



Telnet Profile Configuration - Quick Start Guide

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Contents

Installing the Velocity Client	3
To install the Velocity Client on Android.....	3
To install the Velocity Client on Windows 10.....	3
Installation of Velocity Console.....	4
To install or upgrade the Velocity Console.....	4
Configuring Host Profiles	4
Emulation type.....	6
Default Native Mode.....	7
Font size.....	8
Zoom/scroll.....	8
Scanner Configuration	9
Scan Handlers	12
Full Screen Mode	17
Hide menu/Hide Toolbar	18
Immersive Mode.....	19
Distributing Settings to Devices	20
Deploying a project from the Console	20
To deploy a project from the Velocity Console to a local Windows Client.....	21
VT specific settings – F5 Key Macro	22
5250/3270 specific settings	26
Enter Key Swapped	26
Oversized Scanning	26
Auto Send Scans.....	27
Disable error sound.....	28
Delete Demo project from main menu	28
Appendix A. Send data to Velocity using intents	35

Ivanti Velocity is an Android or Windows client that can connect to Telnet hosts (including IBM 5250/3270 and VT100/220), web apps, and Oracle SIM hosts. The Velocity Console is an application installed on your desktop or laptop and is used to configure the Velocity Client. Create host profiles for different host types, import screens and edit how they appear, and set up speech-to-text or text-to-speech using Ivanti Speakeasy. This guide will explain how to create and deploy a settings file or Host Profile in Velocity that contains the initial configuration of a telnet connection.

Both the client and Console application can be download from the Velocity Downloads page:
http://www.wavelink.com/Download-Velocity_enterprise-app-modernization-Software/

Installing the Velocity Client

To install the Velocity Client on Android

1. If the device has the Google Play Store installed, you must make sure the device allows installation of non-Play Store applications. This option is frequently named Unknown sources under Settings > Security.
2. Start the installation with one these methods:
 - a. Copy the installation apk file to the device. Open a file browser application and locate the folder when the file is copied. Tap the file name to start the installation.
 - b. Using the device, open a browser and navigate to the Velocity downloads page on the Ivanti website. Download the latest Client appropriate for the device type.

View the device Notifications by pulling down the status bar. When the Client download is complete, tap the notification to install the Client.

3. The installation screen appears. Tap Install.
4. The app is installed. Tap Open to launch the Velocity Client or tap Done.

To install the Velocity Client on Windows 10

1. Using the device, open a browser and navigate to the Velocity downloads page on the Ivanti website. Download the latest Client appropriate for the device type.
2. Run the installer. You may be prompted to install .NET. If you are prompted to install .NET, you must reboot before you can complete the installation.

Installation of Velocity Console

The Velocity Console can be installed on the following operating systems:

- Windows 7 64-bit
- Windows 10 64-bit

To upgrade to a new version of the Velocity Console, download the installer for the new version. When you run the new installer, it will replace the older files with the new version.⁴

To install or upgrade the Velocity Console

1. Download the Console installation file from the Velocity Downloads page. After you've downloaded it, launch the Velocity.msi file from an administrator account on your computer to begin the install process.
2. Click Next to begin the setup wizard.
3. Accept the terms in the license agreement and click Next.
4. (Optional) If you plan to use Velocity with Oracle SIM, select Include Support for Oracle SIM.
5. Click Install to begin the installation process.
6. Accept the terms of the Microsoft Visual C++ Redistributable and click Install. When the redistributable is finished installing, click Close.
7. Click Finish.

The application is installed on your computer. To use the Velocity Console, either leave the Launch Velocity Console option selected on the last screen of the installer or locate and launch the shortcut in the Start menu.

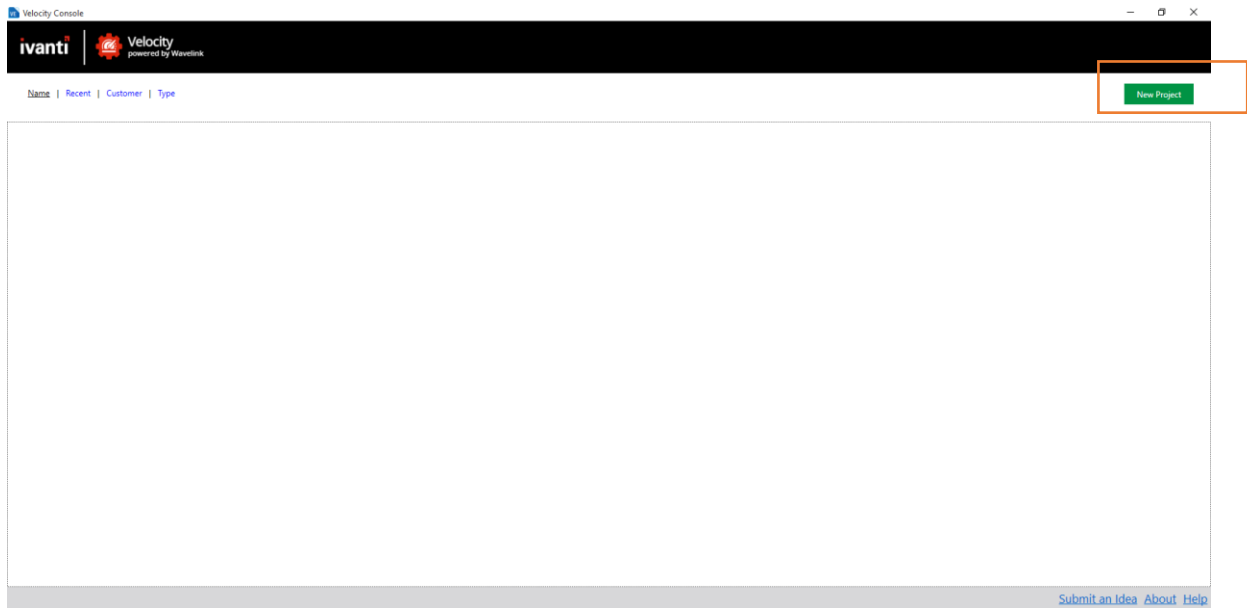
Configuring Host Profiles

A host profile defines the settings that the Velocity Client should use when it attempts to initiate a connection with a specific host. The host profile may include the emulation type, IP address of the host, or other settings. Each project should have one host profile associated with it. You cannot have more than one host profile associated with a project.

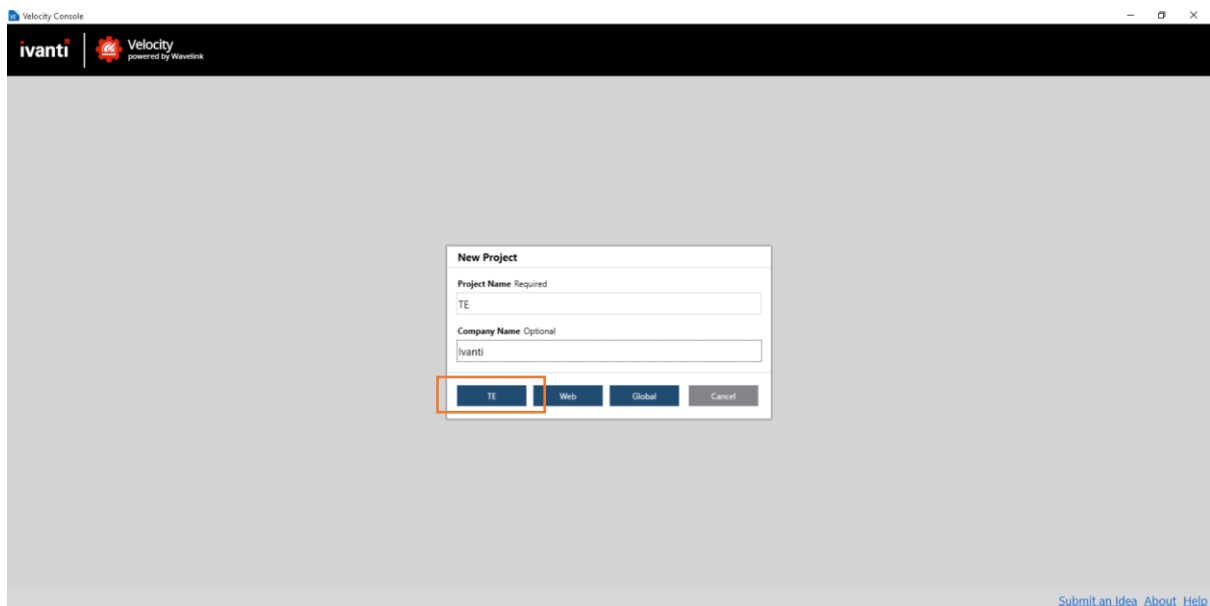
If you want similar settings for more than one host profile: export the project as a zip file, create a new project, import the zip, and change the settings that are different.

When a device user attempts to initiate a session with a host, the Velocity Client displays a list of available host profiles. The user selects the host he wants to connect to, and the Velocity Client uses the host profile settings to connect to the host. There are more settings that can be done via the Velocity Console than can be done directly in the client. Also, a configuration made via the Console can be easily deployed across multiple devices. It is therefore recommended to always create a host profile via the Velocity console.

All available projects/configurations are available for the main window of the Velocity Console. Initially, this list is blank. Click New Project to create a new configuration:

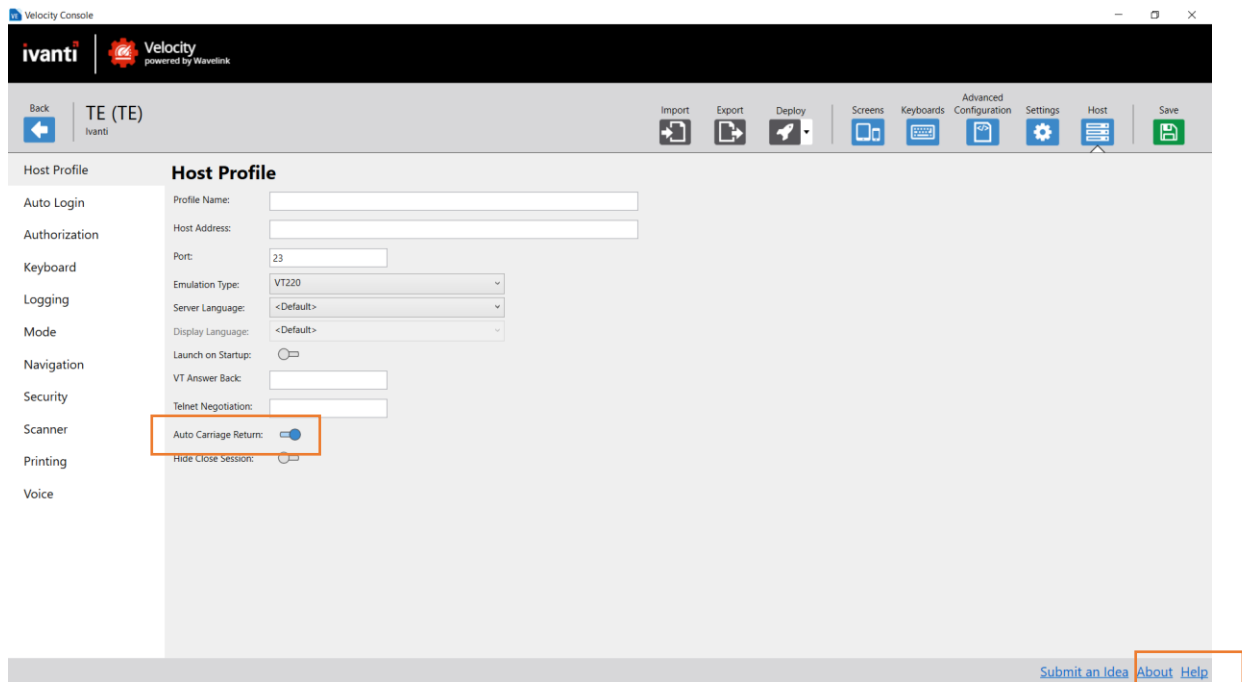


The Project Name is required. This is the name that will appear in the main window of the Console. The Company Name is optional. Click the TE button to create a new telnet project:



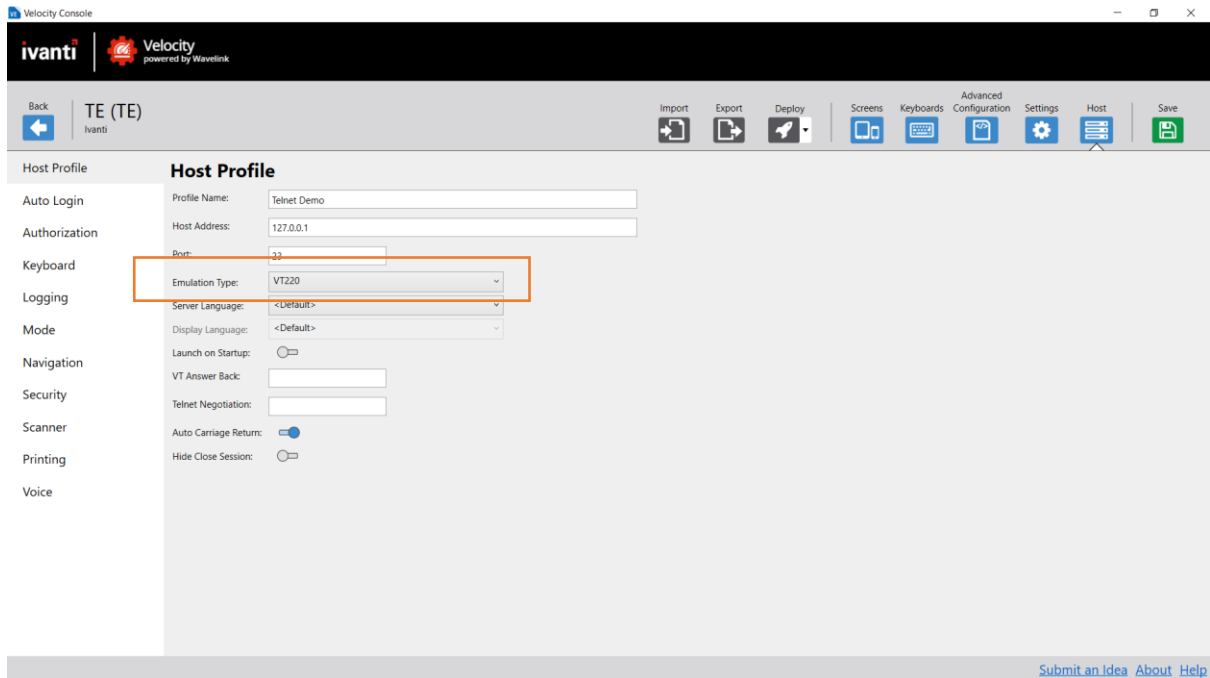
In the Host Profile tab all settings are made to connect to the telnet host. From the Console, online help is available by clicking Help at the bottom right.

One setting in this tab noteworthy beforehand is Auto Carriage Return. This setting has no function in 'green screen' telnet mode, only in modernized mode. It is also **not** the setting to add an enter after a scanned barcode.



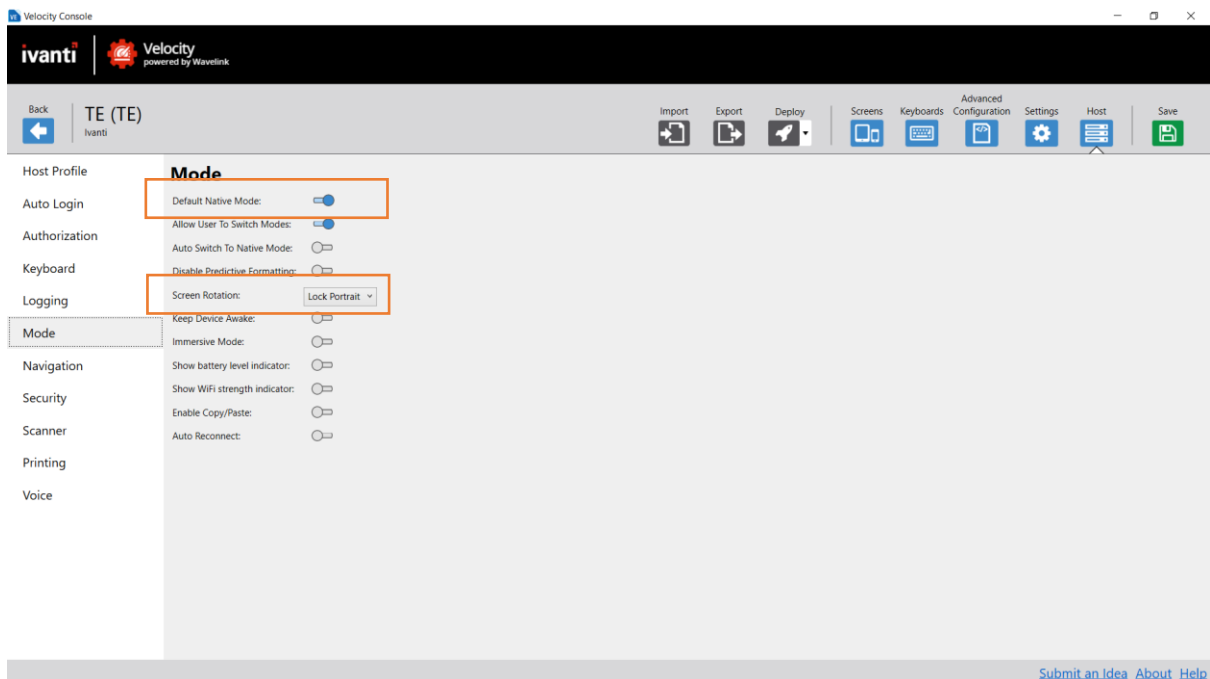
Emulation type

The Emulation Type determines the type of telnet host, VT or 5250/3270. Specific settings for these types are explained in the sections 'VT specific settings – F5 Key Macro' and '5250/3270 specific settings'.



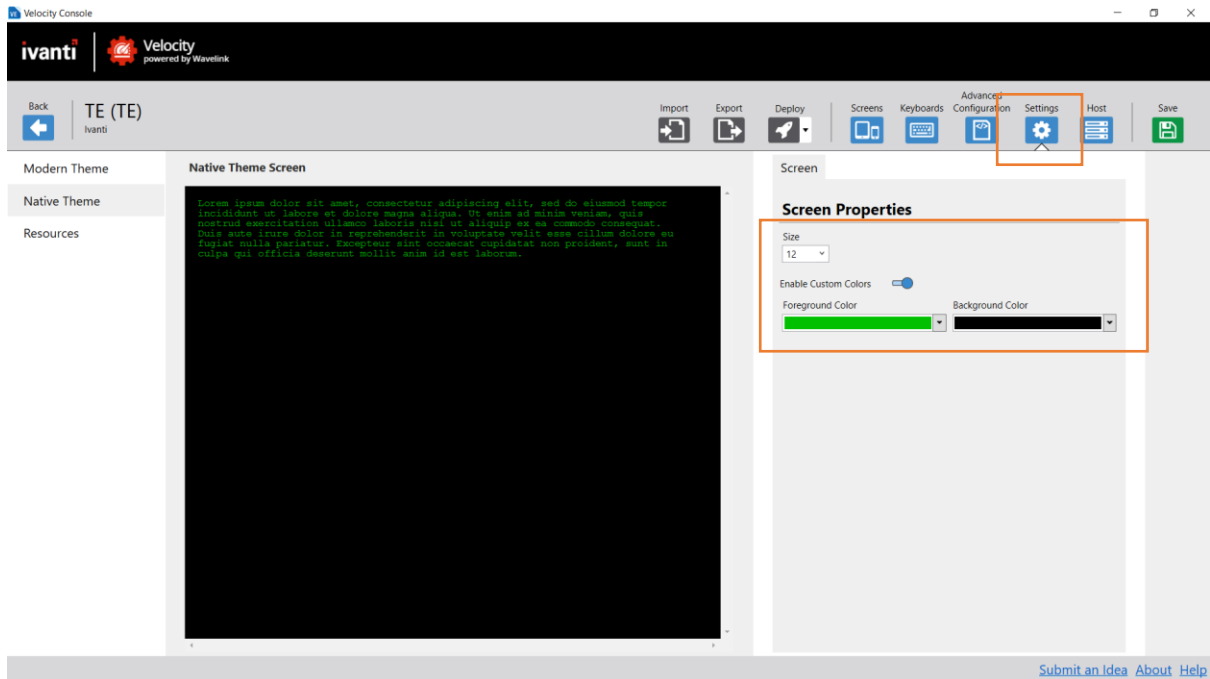
Default Native Mode

Click Mode in the menu on the left. Here is configured how the Velocity client will display the telnet application. By default 'Default Native Mode' is enabled. This means that the telnet application will display in 'green screen' character mode. Set Screen Rotation to Lock Portrait to prevent the display information to switch between portrait and landscape mode when the device is turned.



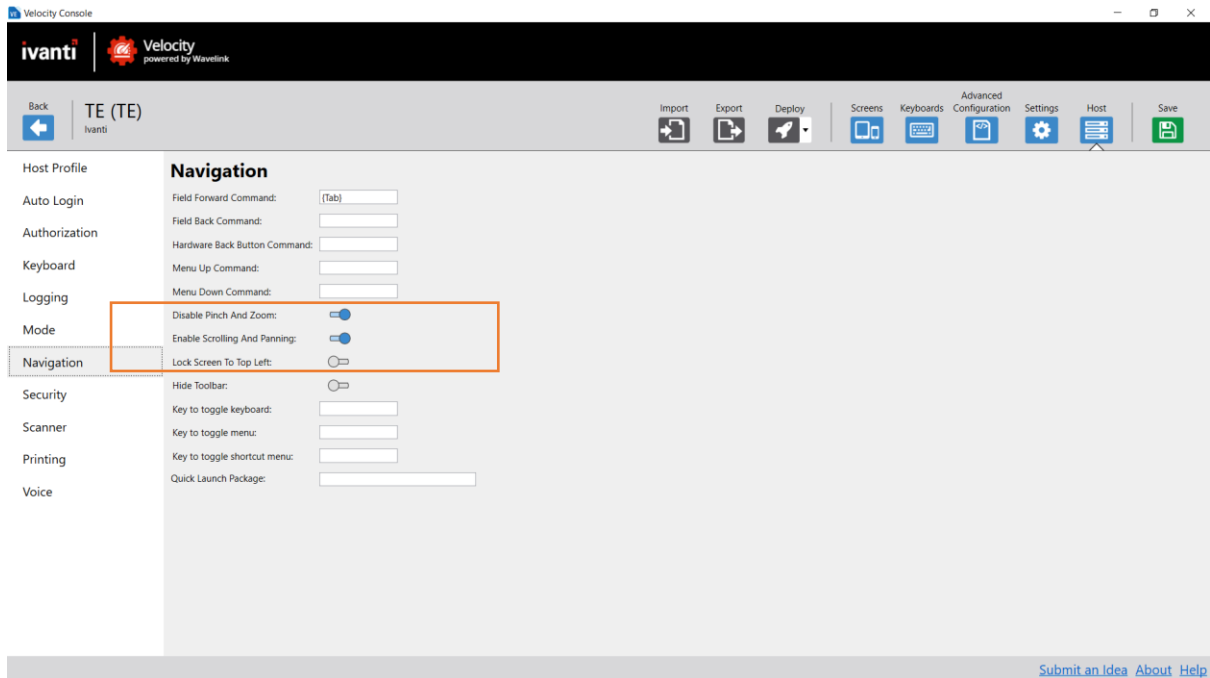
Font size

The font size can be set in the Settings section, under Native Mode. The default value of 12 is often too small. A value of 16 usually fits the display of an Android device better.



Zoom/scroll

By default, Velocity tries to position the screen information around the cursor. This is not always wanted if the information at the top of the screen is scrolled outside the display. To prevent this, enable 'Lock Screen To Top Left' in the Navigation section to fixate the screen information. This might cause the cursor to move outside the display. By enabling 'Enable Scrolling And Panning' the user can still move the cursor back into focus by swiping:

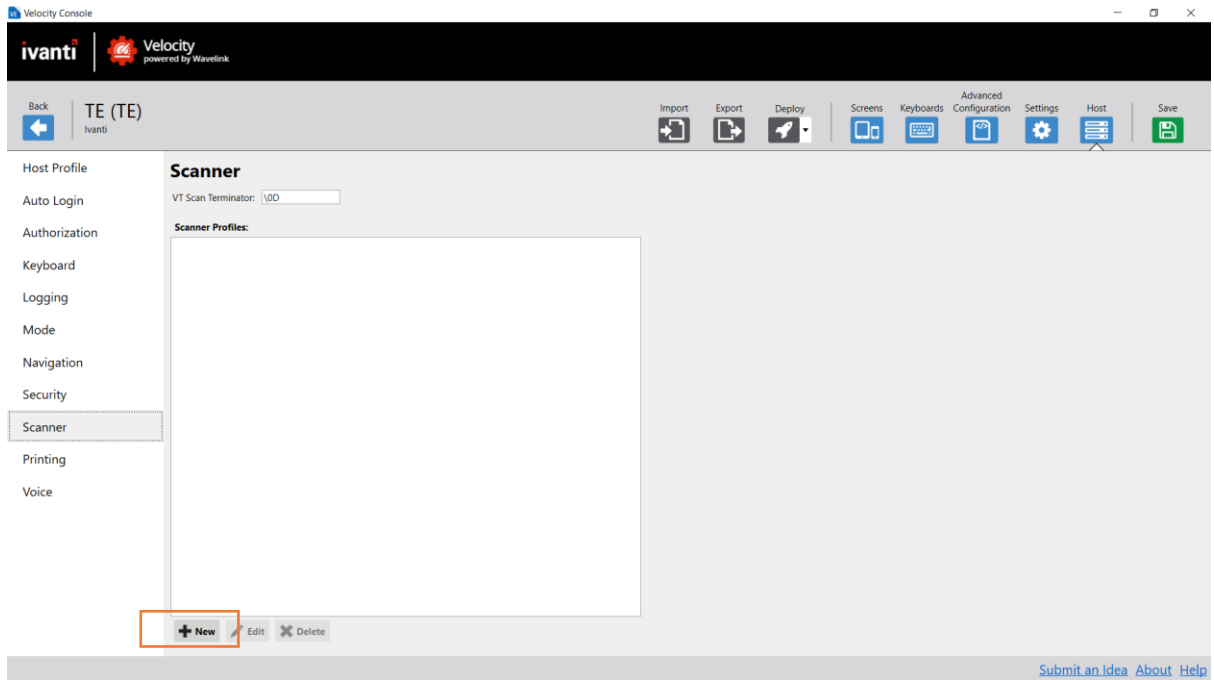


‘Disable Pinch And Zoom’ enables or disables the possibility to zoom the information on the screen in or out.

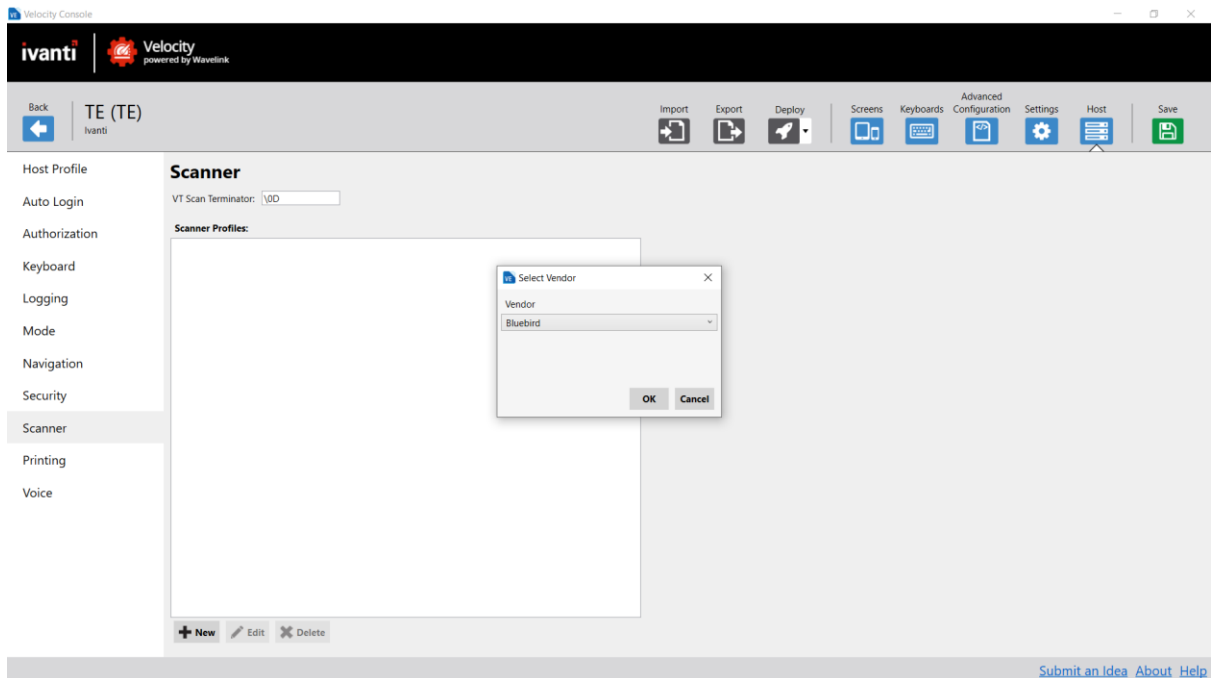
Scanner Configuration

Velocity allows for configuration of certain scanners and imagers that are built in a mobile device. Although the list of supported makes and models is ever growing not every hardware vendor is supported. **Also, Velocity cannot configure any scanners that are connected via Bluetooth.** In the case where the scanner is not supported by Velocity the manufacturer’s wedge software needs to be configured like is described in Appendix A *Send data to Velocity using intents*.

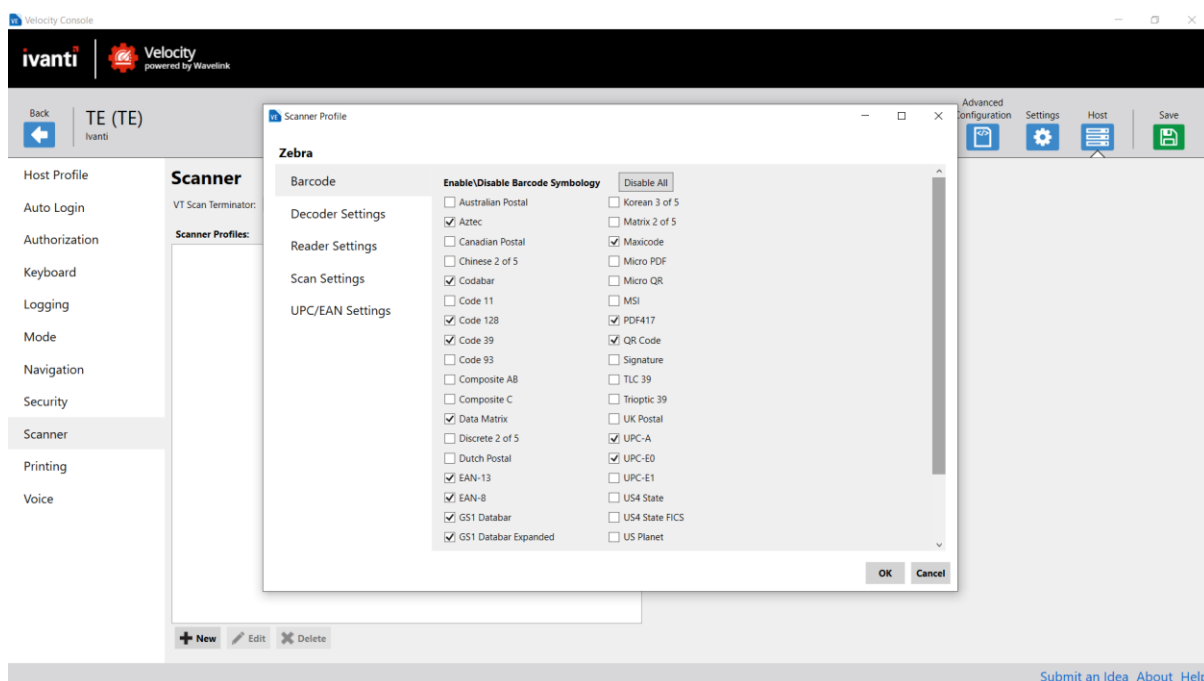
To configure the scanner of a supported model, click ‘New’ in the Scanner Section:



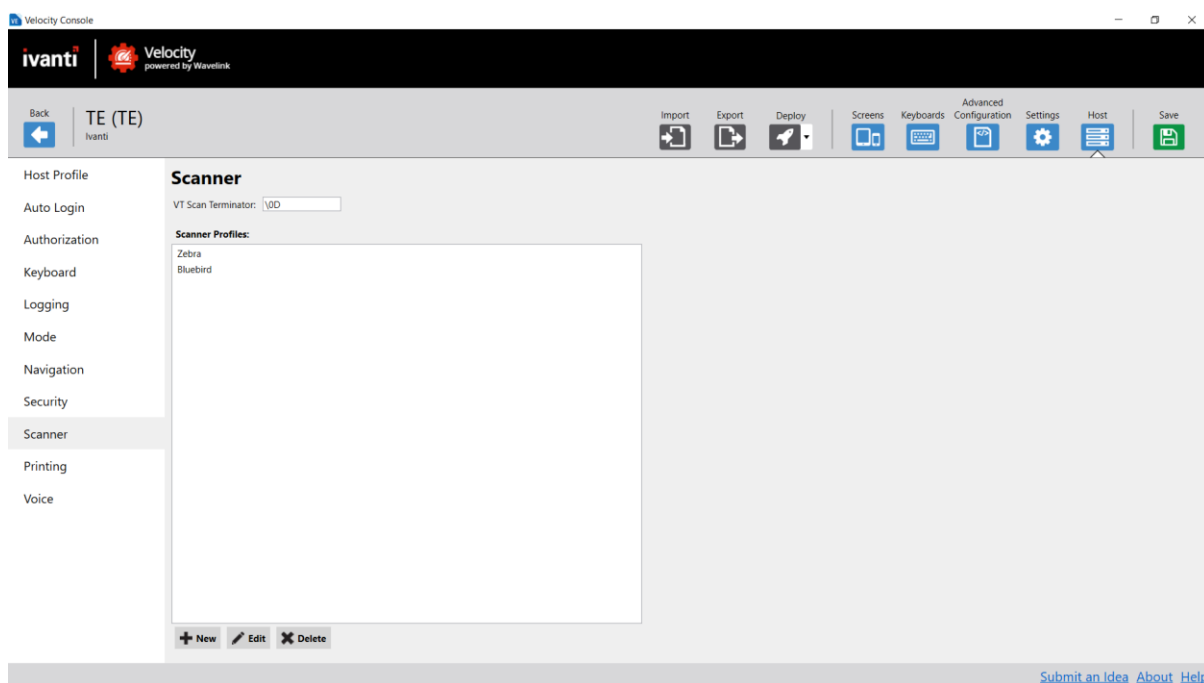
Select the manufacturer of the device from the list:



Then, configure the available parameters where needed:

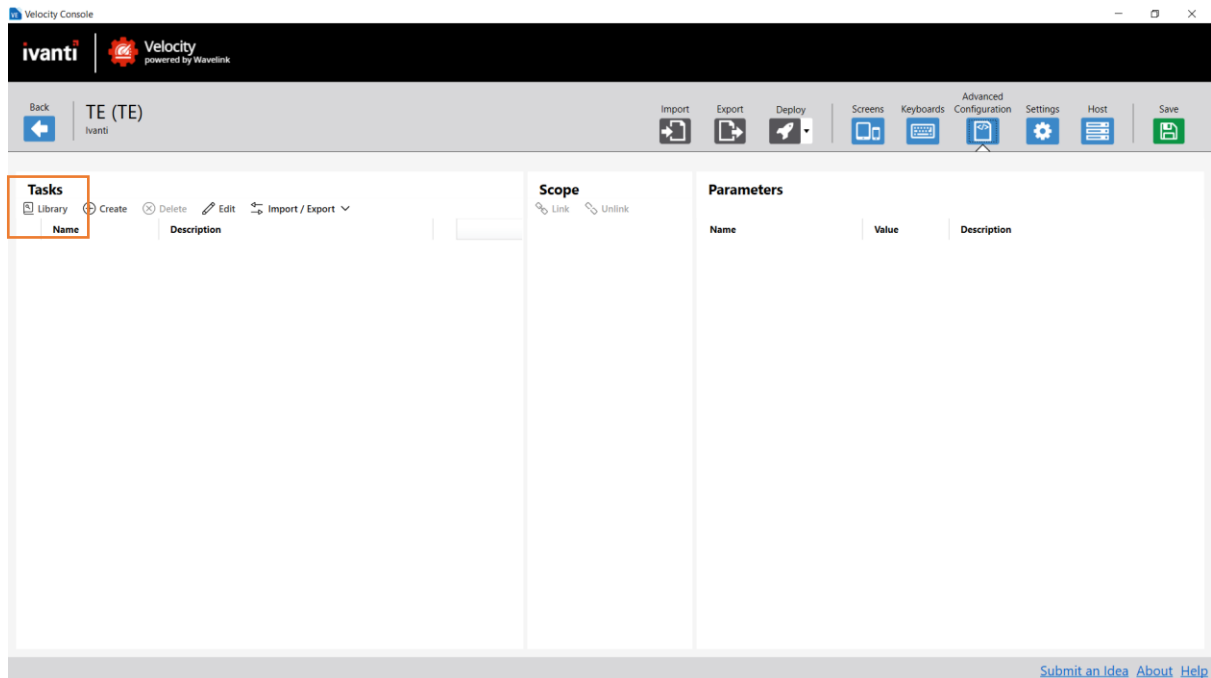


Additional Scan Data Formatting and Scan Handlers can be done via Advanced Configuration, as is described in the next paragraph. A Velocity project can contain multiple scanner configurations for different manufacturers. The Velocity client will use the appropriate scanner configuration at run time.



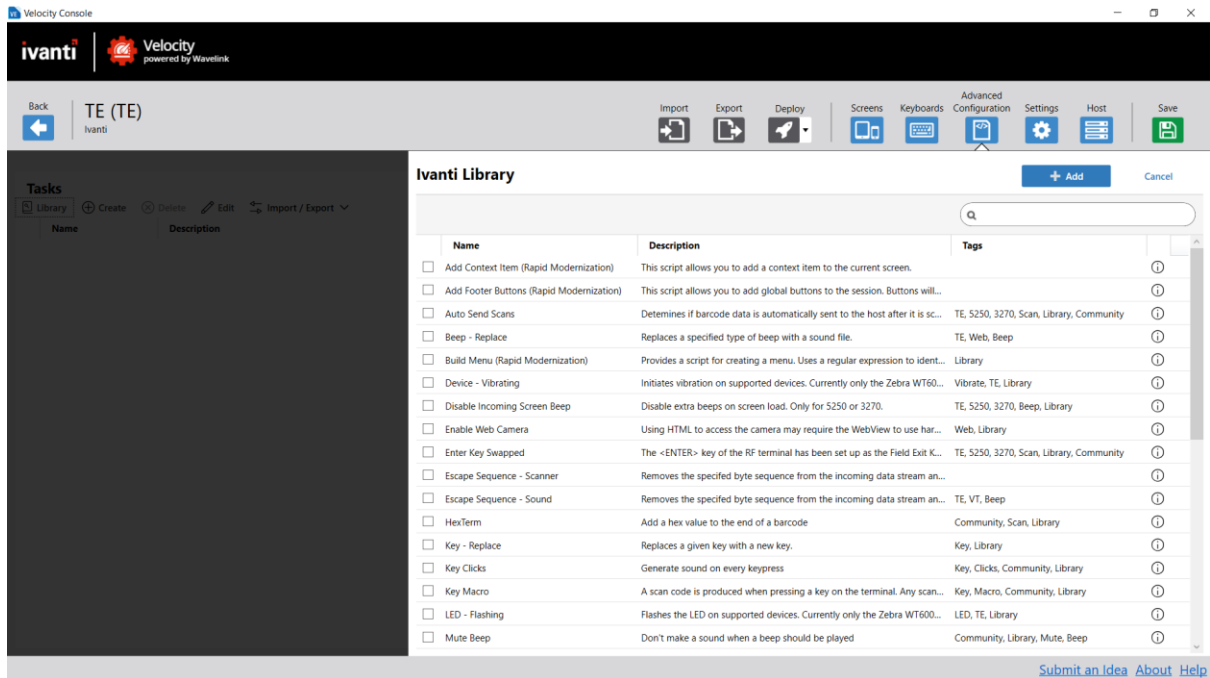
Scan Handlers

Addition scan handling can be configured in the Advanced Configuration section. Advanced scan handler options are available as options from the library where you can pick and choose the options as needed:

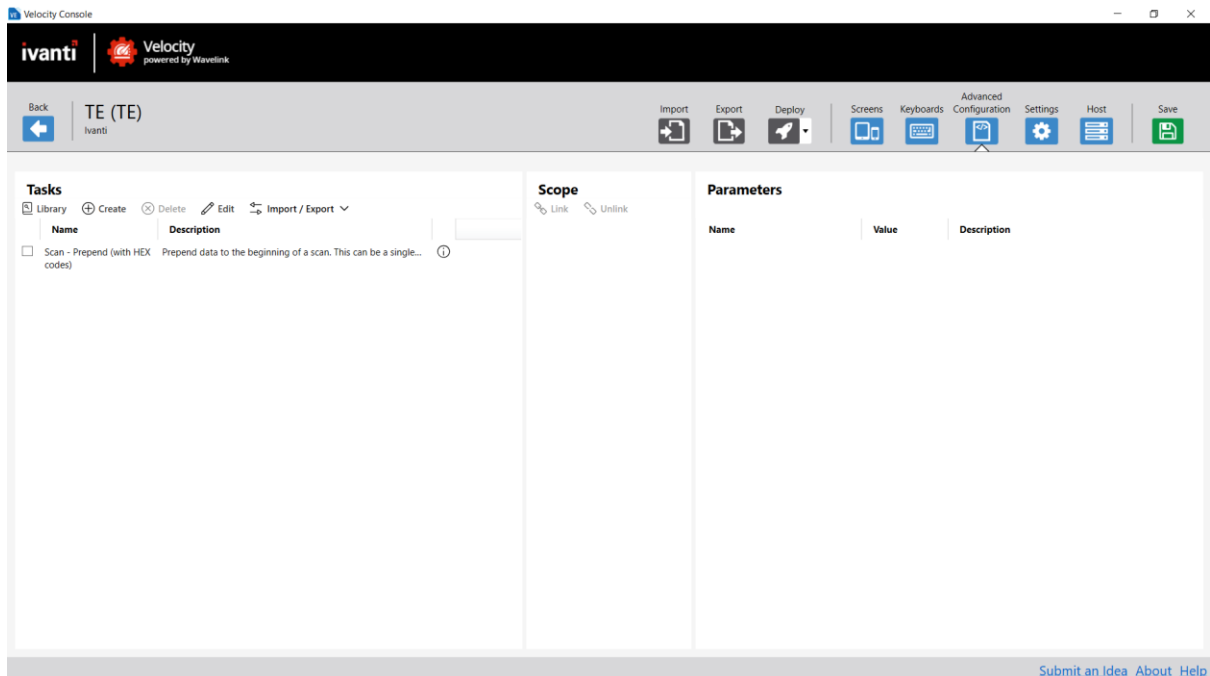


Multiple scan handler options are available to modify the scanned data prepend, append, replace or and delete characters. For example, to replace the FNC1 character in a GS-1/EAN128 barcode select 'Scan - Replace (with HEX codes)' from the list and press Add:

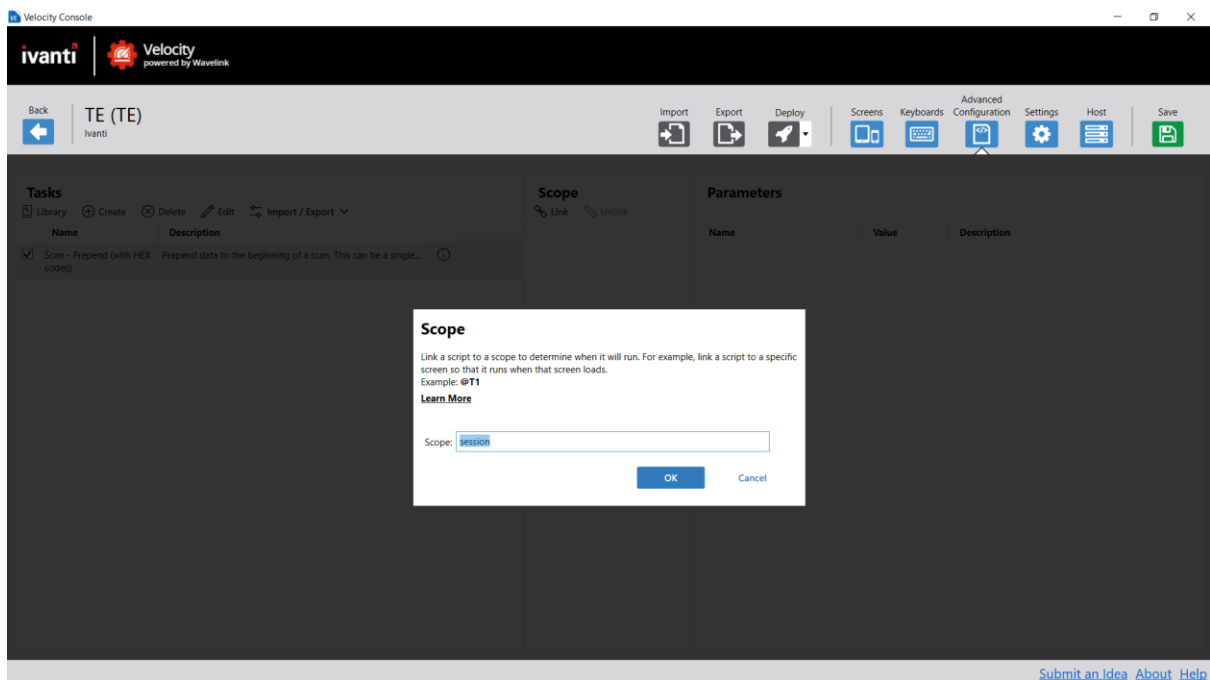
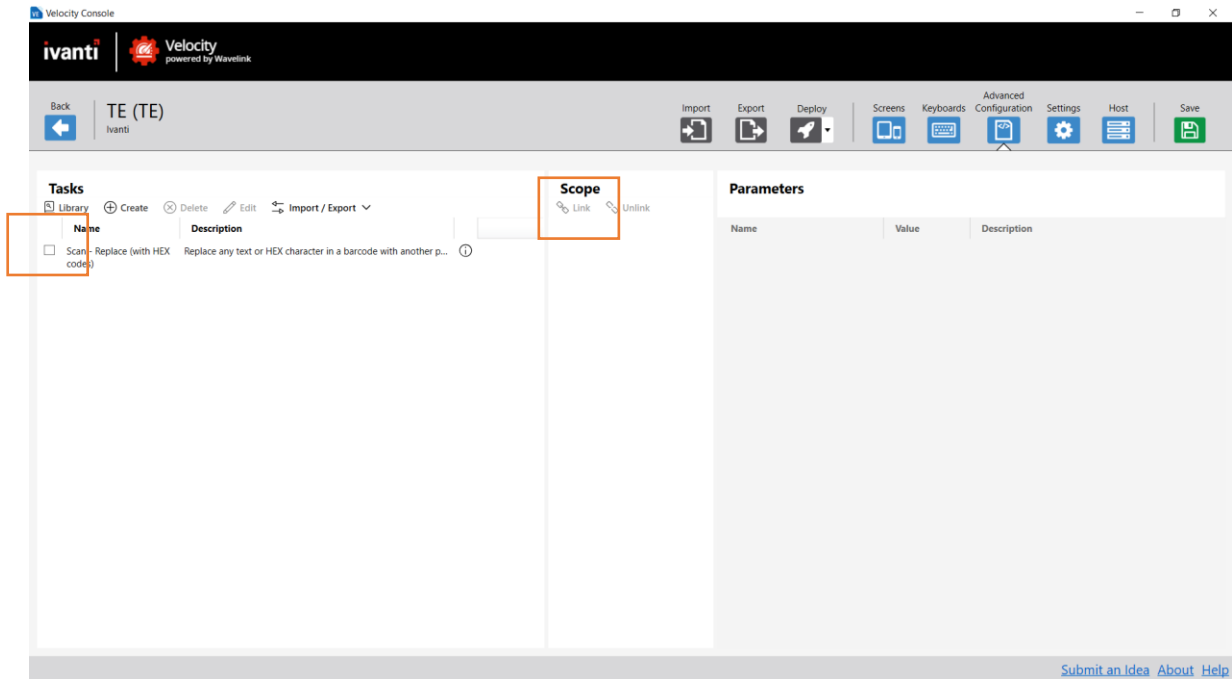
Telnet Profile Configuration – Quick Start Guide



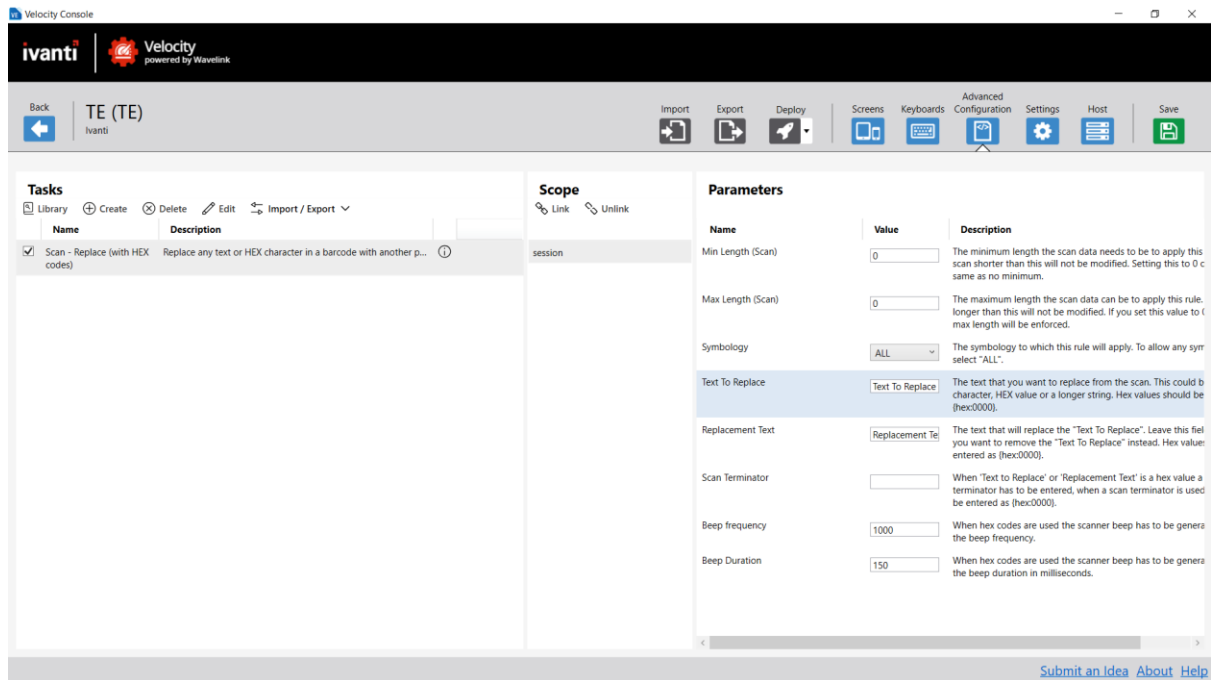
The option now becomes available in the Tasks list:



Only adding this option to the configuration does make the setting active. That means that the functionality will not work yet. Also, it is not possible to set any parameters or variables. To activate a script it has to be linked to the session scope. Select the script, click 'Link' and click 'OK':



Now the parameters become available:



The parameters to replace any FNC1 character in a scanned EAN128 barcode by a '*' are:

Symbology: CODE 128 (optional: if not selected any barcode will be accepted)

Text To Replace: {hex:001d} (hexadecimal value of the FNC1 character)

Replacement Text: *

Scan Terminator: {enter} (needed for this script)

Telnet Profile Configuration – Quick Start Guide

The screenshot shows the Velocity Console interface for configuring a Telnet profile. The profile is named 'TE (TE)' and is associated with the 'Ivanti' host. The configuration is divided into three main sections: Tasks, Scope, and Parameters.

Tasks: A table with columns 'Name' and 'Description'. A single task is listed: 'Scan - Replace (with HEX codes)' with a description 'Replace any text or HEX character in a barcode with another p...'. The task is checked.

Scope: A section with 'Link' and 'Unlink' buttons. A single scope is listed: 'session'.

Parameters: A table with columns 'Name', 'Value', and 'Description'. The parameters are:

Name	Value	Description
Min Length (Scan)	0	The minimum length the scan data needs to be to apply this scan shorter than this will not be modified. Setting this to 0 c same as no minimum.
Max Length (Scan)	0	The maximum length the scan data can be to apply this rule. longer than this will not be modified. If you set this value to (max length will be enforced.
Symbology	ALL	The symbology to which this rule will apply. To allow any sym select "ALL".
Text To Replace	{hex:001d}	The text that you want to replace from the scan. This could b character, HEX value or a longer string. Hex values should be {hex:0000}.
Replacement Text	*	The text that will replace the "Text To Replace". Leave this fiel you want to remove the "Text To Replace" instead. Hex value: entered as {hex:0000}.
Scan Terminator	{enter}	When "Text To Replace" or "Replacement Text" is a hex value a terminator has to be entered, when a scan terminator is used be entered as {hex:0000}.
Beep frequency	1000	When hex codes are used the scanner beep has to be genera the beep frequency.
Beep Duration	150	When hex codes are used the scanner beep has to be genera the beep duration in milliseconds.

A script can be linked multiple times to with different values. Prepending 'JA' to any scanned CODE39 barcode and 'JI' to any Interleaved2of5 barcode would look like:

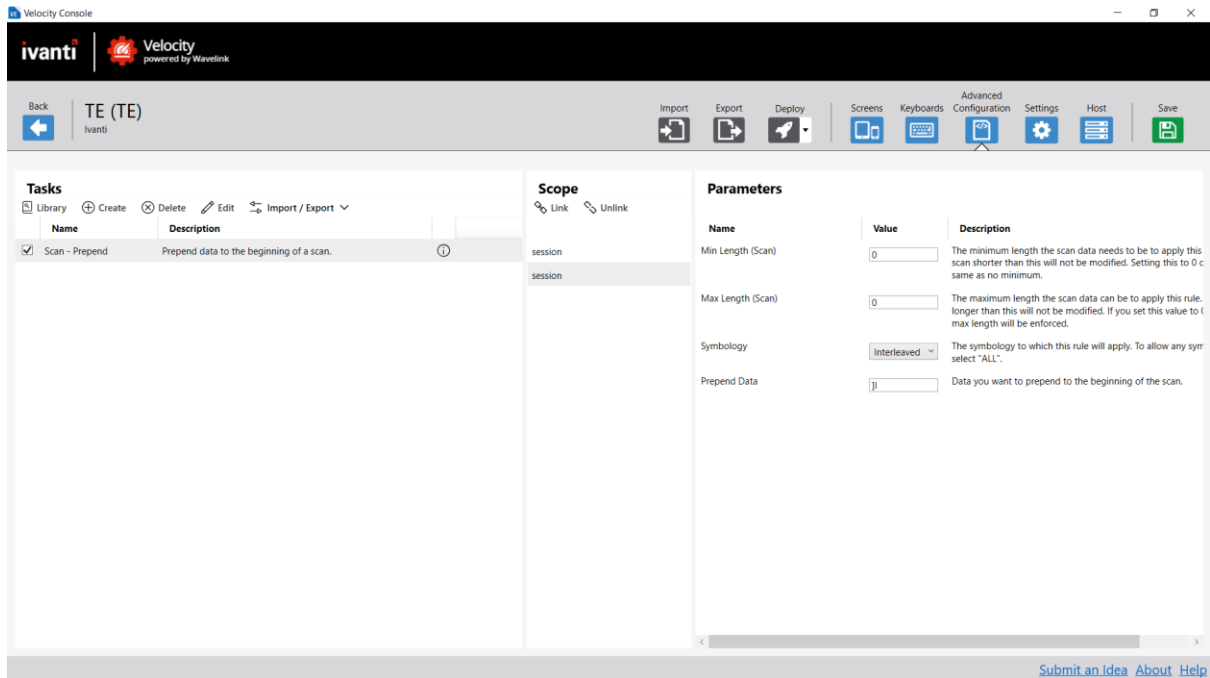
The screenshot shows the Velocity Console interface for configuring a Telnet profile. The profile is named 'TE (TE)' and is associated with the 'Ivanti' host. The configuration is divided into three main sections: Tasks, Scope, and Parameters.

Tasks: A table with columns 'Name' and 'Description'. A single task is listed: 'Scan - Prepend' with a description 'Prepend data to the beginning of a scan.'. The task is checked.

Scope: A section with 'Link' and 'Unlink' buttons. Two scopes are listed: 'session' and 'session'.

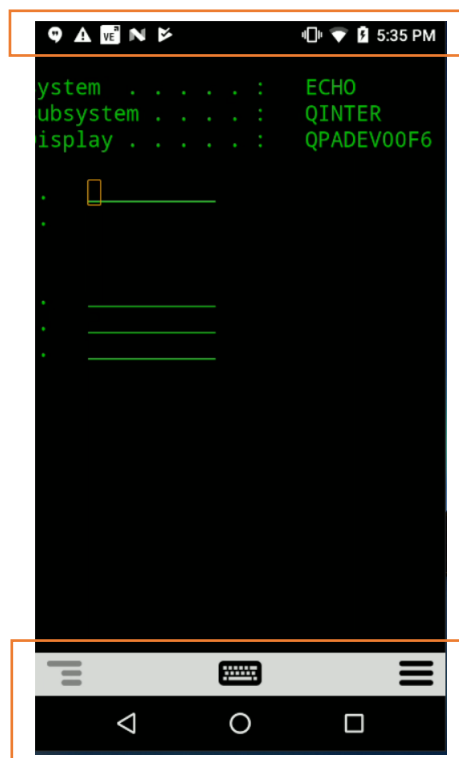
Parameters: A table with columns 'Name', 'Value', and 'Description'. The parameters are:

Name	Value	Description
Min Length (Scan)	0	The minimum length the scan data needs to be to apply this scan shorter than this will not be modified. Setting this to 0 c same as no minimum.
Max Length (Scan)	0	The maximum length the scan data can be to apply this rule. longer than this will not be modified. If you set this value to (max length will be enforced.
Symbology	CODE 39	The symbology to which this rule will apply. To allow any sym select "ALL".
Prepend Data	JA	Data you want to prepend to the beginning of the scan.



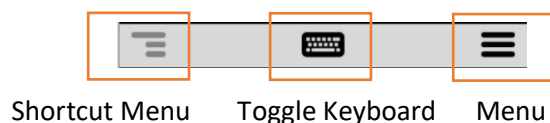
Full Screen Mode

It is not possible to lock down Velocity and have it always in the foreground. To lock down an application in Android a third-party kiosk mode application is necessary, for instance Enterprise Home Screen from Zebra or iLauncher from Honeywell. It is, however, possible to make Velocity full screen by removing the menu bars on screen.



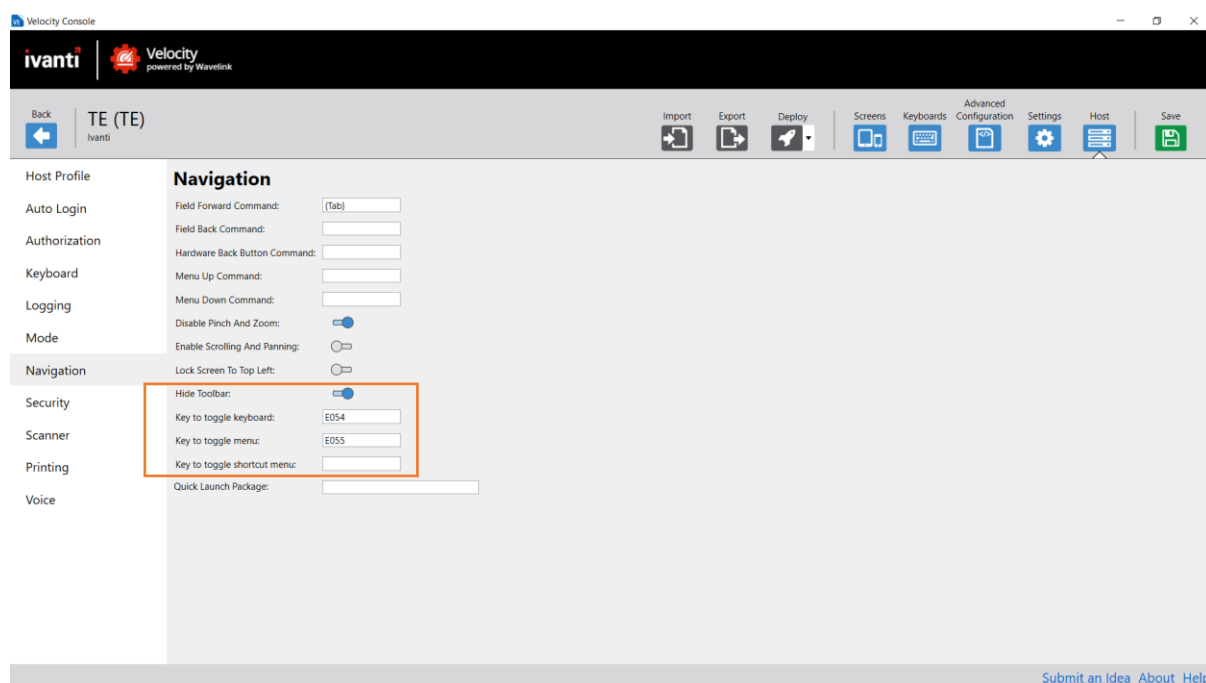
Hide menu/Hide Toolbar

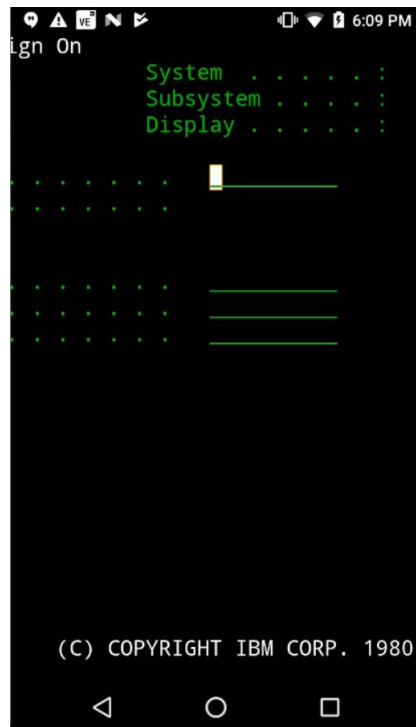
It is very likely that, if the device has a fixed keyboard, there is no need to have the grey menu bar (or toolbar) available for the user, other than to be able to open the menu or shortcut menu or toggle the on-screen keyboard.



This menu bar can be removed by selecting Hide Toolbar from the Navigation section. Hardware keys can then be defined to open the Shortcut Menu or Menu or Toggle the on-screen keyboard. This is configured with the four-digit hex notation of the specific key. These key codes can be found here: https://help.ivanti.com/wl/help/en_US/Velocity/2.1/admin/keyboardCodes.htm

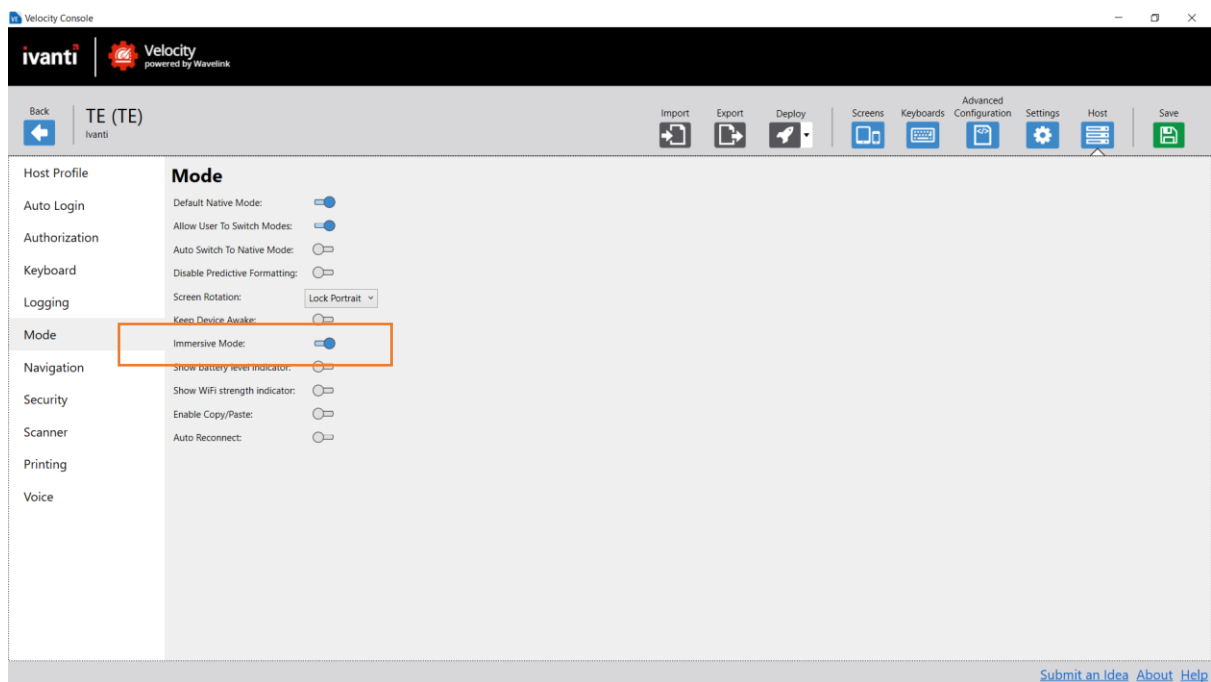
The example below uses F11 to toggle the on-screen keyboard (E054) and F12 to toggle the Menu (E055):

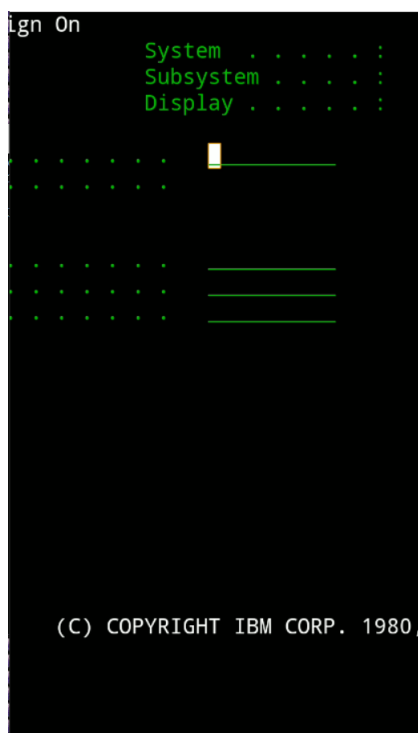




Immersive Mode

The black menu bars at the top and bottom on the screen can be hidden by enabling Immersive Mode in the Mode section:





These bars are not completely disabled. They will appear when the user swipes down but then automatically blend out again.

Distributing Settings to Devices

After a project is created with the desired host profile and settings, distribute it to your devices. Distributing a project has two steps:

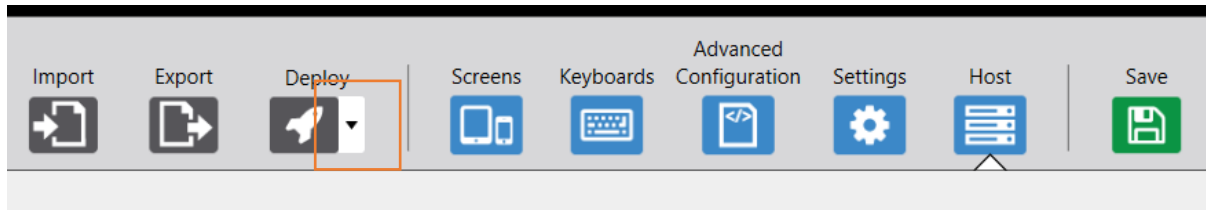
- Deploy the project from the Console. This takes all the settings, files, and scripts and uses them to create a .wldep file.
- Copy the file (or files) to the devices. You can do it manually over USB, or use mobile device management (MDM) software like Ivanti Avalanche.

Deploying a project from the Console

Prior to using a project in the Velocity Client, projects must first be deployed to mobile devices. When a project is deployed, it is stored as a .wldep file containing all the scripts, images, keyboards, and other resources needed to use the project.

To deploy a project from the Velocity Console to a local Windows Client

From the Velocity Console, click the arrow next to the Deploy button and select Deploy locally.



If there is already a deployment file with the same name in the directory, you are prompted to replace it. The project deployment is automatically copied into the %Programdata%\Wavelink\Velocity directory, and the local Client will load the project.

To deploy a project from the Velocity Console

- From the Velocity Console, click Deploy.
- Click the ... button to browse for a save location.
- Navigate to the desired location and enter a file name to save the project as. Click Save to close the dialog.

The project is deployed as a .wldp to the specified destination. It can now be distributed to devices manually or using a mobile device management system like Avalanche.

Distributing a project over USB

If you don't use an MDM system, you'll need to distribute the file over USB.

On Android, the Velocity Client looks for the deployment files in the first external storage partition. It is the storage you see when you connect the device over USB. It is sometimes named 'SD card' or 'external', even though it is not an SD card or external to the device. In the first external storage partition, the files need to be in the following location:

Pre-Android 10: /com.wavelink.velocity

Android 10 and later: Android/data/com.wavelink.velocity/files

If you have an SD card in the device, make sure you create the directory in the storage on the device and not the removable SD card. The Velocity Client will not recognize the deployment file if it is not in the correct location on the device storage.

-Or-

For Windows devices, copy the deployment file (.wldep) or files into the %Programdata%\Wavelink\Velocity directory.

Launch the Velocity Client on the device. The app automatically extracts the project details and displays the new host profile in the list of available profiles. Tap the name of the host profile to connect. When connecting to the host profile associated with a deployed project, all of the keyboards, project settings, and scripts associated with the project are applied to the session.

VT specific settings – F5 Key Macro

The communication between Velocity and a telnet host in a VT session uses an exchange of characters in plain text, coded as ASCII characters (see also <http://www.asciitable.com/>). With this, the characters of the normal main alphanumeric keyboard area are defined, but not the characters that are outside the normal main alphanumeric keyboard – like the function keys and arrow keys. A specific string of characters, an ANSI sequence, is used these keys. These ANSI sequences are not the same for every type of telnet host software - like any Unix daemon, Georgia Softworks or SLNet – however they tend to start with the ESC character (ASCII value 27, or HEX code 1B), followed by the [character.

The correct ANSI sequences for your telnet application are not defined by Velocity but are dictated by the VT telnet host.

Common ANSI sequences are, using the Velocity notation of {hex:001b} for ESC :

{hex:001b}[1~	- Home	{hex:001b}[12~	- F2
{hex:001b}[2~	- Insert	{hex:001b}[13~	- F3
{hex:001b}[3~	- Delete	{hex:001b}[14~	- F4
{hex:001b}[4~	- End	{hex:001b}[15~	- F5
{hex:001b}[5~	- PgUp	{hex:001b}[17~	- F6
{hex:001b}[6~	- PgDn	{hex:001b}[18~	- F7
{hex:001b}[7~	- Home	{hex:001b}[19~	- F8
{hex:001b}[8~	- End	{hex:001b}[20~	- F9
{hex:001b}[11~	- F1	{hex:001b}[21~	- F10

Georgia Softworks Telnet Server uses different codes for F1 – F4:

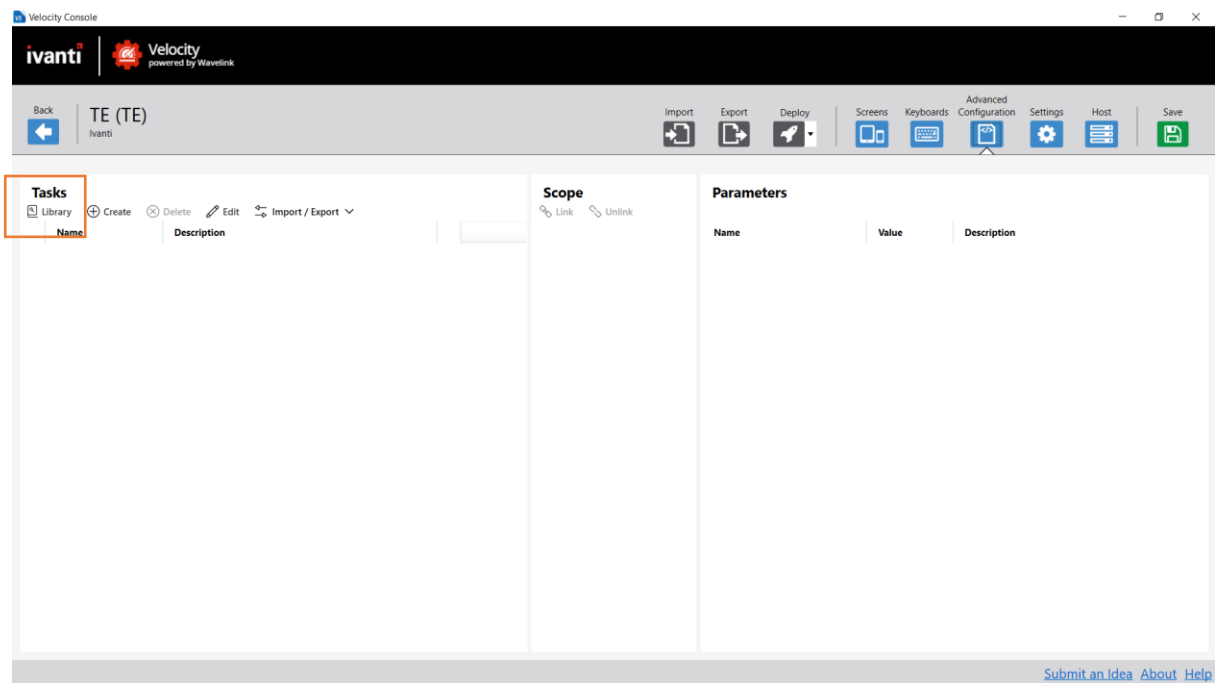
{hex:001b}OP - F1

{hex:001b}OQ - F2

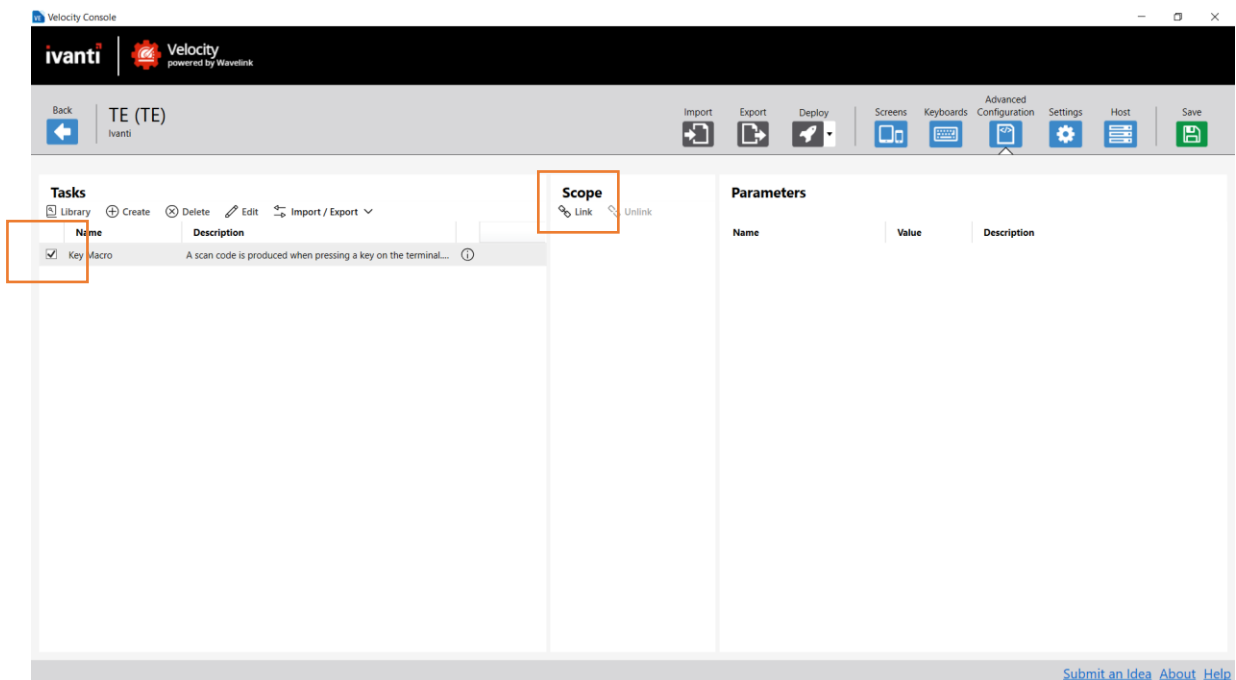
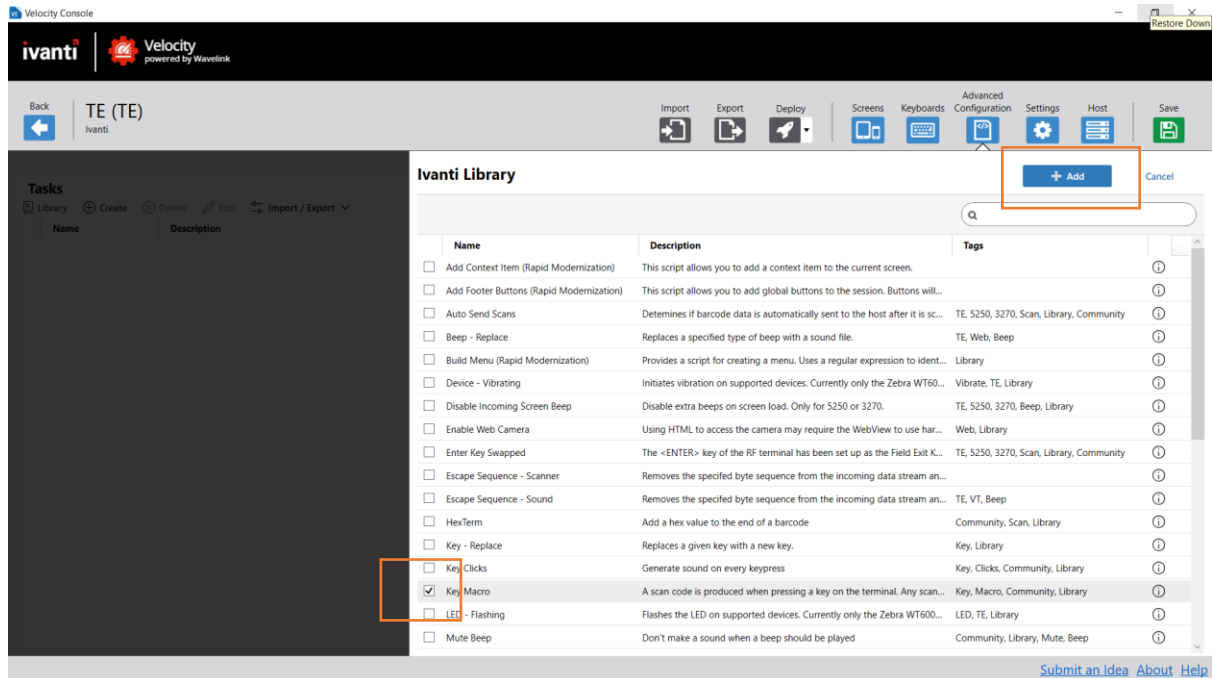
{hex:001b}OR - F3

{hex:001b}OS - F4

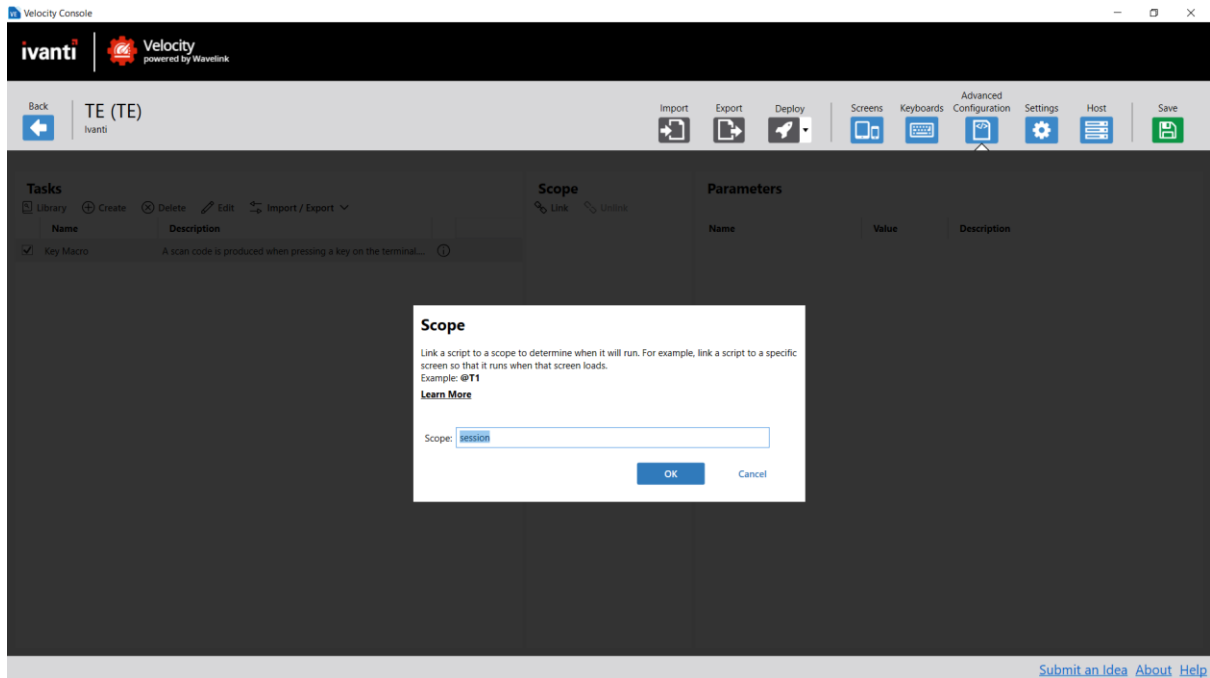
These escape sequences can be configured with Key Macro from the library in the scripts section:



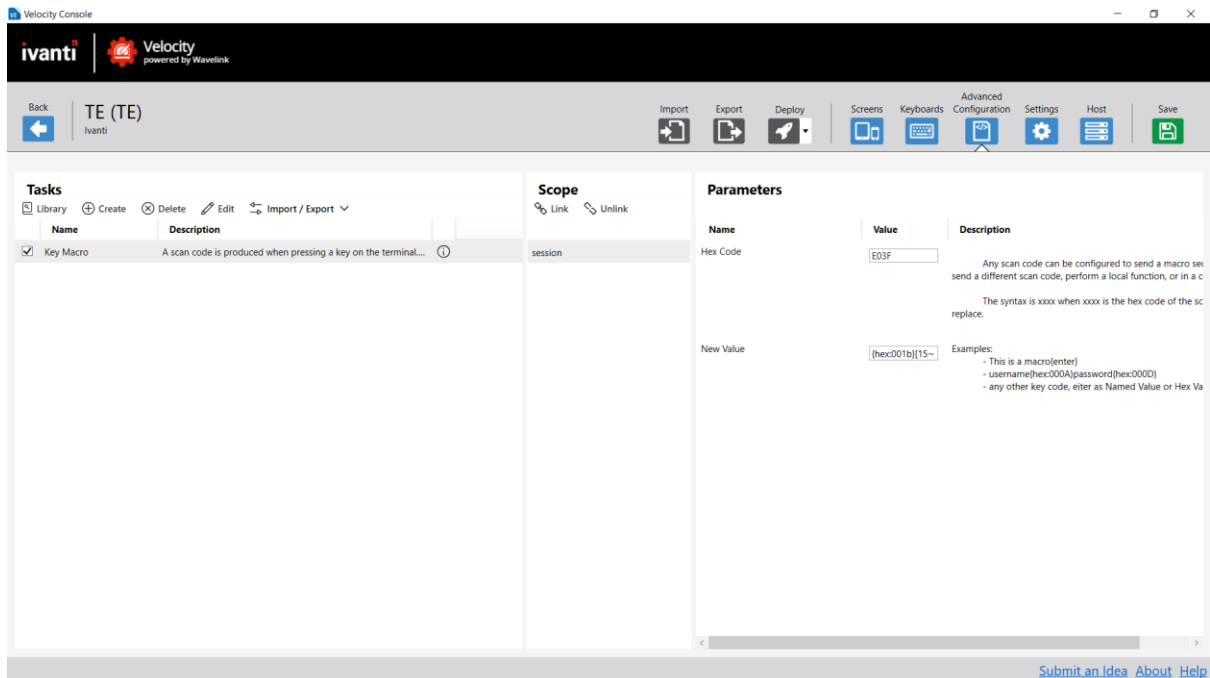
Telnet Profile Configuration – Quick Start Guide



Telnet Profile Configuration – Quick Start Guide



For instance, replacing F5 with the escape sequence {hex:001b}[15~ looks like:



The hex code of the key to replace can be found here:

https://help.ivanti.com/wl/help/en_US/Velocity/2.1/admin/keyboardCodes.htm.

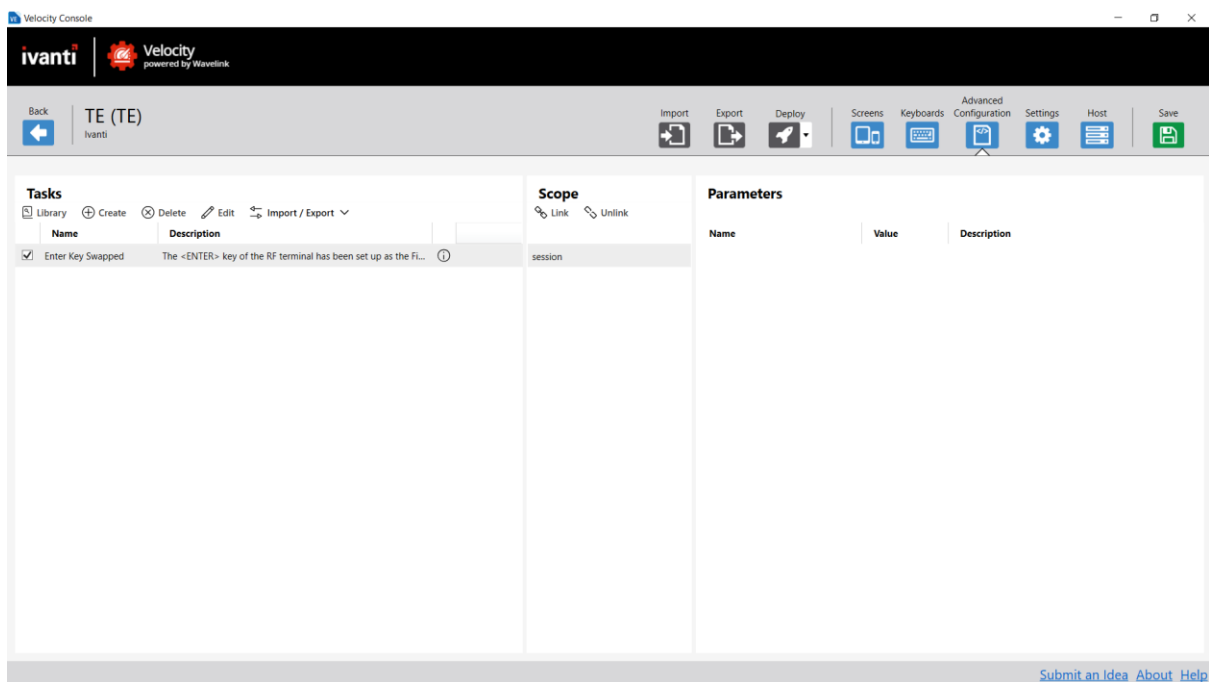
Note: originally the physical F5 key has a special function in the telnet protocol and shouldn't be used. However, F5 is very often used in a telnet application and therefore it is always needed to be reprogrammed to an escape sequence that the telnet host recognises as an F5 key press.

5250/3270 specific settings

There are specific differences in behaviour of an AS400/iSeries or mainframe compared to any VT telnet host when it comes to data entry – by either keyboard or scanning. The settings for this can be done via options in the library in the Scripts Section.

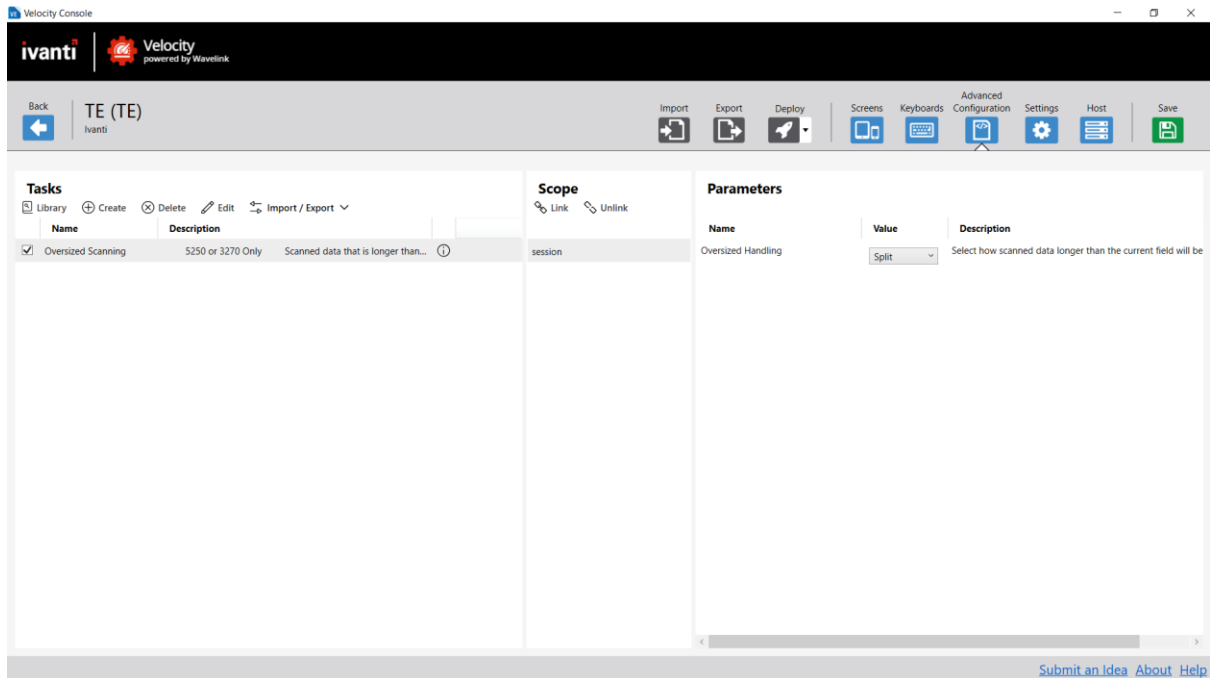
Enter Key Swapped

The enter key of mobile device has been set up as the Field Exit Key. Setting the Enter Key Swapped to Yes will cause the enter key to work as the AS400 Enter key and the Field Exit key and vice versa. This script has no parameters.



Oversized Scanning

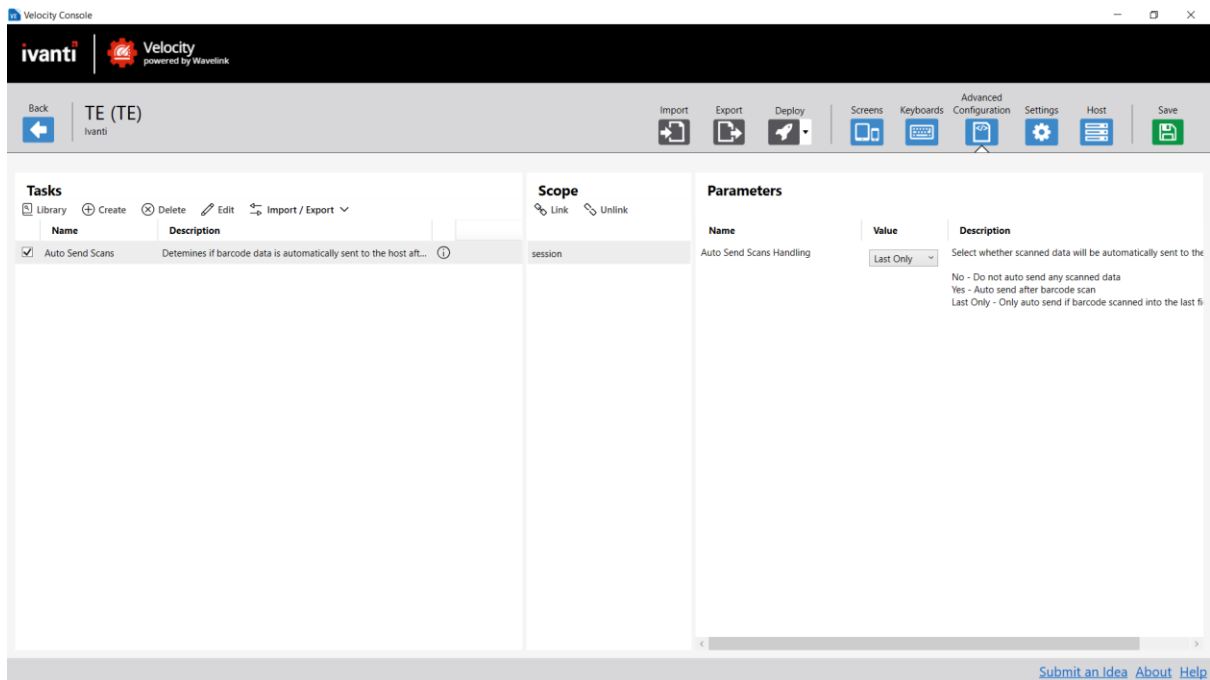
Scanned data that is longer than the entry field into which it is being scanned can either be split between entry fields, truncated to match the length of the field, or disallowed.



This script only works if either valid Scanner Profile is defined in the Scanner section under Host.

Auto Send Scans

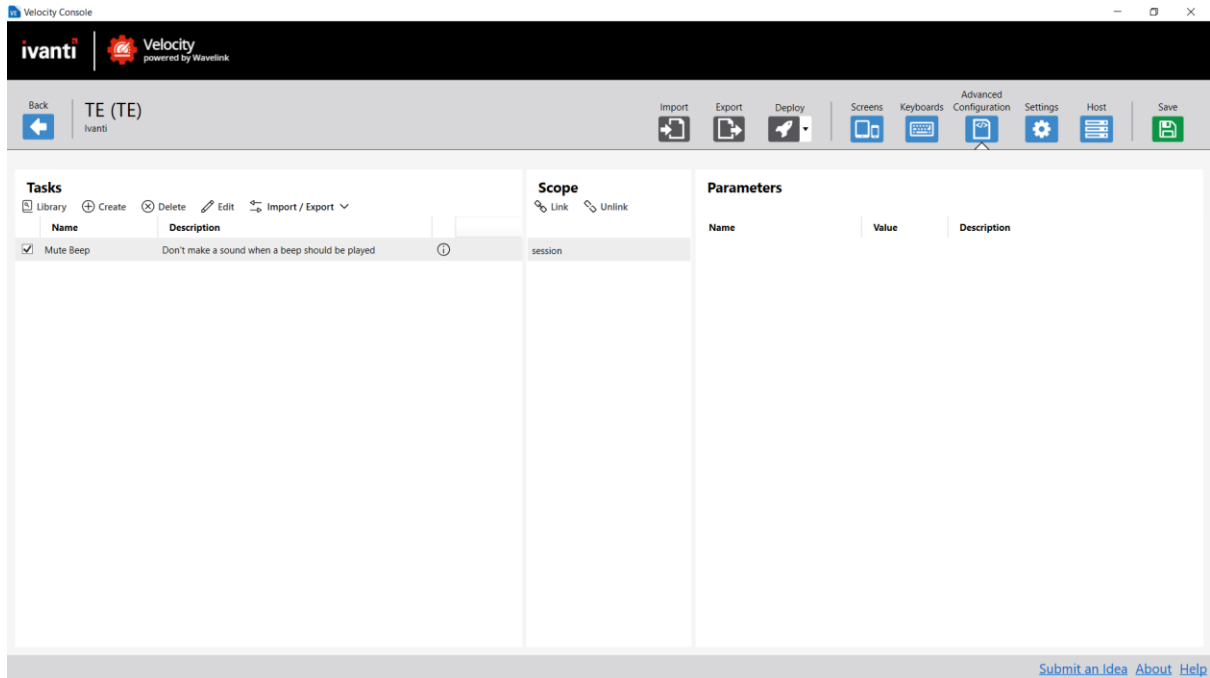
Determines if barcode data is automatically sent to the host after it is scanned.



This script only works if either valid Scanner Profile is defined in the Scanner section under Host.

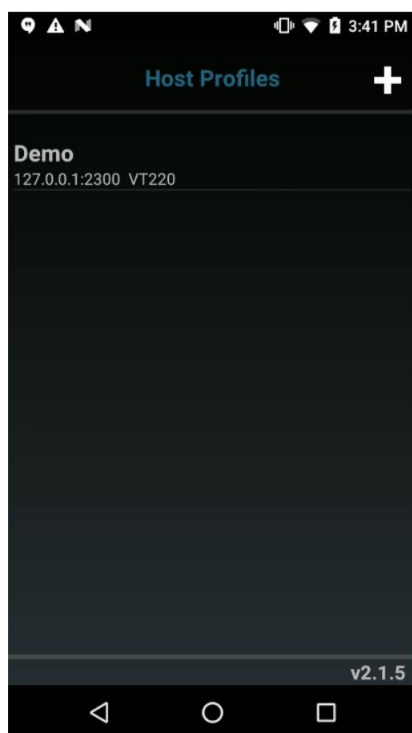
Disable error sound

The standard error beep in an AS400 session sometimes considered as too loud or too annoying. The Mute Beep script disables these sounds. This script has no parameters.



Delete Demo project from main menu

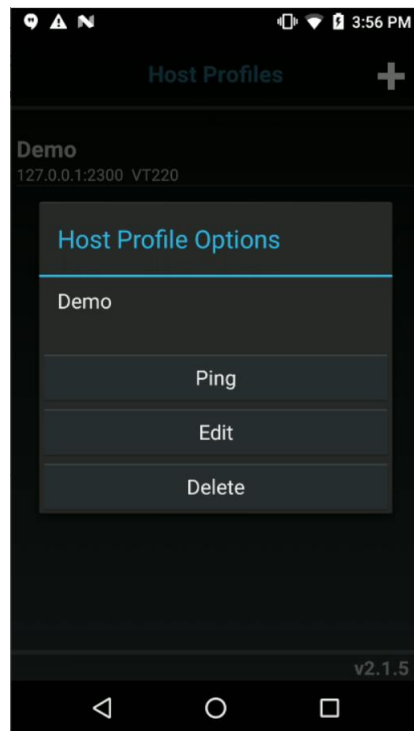
After installation, Velocity will have one entry – called Demo – in its main menu:



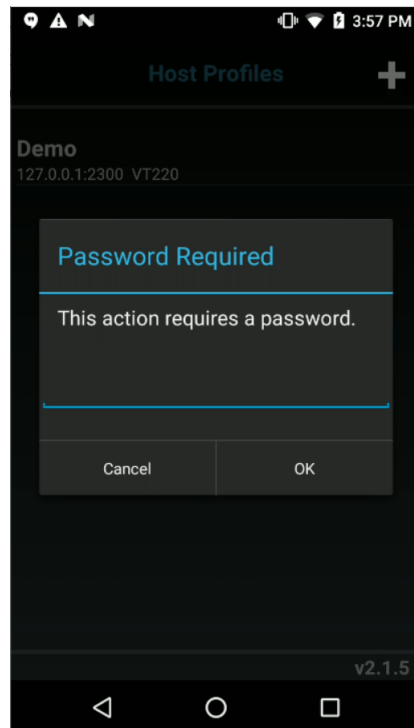
This Demo project can be deleted, either manually or by copying a global settings project file to the device.

Delete manually

Tap and hold the entry until the Host Profile Options menu is displayed:



Select 'Delete'. To complete this action a password must be entered. This password is 'system':



Delete in global settings

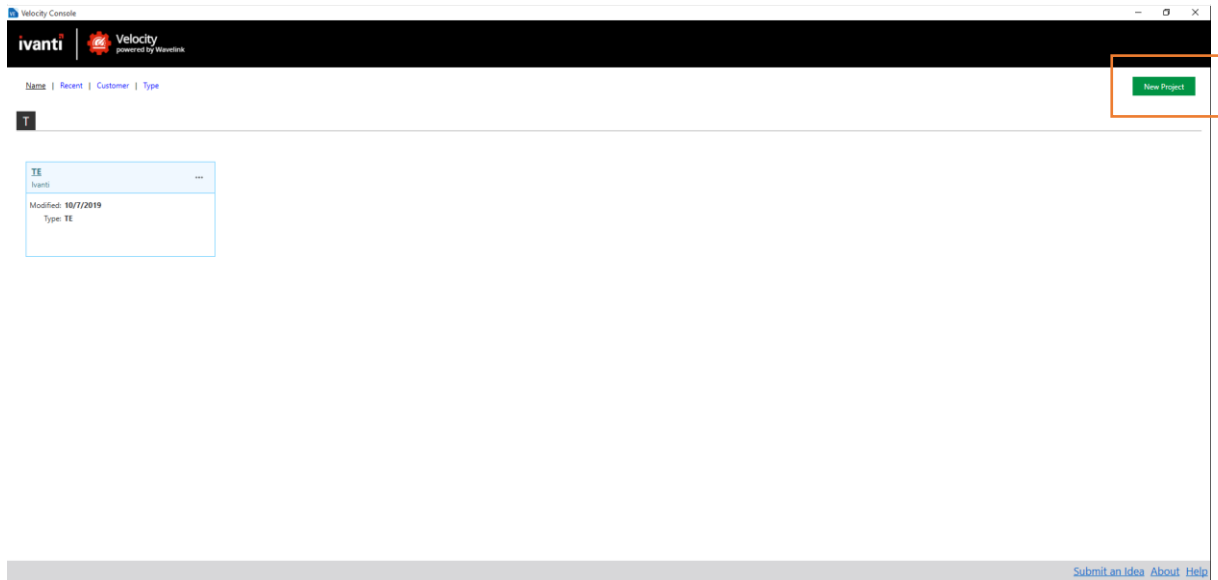
To use the same settings with different projects, create a Global project with settings that can be distributed with multiple projects. A Global project has the following options:

- Configuration password. Provide a custom password that device users must type before they can access the settings on the device. Use the Confirm Password text box to make sure you typed the password correctly. The default password for editing the settings on the device is system.
- Max sessions. The maximum number of concurrent sessions allowed.
- Hide Exit. Hides the Exit button from the menu.
- Remove Demo Profile. Removes the demo profile from the device, so it no longer shows in the list of host profiles.
- Lock task mode. The Velocity Client opens full screen, hides the taskbar and Start menu, prevents task switching and minimizing, and blocks Alt+Tab, Alt+F4, Alt+Space, and Ctrl+Esc. In order to exit the Client, the user must provide the program exit password. Only available for Velocity Clients installed on Windows 10.
- Program exit password. A password required to exit the Client on Windows 10 machines when Lock task mode is enabled. By default, the program exit password is blank. Even if you do not specify a program exit password, the user is prompted to provide a password if they attempt to exit the Client.
- Key to switch to next session. The hex value for a key to switch to the next open session. For example: E040
- Key to switch to previous session. The hex value for a key to switch to the previous open session. For example: E041

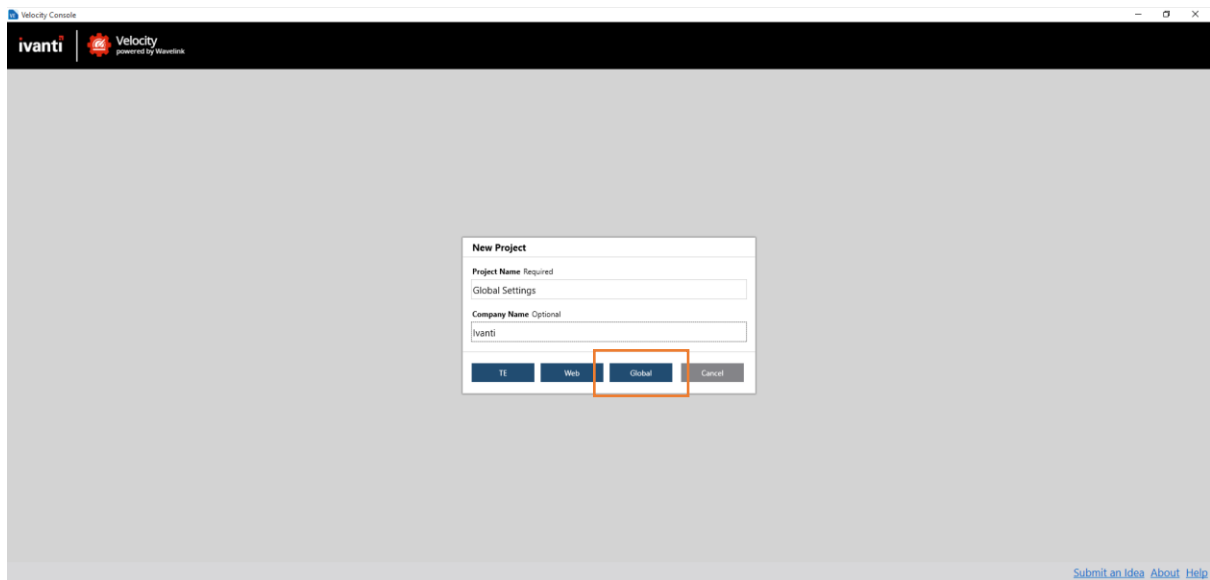
When you deploy a global settings project, those settings are applied for all host profiles used by the Velocity Client.

To create a global settings project

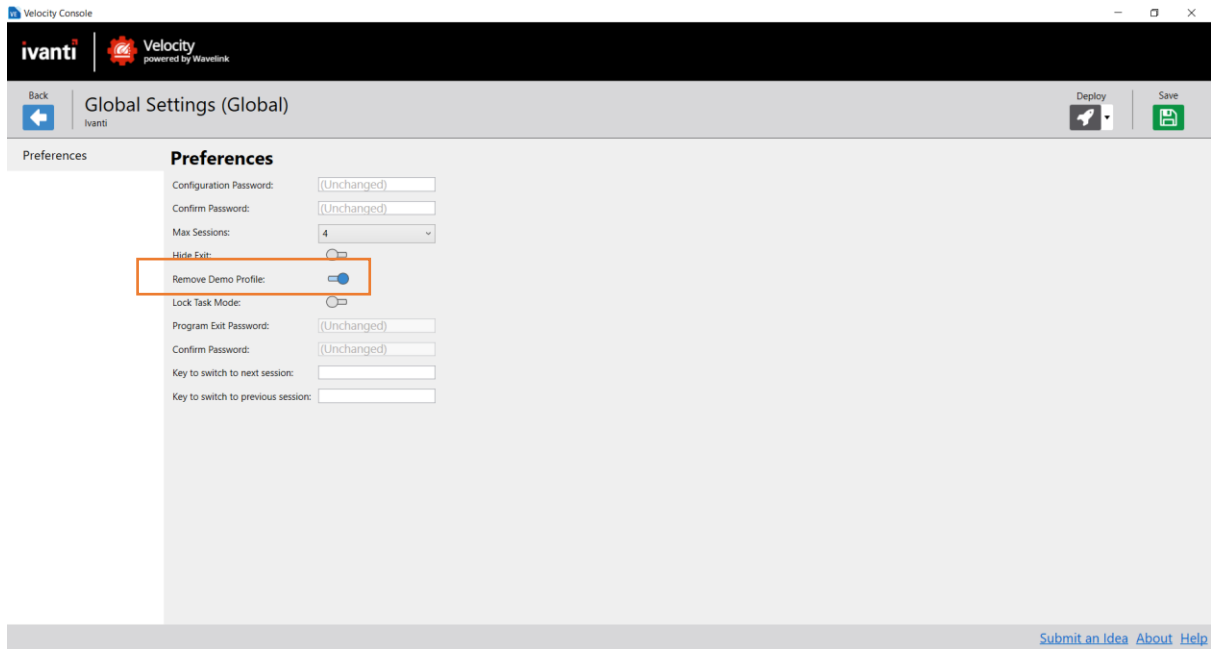
Launch the Velocity Console application and click 'New Project' in the top-right corner of the screen.



Enter a Project Name. You can also provide a Company Name, which is used solely for sorting projects. Click Global.

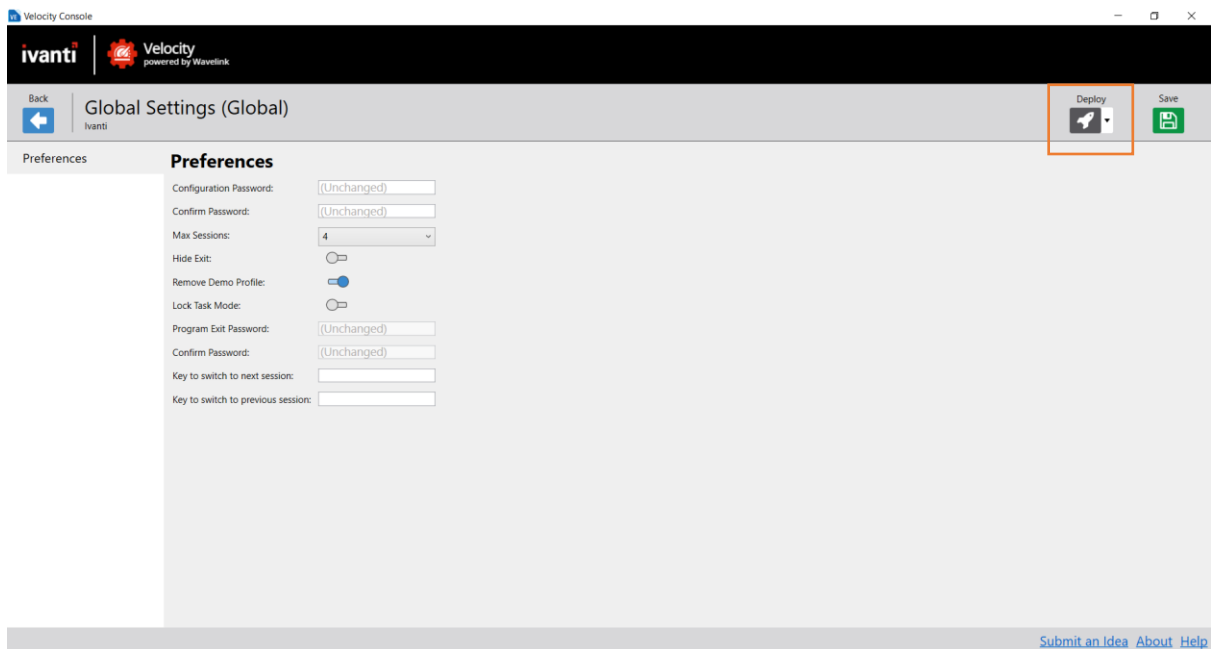


The project opens and you can edit global settings to be distributed with other projects. Enable 'Remove Demo Profile'.



To deploy a global settings project

Click the Deploy button in the top right corner.



Navigate to the location where you want to save the file. The file name must be global.wlxgp. Click 'Save' to close the dialog. Copy the file to the device, in same location as where the .wldp files are stored.

On Android, the Velocity Client expects the deployment files in the first external storage partition. It is the storage you see when you connect the device over USB. It is sometimes named 'SD card' or

'external', even though it is not an SD card or external to the device. In the first external storage partition, the files need to be in the following location:

Pre-Android 10: /com.wavelink.velocity

Android 10 and later: Android/data/com.wavelink.velocity/files

If you have an SD card in the device, make sure you create the directory in the storage on the device and not the removable SD card. The Velocity Client will not recognize the deployment file if it is not in the correct location on the device storage.

-Or-

For Windows devices, copy the deployment files or files into the %Programdata%\Wavelink\Velocity directory.

Appendix A. Send data to Velocity using intents

Velocity listens for a broadcast intent to receive (barcode) data. This mechanism can be used to insert data in a telnet or web session. The format of the intent is:

Action:	"com.wavelink.intent.action.BARCODE"
Category:	"android.intent.category.DEFAULT"
Extra for (barcode label) data:	String extra with a name ending in the format of <code>"*.data_string"</code> or <code>"*.decode_string"</code> , e.g. <code>"com.something.something.decode_string"</code>
Extra for barcode label type:	String extra with a name ending in the format of <code>"*.symbology_type"</code> or <code>"*.label_type"</code> , e.g. <code>"com.something.something.symbology_type"</code>

A `WLEvent.on('scan', function)` event will be generated when data is received in this format. Further processing of the data can then be done in the callback function attached to that event.

If the Velocity client is used on a device that uses a scan engine that is not supported by Velocity, but has configurable wedge software installed to allow sending the scanned data as an intent, the following example might help setting up the scanner. This example describes configuring the scanner on a Panasonic device:

1. Ensure that the Velocity Client is installed on the device before starting.
2. Once installed, Open the "Barcode Reader"
3. Tap the Menu button(...) and choose "Select Profile"
4. Choose "Create Profile"
5. Enter "Velocity" as the profile name
6. Tap on the newly created profile, "Velocity", to change the settings
7. Tap on "Associated Apps"
8. Tap the Menu button (...) and choose "New app/activity"
9. Select "com.wavelink.velocity" as the app
10. Select "*" as the activity
11. Tap on the back button to return to the settings for the Velocity profile.
12. Tap to disable "keyboard Wedge"
13. Tap "Intent output settings"

14. Tap to enable "Intent output"
15. Tap to change "Intent action name"
16. Enter "com.wavelink.intent.action.BARCODE", Press "OK"
17. Tap to change the "Intent category name"
18. Enter "android.intent.category.DEFAULT", press "OK"
19. Tap to change "Intent delivery type"
20. Tap "Broadcast intent"
21. Hit the back button to return to the settings for the Velocity profile
22. Configure "Symbolologies" and any other settings that you may need.