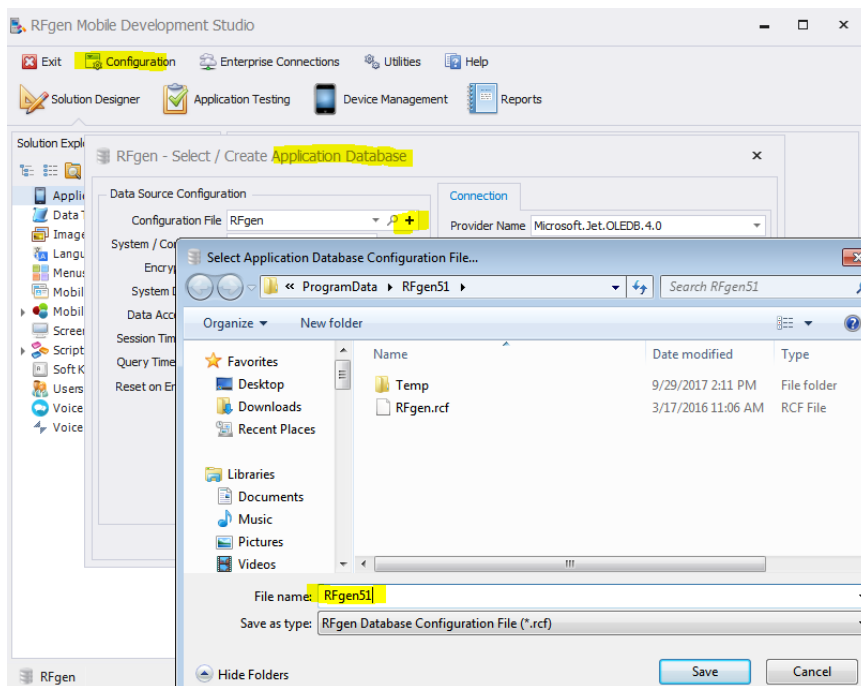
b. Select **Save**. This will clear the configuration settings …
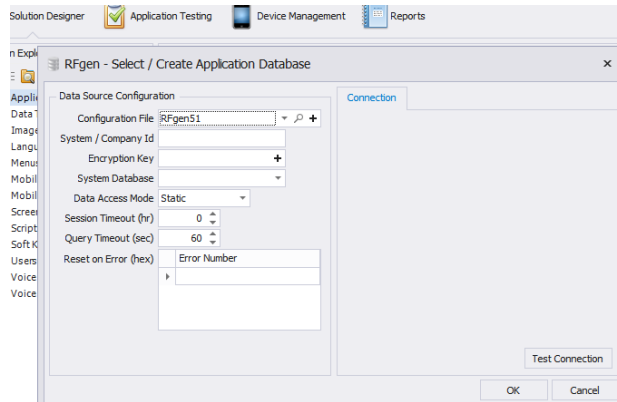
c. Now populate the Connection settings as saved in Step 2.

VERIFY you are using the copy of the database that you made in steps S3 and S4.
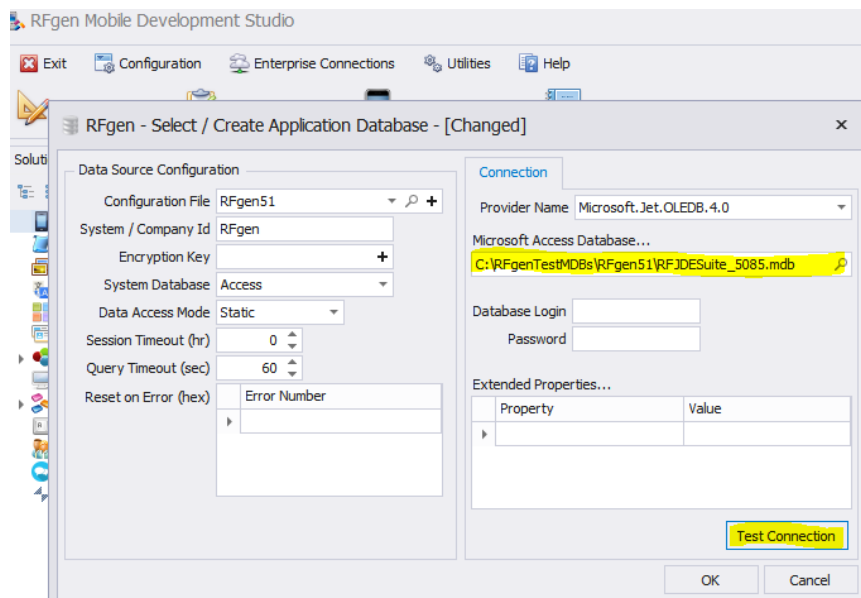
Step 10: Test your connection and upgrade

a. Click **Test Connection**.
When you click **Test Connection**, RFgen v5.1 will ask permission to perform the upgrade.
Click **Yes** to begin the upgrade process. At this point the process will review all the existing applications and process them into the RFgen 5.1 formats.

Note: The time requirement and number of process steps will vary based on the complexity of the solution database.

b. Upon completion of the process, click **OK** to load the updated application database into RFgen.

c. Once you have completed step b, proceed to **Post Upgrade Activities**. This provides a checklist of items to look for now that your upgrade is done.

Transfer Database/Connections to New Environment Option

As mentioned earlier, the **Transfer Existing Database/Connections Option** to a new environment (VM/server) does not allow the user to keep a working version of their existing RFgen environment.

N1. Perform a Script Validation

The RFgen upgrade process will not correct any pre-existing issues within your current RFgen solution set. Before starting the upgrade process, you should perform a full script validation to determine those items that are not currently functional. If any are found, make a note of which applications are affected.

N2. Determine existing database location

Determine the location of your existing RFgen Application Database and document the settings.

For RFgen v5
From your Application Database menu, open **Configuration > Application Database**. Image the screen and/or document *each of these settings* as you will be copying (in step 4) the actual database (generally shown just above the Database Login field).

For RFgen v4.x versions
This information is found under the Mobile Application Database menu, under Configuration OR under the Select RFgen Master Database, found under Options. Note the top three elements:
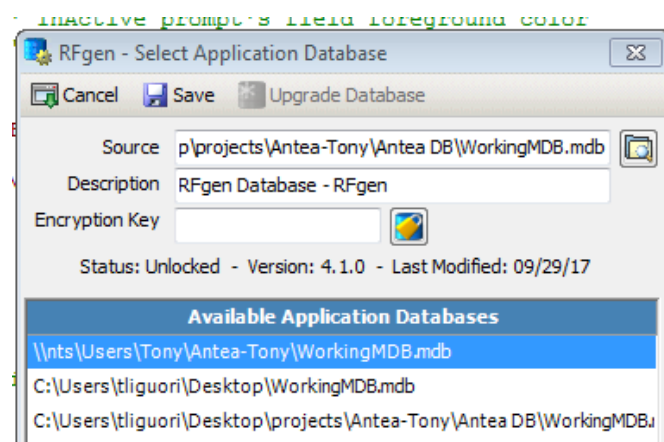
For RFgen v3.x environments
You will need to look at your 32-bit ODBC connector and determine the correct location of your database.

N3. Install RFgen Software

Using a local administrator account, install the RFgen 5.1 software if you have not done so already in your new environment/server.

- *Close all RF* services before starting the update. This includes RFIPC500.exe*
- *During the installation, RFgen will create a new 51 folder in %AppData\%Program Data*

N4. Run the RFgen v51 Mobile Development Studio

The system might advise that an upgrade is required to the *%APPDATA\RFgen51\rfgen.mdb*. If so, click **Yes** to perform this quick upgrade.

N5. Test your connection and upgrade

RFgen v5.1 is now running with either a blank database.

a. To upgrade your existing application database, select **Configuration > Application Database**. Populate the Connection settings to match the location saved in step 2.

b. Click on **Test Connection**. If a message asking permission to create new tables displays, click **Yes**. Clicking **Yes** begins the upgrade process.
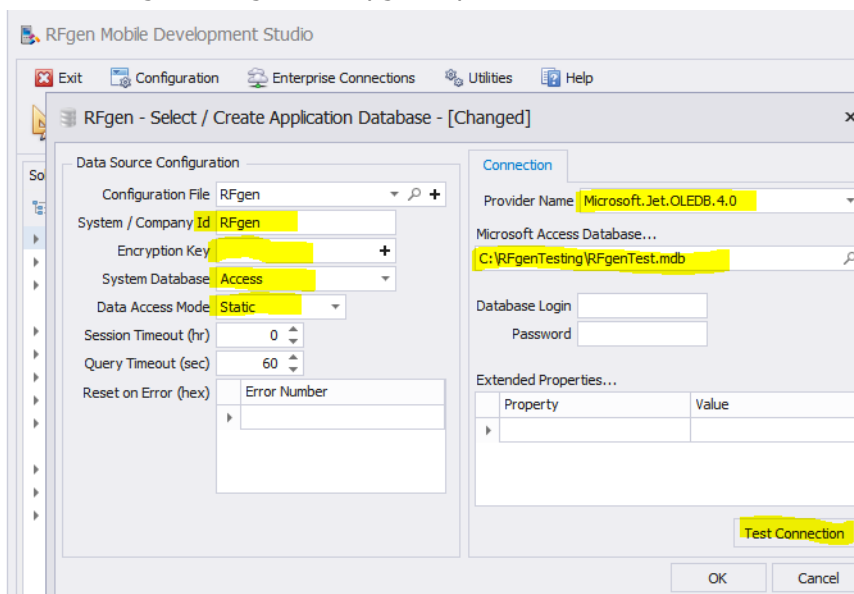
At this point the process will review all the existing applications and process them into the RFgen 5.1 formats.

Note: The time requirement and number of process steps will vary based on the complexity of the solution database. A copy of the database is automatically stored.

c. When its done the message "Connection Successful" displays. Click **OK** to close the message.

d. Click **OK** again to load the updated application database into RFgen.

e. Proceed to **Post Upgrade Activities**. This provides a checklist of items to look for now that your upgrade is done.

RFgen Client Upgrade

All RFgen Mobile Clients and RFgen Windows Desktop Clients must have the same version of RFgen that is deployed on your server in order to connect with the server. Version matches matter up for the major and minor versions. For example, 5.0 is the major and minor versions as is 5.1. The following describes with client platforms can support the installation of more than one version.

Android and iOS Client Updates

If you have the RFgen 5.0.x RFgen Client installed, when you install the 5.1 version, it will install as a unique application. It does NOT update the existing or older versions of the client.

Can RFgenv5.0.x and v5.1 be on the same device?

Yes. On **Android and iOS** platforms, the RFgen 5.0.x and a RFgen 5.1.x RFgen Client software may be installed on the same device is supported if each is configured to connect to the server that is running the version its connected to.

Windows Desktop Client Updates

If you have the RFgen 5.0.x RFgen Client installed, when you install the 5.1 version, it will update the existing client software.

You cannot have both RFgen 5.0.x and 5.1 Windows Desktop software on the same device.

Windows CE/Windows Mobile Client Updates

When you install the newer client, it will update the existing version. You cannot have both the Mobile Client 5.0.x and 5.1 software on the same device.

For the CNC auto-upgrade capability to work properly, the Windows CE/Windows Mobile Client must also be deployed along with the RFgen Mobile Unity Platform™ server.

Post Upgrade Activities

Once your Mobile Development Studio v5.1 has been upgraded, the following items should be quality checked:

_____ Review Reports > Upgrade Report

_____ Run a Syntax Check on Application Scripts

_____ Review Applications from 5.0

_____ Check Translated Resources

_____ Review **Appendix A Announcements** and **Release Notes** for a list of changes between 5.0 and 5.1. The Release Notes are located at the end of this guide.

Check Update Reports

To check if there are any other update items to address, go to **Reports > Update Reports**.
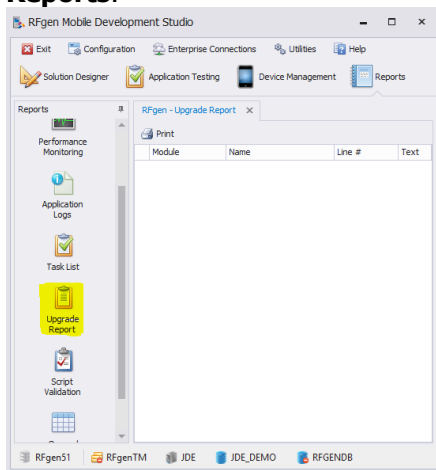
This blank screen indicates no issues were found by RFgen.

Given the flexibility with which users can write VBA code and create dependencies between objects, upgrades can sometimes result in unexpected issues. Although the Mobile Development Studio performs an upgrade code-check, the results of this test do not guarantee that your application logic is sound; it only reports that it is syntactically correct.

Run a Script Validation Check

To run a script validation, click on **Reports > Upgrade Report**
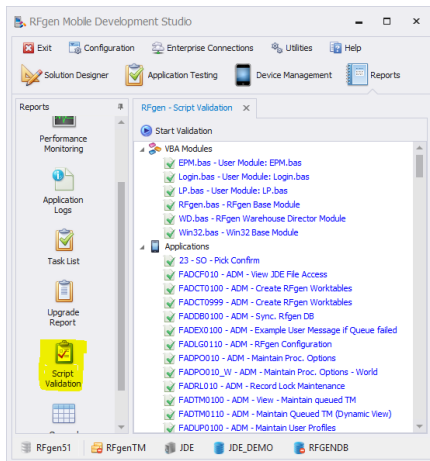
Check Language (Localized) Resources

RFgen 5.1 added a new automated language translation feature. If you had a list of string resource that were localized, follow the process below to upgrade them in this new feature automatically.

Click on **Solution Designer > Language Translation**.

Your grid should display.
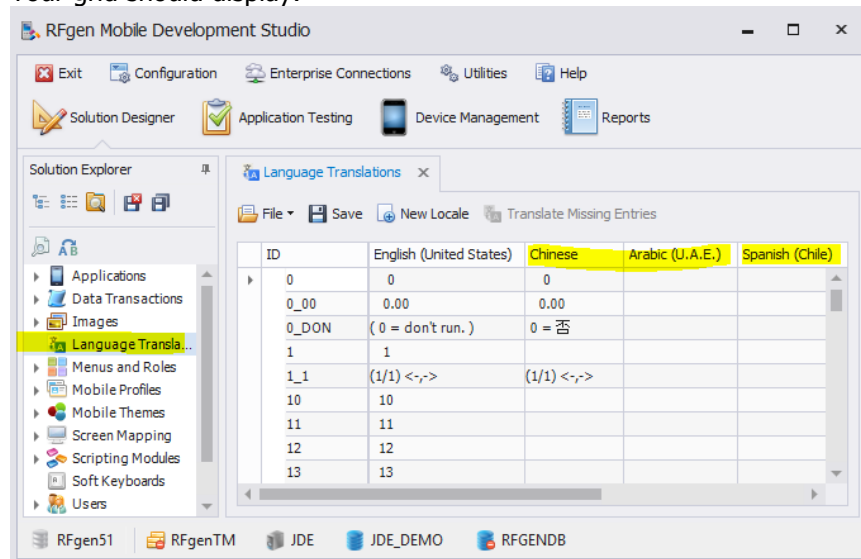
Click on the header of the column of the local to be refreshed then click on the down arrow or the **Translate Missing Entries button**.
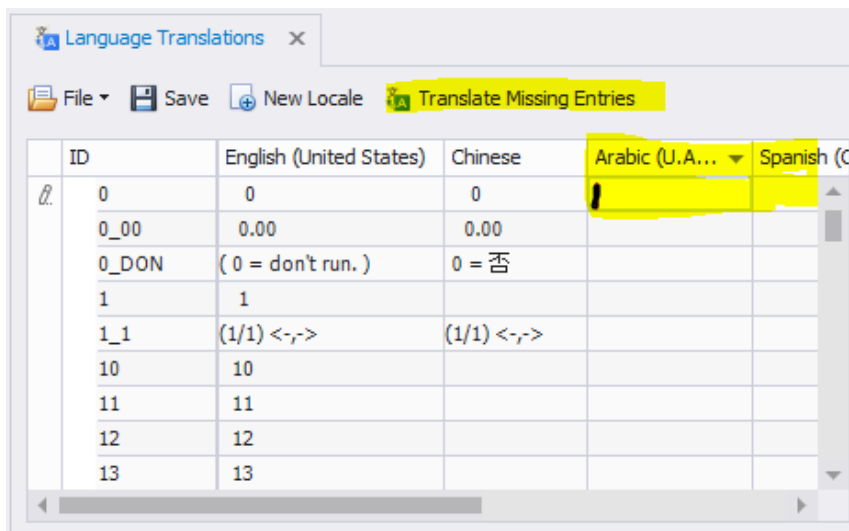
In this example we will add the missing translations for Chinese, Arabic and Spanish.

If this window displays, select the source (Translate From) and click **OK**.
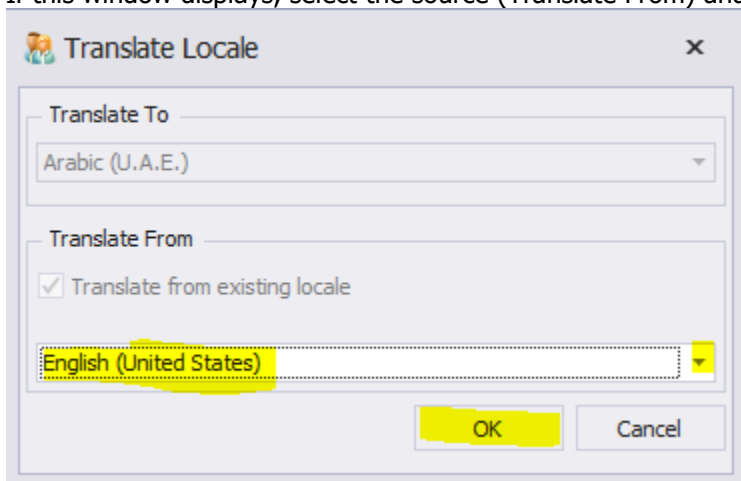
The ID strings from your source will update automatically. This process may take awhile.
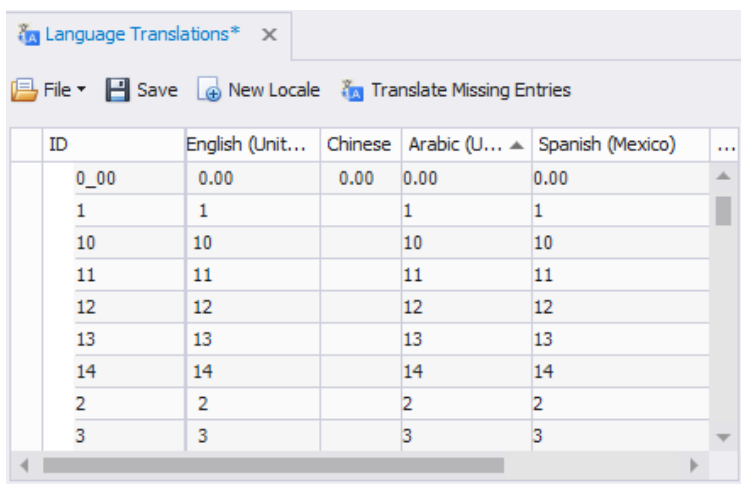
Appendix A: 5.1 Release Notes

This section describes the major changes between RFgen 5.0 and 5.1

RFgen Product Names Changes

RFgen 5.0 Product Name	RFgen 5.1 Product Name
Mobile Application Framework	RFgen's Mobile Unity Platform™
Mobile Development Studio	No Change
Windows Desktop Client	No Change
Mobile / Wireless Client	Windows CE Client
Android Client	No Change
Device Emulator	No Change
Mobile Enterprise Service Management	Mobile Unity Platform Console
Mobile Enterprise Dashboard	No Change
Transaction Management Dashboard	No Change
User Management Console	No Change

Announcements

Sample Database
RFgen 5.1 does not include a sample database, but you can use the 5.0 sample database and upgrade it to 5.0.

Removal of Telnet Displays
Telnet display support has been removed in 5.1 but will be retained in 5.0.

Authorization and Licensing the Server

- Starting in the 5.0.8.12 and 5.1.0.2 release, the communication server will no longer have a two-hour "demo" mode. If the server is not authorized (licensed) it will start-up in a paused mode and will not accept client connection requests.

- Added "Restrict Online Access" feature. This affects whether Thin and Mobile (Fat) client can connect to the server when they are initially provisioned. This feature is turned on/off at the Mobile Development Studio Configuration > Environment Properties.

  If "Restrict Online Access" is checked, the server will automatically reject the client's connection request until its approved in the Device Authorization in the Mobile Development Studio > Device Management > Device Authorization screen. Requests from Mobile Clients are automatically rejected unless they are manually approved in the Device Authorization screen.

Mobile Device Management Changed to Client Network Control

- The MDM has been renamed "CNC" (Client Network Control).
- The CNC is now packaged in the Windows CE Client. If you need to install the CNC service, you can install it on Windows CE\Windows Mobile devices or the server via the Windows CE Client. The ability to also build CAB files for the purposes of installing CNC files is still supported.

Mobile Client Additions

- Mobile Clients must be authorized, before the server accept the connection request.
- Mobile Clients can be enabled to run continuously once the Batch license has been installed to the client. See *Device Authorizations* for more details.
- Mobile Client Users can now rename and modify tables in their Mobile RFgen database, depending on how the Mobile Profile was configured at design time.
- Added Mobile Client support for Android and iOS devices.
- For Android, added ability to customize the installation. (See "Android Client Customization Instructions in the RFgen KnowledgeBase).
- Added ability to play sound on the device and vibrate a device. (See "How to play a sound on Android or iOS in the RFgen KnowledgeBase.)
- Added more features to client configuration settings. (Too many to list here.)

Remote Debugging

- Under **Application Testing,** separated out remote session/remote session testing into its own module called **Remote Devices**. This enables developers to test and debug Mobile Clients on all platforms in a remote session. In this screen, the server will only discover Mobile devices (devices that have a Mobile Client profile installed) if the "Remote Debugging" property is enabled on the Configuration Settings of the Client device. (This is supported on all platforms except RFgen Windows Desktop system (64-bit).
- The changes are synchronized based on the profile used to provision the device.

Mobile Themes and Control Relationships

- Much of the designer has been redesigned to use more parent-child relationships between Forms and Displays, Forms and Controls, and Parent Controls and Child Controls. The use of Parent-Child relationships has been extended to Mobile Themes so to better consolidate the source of a design change across components.
- We also reorganized Object Categories to accommodate centralized formatting and styles: Environment (Form Heading, Scrollbars, and System Menu), Controls (Buttons, Labels, ListBoxes, Menus, Panels, Tabs, Textboxes), Messages (Button and Panel), Searches (Heading, Row Selector, and Style), and Soft Keyboard

Functions that moved from the Server to the Device
Left to Right or Right to Left – this is now managed by the device based on its locale

RFgen.bas and Win32.bas Files
 "VBA Modules" is not called "Scripting Modules"

Global Changes Throughout the Mobile Development Studio

- Removed "Projects" and "Links".
- Changed "Mobile Device Management" to "Client Network Control".
- Changed "MDM" to "CNC".

Solution Explorer Changes

- Removed Resources tab and moved contents to Solution Explorer tab.
- Removed concept of Projects and Links. Replaced grouping with Tree that supports new groups and nested objects.

- Replaced the prompt number (order of prompt) with visual display of prompt by parent.
- Under Applications: Removed the Display tab; Display Properties now part of the Form.
- Under Applications: The Textbox Control automatically associates a Label control with a Textbox control when a new TextBox is added to a Form. (In 5.1, the Texbox control consisted of two textboxes, one for labeling and the other for text entries.)

Integration of Google Technology

- The new Map control uses Google GPS technology – if you plan on using this feature, a license from Google will be required to active this feature.
- The Language Translations tree now supports integrations with Google Language Translation. This simplifies the localization of source IDs into multiple languages for use in graphical applications. A Google license if not required for this feature.

Application Prompt\Control Property Changes

There were many changes to properties in how they are organized, renamed or removed. This is a list of some of the changes to be aware of but is not an all-inclusive list of every single change between 5.0 and 5.1.

- Different Pages on a form can be consolidated through the Panel control and PanelList control.
- "Prompt Order" is called "TabNo". TabNo is listed as the control's property, but not all controls have a Tab number.
  DateTime, Frames, Images, Labels, Layout, MapControl, Panel, and TabControl do not have a Tab Numbers.
- TextBox controls automatically include a Label (lblTextBox) so you do not have to add a Label control (Label#) for each textbox unless you wanted to.
- You can attach a label to another control with the AttachLabel property.
- The Bevel and Focus Style can be set at the prompt level, in addition to the Theme.
- RFLogin and RFMenu applications have unique actions that are set in the Form properties under SystemAction.

Documentation and Online Help

RFgen 5.1 documentation all RFgen products has been consolidated into the Installation and Upgrade Procedures or User Manual. Links to marketing literature is no longer provided as part of the product.

Schema Download and Schema Viewing Changes

Updated the schema download, schema view and schema detailed forms that are available in **Enterprise Connections > Download Enterprise Objects** and **Enterprise Connections > View Enterprise Objects**. The downloaded form will be pre-populated with relevant objects on file. This allows you to select and refresh the schema without performing the discovery first.

New Features

Client Platform Support

- Added iOS – ability to run as a Mobile Client
- Added Android– ability to run as a Mobile Client

Console and Dashboard Enhancements

- **Server/Mobile Unity Platform Console** – Added Enable Maintenance Mode (prevents new users from connecting when you are preparing to shut down the server for maintenance.)
- Enterprise Management Dashboard – Added customizable dashboard headings
- User Management Console – Ability to access Configuration Database, set Preferences and Import/Export Menus and Users to Excel
- Menu Headers can be localized by referencing the source strings ID and setting server Application Preferences to the desired language.

.Net/COM Additions

- During installation, uses may choose to install the Microsoft .NET/COM modules to extend the functionality of the VBA when developing applications.

Server Configuration Menu

- Application Preferences – Added Application Themes, Design Grid, and more Scripting Defaults
- Application Services – Added HTTPS service and HTTPS Certification
- Environment Properties – Added Restrict Online Access; removed Telnet Services
- Added User Access Control as a new menu item - Authenticates console and/or dashboard users
- ListBox Menu – Added function to convert a ListBox to a PanelList Control

Solution Designer

- Applications: Script View tab - Added Designer button (display graphical view of application)
- Soft Keyboard Designer – Create graphical keyboards (pre-design can be imported)
- Language Translations - Localized multiple strings from same source using Google Translate
- Added to Form Header, device signal strength and battery strength icons

New Application Controls

- DataGrid (Allows user to edit content within a cell.)
- DateTime (Supports many date and time formats)
- Layout (Auto-aligns objects, supports parent-child relationships)
- ListBox (Enhanced with more styling features such as the checkbox)
- Maps (See Google Integration and licensing requirements)
- Panel (Supports parent-child relationships)
- PanelList (Place related objects creatively on panel and host arrangements on next panel)
- TabControl (Place multiple tabs on the same form)
- TreeView (Supports nesting groups, but not parent-child relationships)

Application Testing
- Added Synchronization button to Remote Devices > Remote Session screen
- Added Voice Devices and Service Requests.

Device Management
Added Access / Authorized Devices

VBA Language Extensions and Properties

DataGrid.List

DateTime
List.AddColSet
List.ColSet
MapControl.Map
Prompt.Children
Prompt.Parent
TabControl.Tab
TreeList.List

VBA Language Extensions for Applications
App.Reload
App.Theme
App.Update

RFgen.ini
Added the ability to define multiple transaction limits instead of a single transaction limit in the RFgen.ini file. This gives you to option to reset individual transaction queues instead of having them all reset when the limit is triggered.