

Title: Automated Device Provisioning in Digi Remote Manager

Summary

<p>Description:</p>	<p>This document demonstrates a process for automating the creation of properly formed XML code from a spreadsheet containing a list of Digi devices through the use of a Word-based code generator. Once the XML is created by the code generator, it can be pasted into Digi Remote Manager's API Explorer to provision the entire list of devices at once on the Remote Manager account.</p>
	<p>A video walkthrough of this process is available at: https://www.youtube.com/watch?v=rbkLHwpwjBs&list=PL0FdngHP2mmaYqn4aYSICsw1oynr5pBBW</p>
<p>Trace Steps:</p>	<p>Screen 1: Remote Manager Device Provisioning</p> <ul style="list-style-type: none"> • Step 1: Double click 'Provision Devices.xlsx' to review and edit the spreadsheet <p>Screen 2: Microsoft Excel - Provision Devices.xlsx</p> <ul style="list-style-type: none"> • Step 2: Please do not modify the column headings or structure of this spreadsheet or the code generator may not work properly • Step 3: It is not necessary to complete every column of this spreadsheet - however, at a minimum, you need to insert your list of device MAC addresses IMEI numbers, or Device IDs (as defined by Digi International) Note: You can optionally include information such as Device Group, custom Meta Data and Tag, location coordinates, Contact, and Description - Device Groups you provide will be created in Remote Manager if they do not already exist • Step 4: Adding device MAC addresses will cause Digi Device IDs to be generated automatically in Column D • Step 5: Click 'Save' button when you finish your edits • Step 6: Click 'Close' button <p>Screen 3: Remote Manager Device Provisioning</p> <ul style="list-style-type: none"> • Step 7: Double click 'Provision Devices.docm' list item <p>Screen 4: Provision Devices.docm - Microsoft Word</p>

- **Step 8:** Click 'Enable Content' button

Note: This document contains Word macros which must be allowed to run in order for your XML code to be generated - it may be necessary to adjust your Word security settings in order for macros to execute properly

Screen 5: Microsoft Word

- **Step 9:** When the Word macro executes, you will see the pop-up message - "This application will create an XML file that can be used to provision devices on Digi Remote Manager. Click 'OK' to continue."

Note: If you do not see this message, the Word macros may not have executed properly

Screen 6: Microsoft Word

- **Step 10:** When the code generator has finished running, you will see a message that "Device_Provisioning_Code.xml has been created" - Click 'OK' to continue

Screen 7: Microsoft Word

- **Step 11:** Click 'Close' button

Screen 8: Remote Manager Device Provisioning

- **Step 12:** There should now be a file called 'Device_Provisioning_Code.xml' in the folder from which you launched "Provision Devices.docm" - this new file contains the XML code you will use to provision your devices on Remote Manager

Screen 9: Remote Manager Device Provisioning

- **Step 13:** You will need to open and copy the contents of the new XML file so the code can be used in Remote Manager - Right click 'Device_Provisioning_Code.xml'

Screen 10: Remote Manager Device Provisioning

- **Step 14:** You can open the file in a text editor of your choice - Notepad is fine, but in example demonstrates use of Notepad++
- **Step 15:** Select 'Edit with Notepad++'

Screen 11: C:\Users\rkerr\Desktop\Remote Manager Device Provisioning\Device_Provisioning_Code.xml - Notepad++

[Administrator]

- **Step 16:** You will need to select and copy all of the XML code from the "Device_Provisioning_Code.xml" file - Select 'Edit' menu item

[Screen 12:](#) C:\Users\rkerr\Desktop\Remote Manager Device Provisioning\Device_Provisioning_Code.xml - Notepad++

[Administrator]

- **Step 17:** Select 'Select All Ctrl+A' menu item

[Screen 13:](#) C:\Users\rkerr\Desktop\Remote Manager Device Provisioning\Device_Provisioning_Code.xml - Notepad++

[Administrator]

- **Step 18:** Select 'Edit' menu item

[Screen 14:](#) C:\Users\rkerr\Desktop\Remote Manager Device Provisioning\Device_Provisioning_Code.xml - Notepad++

[Administrator]

- **Step 19:** Select 'Copy Ctrl+C' menu item

[Screen 15:](#) Remote Manager

- **Step 20:** Now that you have copied the XML code, you can return to and provision your devices - Click 'Documentation' link

[Screen 16:](#) Remote Manager

- **Step 21:** Click 'API Explorer ' sub-tab located under the Documentation tab
- **Step 22:** You will use the DeviceCore example to provision your devices - Click 'Examples' button

[Screen 17:](#) Remote Manager

- **Step 23:** Click Examples >> DeviceCore >> Provision Device

[Screen 18:](#) Remote Manager

- **Step 24:** Click the code example - you need to select everything in the example frame and delete it

Note: You will paste the XML code you copied into this frame in place of the sample code

- **Step 25:** Press Ctrl + A to select the code, then press the 'delete' key

[Screen 19:](#) Remote Manager

- **Step 26:** Press Ctrl + V to paste your own XML code into the frame

[Screen 20:](#) Remote Manager

- **Step 27:** The example frame should now look similar to this screenshot - Click 'Send' button to provision your devices

[Screen 21:](#) Remote Manager

- **Step 28:** Successful provisioning will be indicated by a Web Services Response of "POST / ws/DeviceCore 201" - Click the message to read the response

[Screen 22:](#) Remote Manager

- **Step 29:** Click the 'X' button to close the response window

[Screen 23:](#) Remote Manager

- **Step 30:** Click browser's 'Reload' button to refresh the Remote Manager application.

[Screen 24:](#) Remote Manager

- **Step 31:** Click 'Device Management' link

[Screen 25:](#) Remote Manager

- **Step 32:** You can now see the newly provisioned devices in the Device List - in this example, the new devices are only examples, so they are shown as "offline"

[Screen 26:](#) Remote Manager

- **Step 33:** Notice that new Device Groups have been created on the left side of the screen - Click 'Dev Group 1' to see that devices have been added to the group based on the contents of the device provisioning spreadsheet

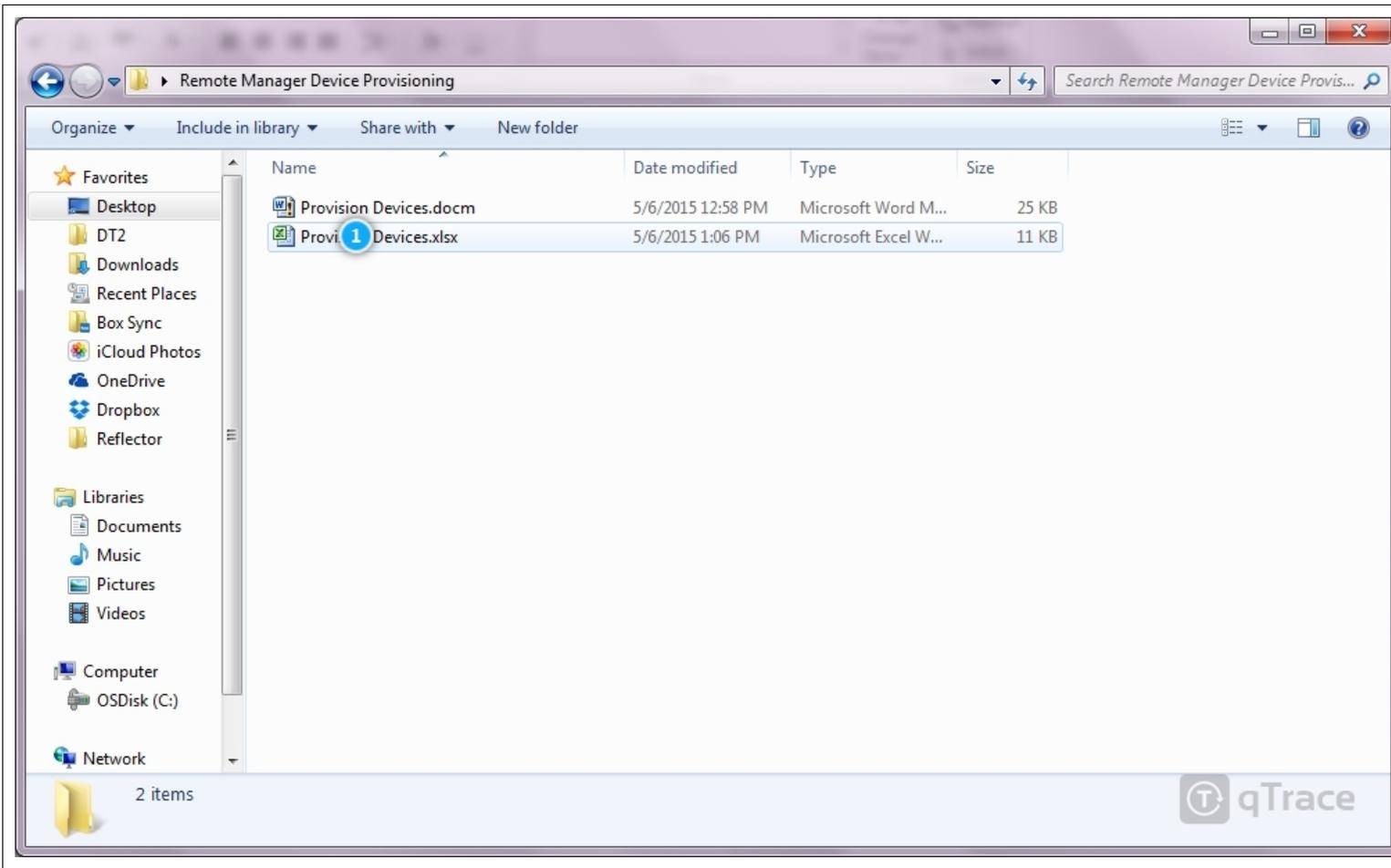
[Screen 27:](#) Remote Manager

- **Step 34:** Select tree item

[Screen 28:](#) Remote Manager

- **Step 35:** You have completed the process for automated XML code generation and provisioning devices on Remote Manager

Screen 1: Remote Manager Device Provisioning



Step 1: Double click 'Provision Devices.xlsx' to review and edit the spreadsheet

Screen 2: Microsoft Excel - Provision Devices.xlsx

MAC Address	IMEI	Device ID	Device Group	Meta Data	Tags	Latitude	Longitude	Contact	Description
DD:33:44:DD:55:66	00000000-00000000-DD3344FF-FFDD5566	Dev Group 1	Kerr Test XML by Randy	Kerr, Test, XML	29.735834	-94.9892979	Randy Kerr	WR44 for Buses	
DD:33:44:DD:66:77	00000000-00000000-DD3344FF-FFDD6677	Dev Group 2	Kerr Test XML by Andy	Kerr, Test, XML	29.735835	-94.989298	Randy Kerr	WR44 for Buses	
DD:33:44:DD:77:88	00000000-00000000-DD3344FF-FFDD7788	Dev Group 2	Kerr Test XML by Randy	Kerr, Test, XML	29.735836	-94.9892981	Larry Cameron	WR44 for Buses	
DD:33:44:DD:88:99	00000000-00000000-DD3344FF-FFDD8899	Dev Group 1	Kerr Test XML by Andy	Kerr, Test, XML	29.735837	-94.9892982	Randy Kerr	WR41 for Refinery	
DD:33:44:DD:99:00	00000000-00000000-DD3344FF-FFDD9900	Dev Group 3	Kerr Test XML by Randy	Kerr, Test, XML	29.735838	-94.9892983	Larry Cameron	WR41 for Refinery	
DD:33:44:DD:00:11	00000000-00000000-DD3344FF-FFDD0011	Dev Group 3	Kerr Test XML by Randy	Kerr, Test, XML	29.735839	-94.9892984	Randy Kerr	WR21 for Production Plant	
DD:33:44:DD:11:22	00000000-00000000-DD3344FF-FFDD1122	Dev Group 2	Kerr Test XML by Randy	Kerr, Test, XML	29.73584	-94.9892985	Larry Cameron	WR21 for Production Plant	

Step 2: Please do not modify the column headings or structure of this spreadsheet or the code generator may not work properly

Step 3: It is not necessary to complete every column of this spreadsheet - however, at a minimum, you need to insert your list of device MAC addresses IMEI numbers, or Device IDs (as defined by Digi International)

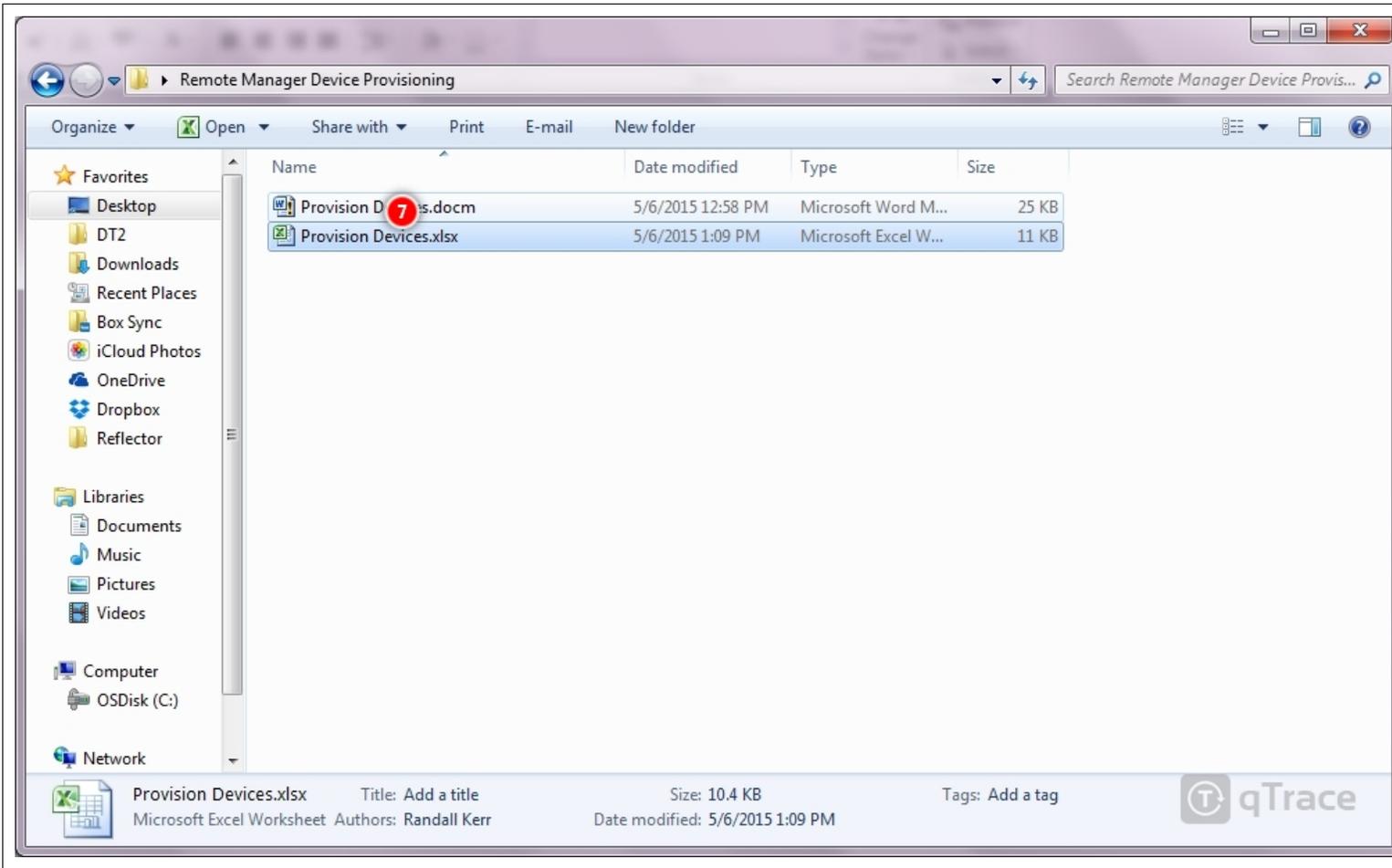
Note: You can optionally include information such as Device Group, custom Meta Data and Tag, location coordinates, Contact, and Description - Device Groups you provide will be created in Remote Manager if they do not already exist

Step 4: Adding device MAC addresses will cause Digi Device IDs to be generated automatically in Column D

Step 5: Click 'Save' button when you finish your edits

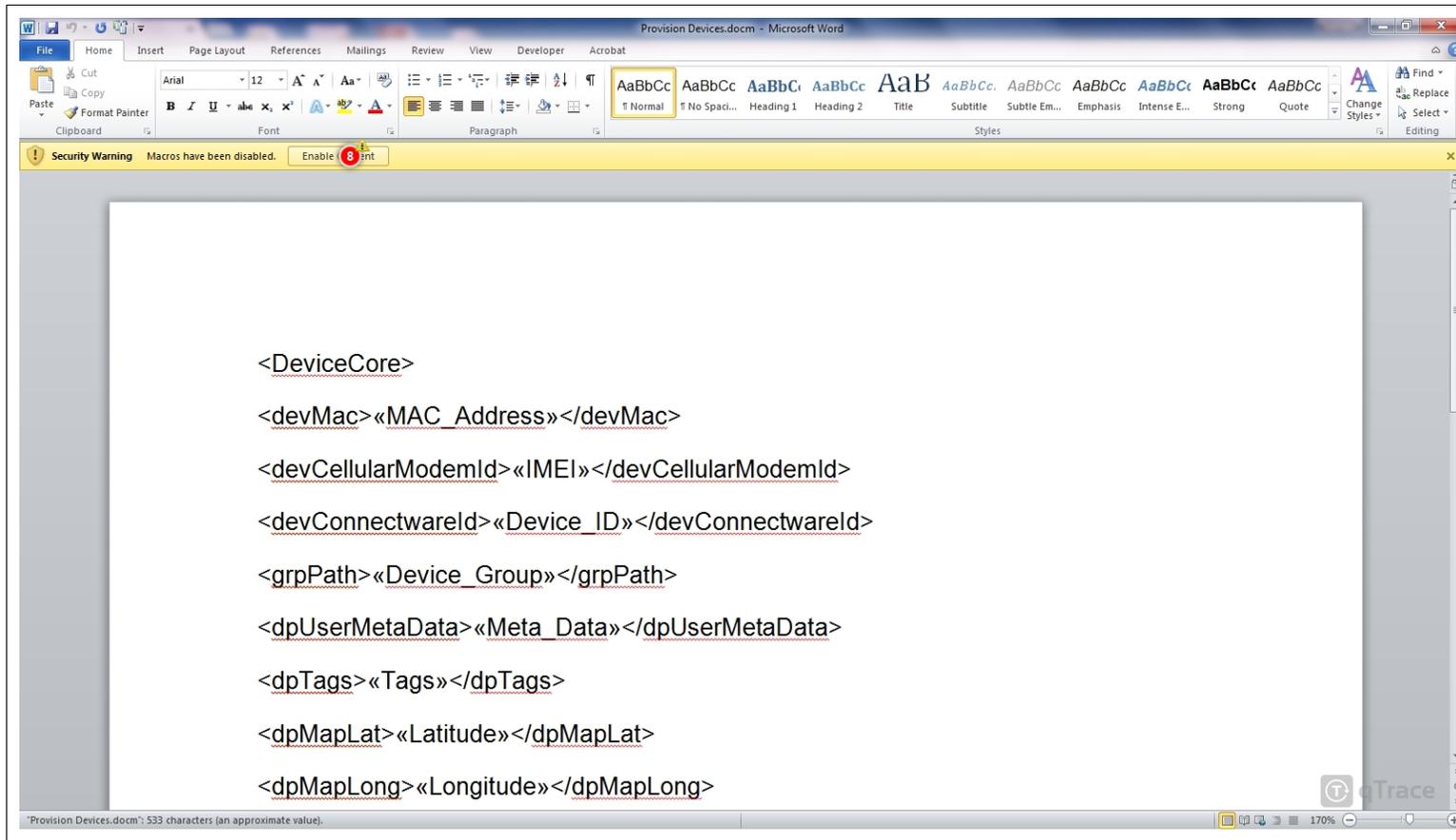
	Step 6: Click 'Close' button
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Screen 3: Remote Manager Device Provisioning



Step 7: Double click 'Provision Devices.docm' list item

Screen 4: Provision Devices.docm - Microsoft Word



The screenshot shows the Microsoft Word interface with a yellow security warning bar at the top. The warning bar contains the text "Security Warning" and "Macros have been disabled." with an "Enable Content" button. The document content consists of several lines of XML code:

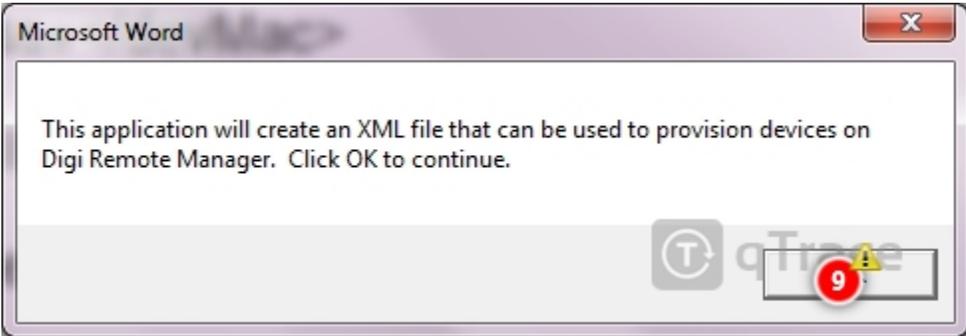
```
<DeviceCore>  
<devMac>«MAC_Address»</devMac>  
<devCellularModemId>«IMEI»</devCellularModemId>  
<devConnectwareId>«Device_ID»</devConnectwareId>  
<grpPath>«Device_Group»</grpPath>  
<dpUserMetaData>«Meta_Data»</dpUserMetaData>  
<dpTags>«Tags»</dpTags>  
<dpMapLat>«Latitude»</dpMapLat>  
<dpMapLong>«Longitude»</dpMapLong>
```

The status bar at the bottom indicates "Provision Devices.docm: 533 characters (an approximate value)." and shows a zoom level of 170%.

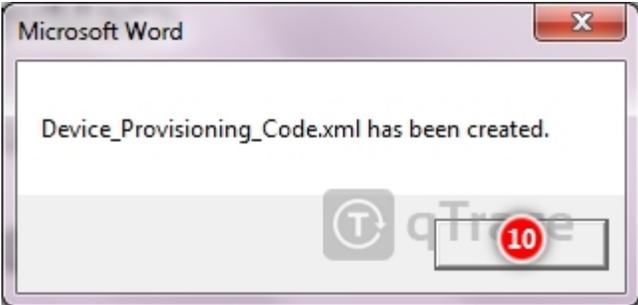
Step 8: Click 'Enable Content' button

Note: This document contains Word macros which must be allowed to run in order for your XML code to be generated - it may be necessary to adjust your Word security settings in order for macros to execute properly

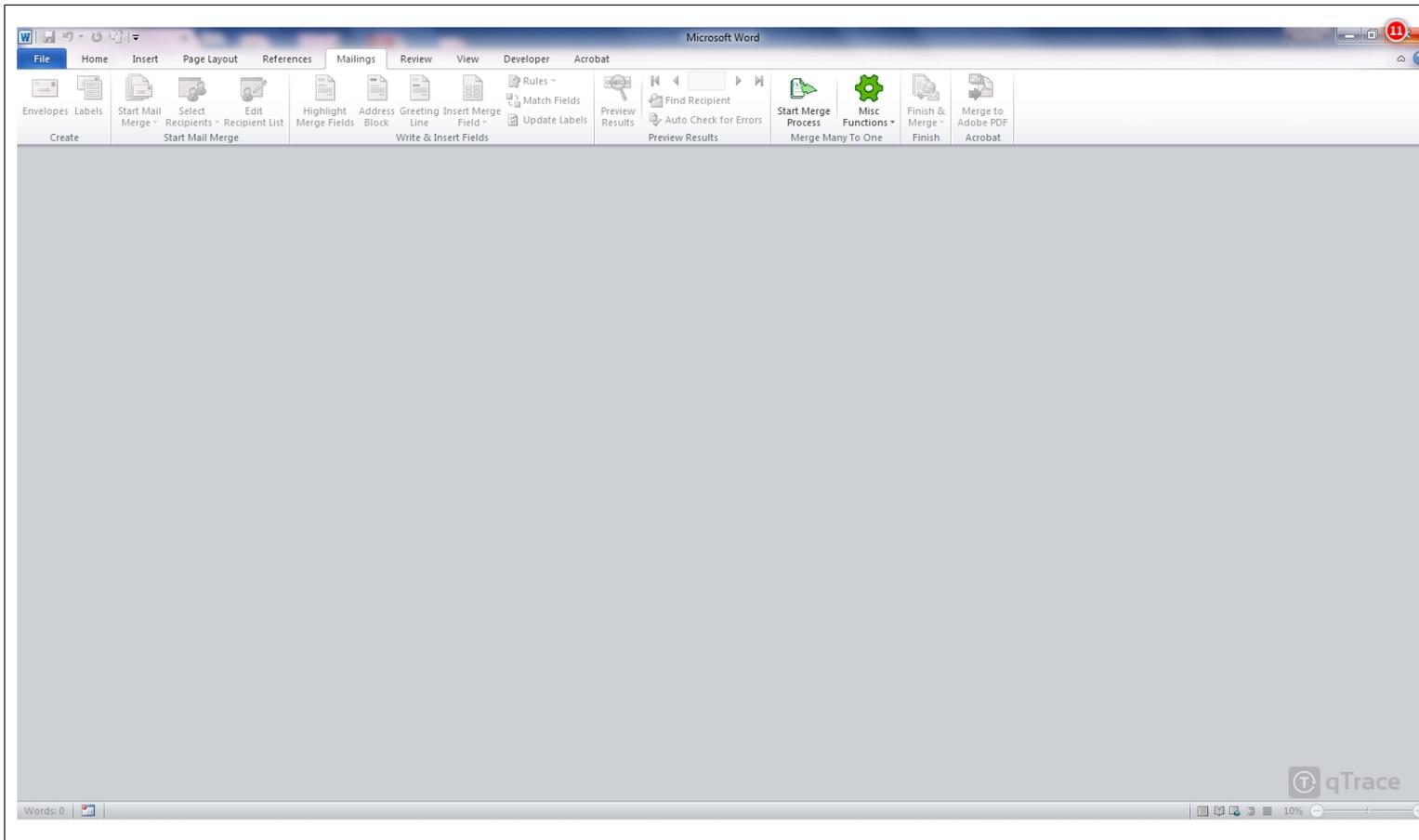
Screen 5: Microsoft Word

	<p>Step 9: When the Word macro executes, you will see the pop-up message - "This application will create an XML file that can be used to provision devices on Digi Remote Manager. Click 'OK' to continue."</p> <p>Note: If you do not see this message, the Word macros may not have executed properly</p>
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Screen 6: Microsoft Word

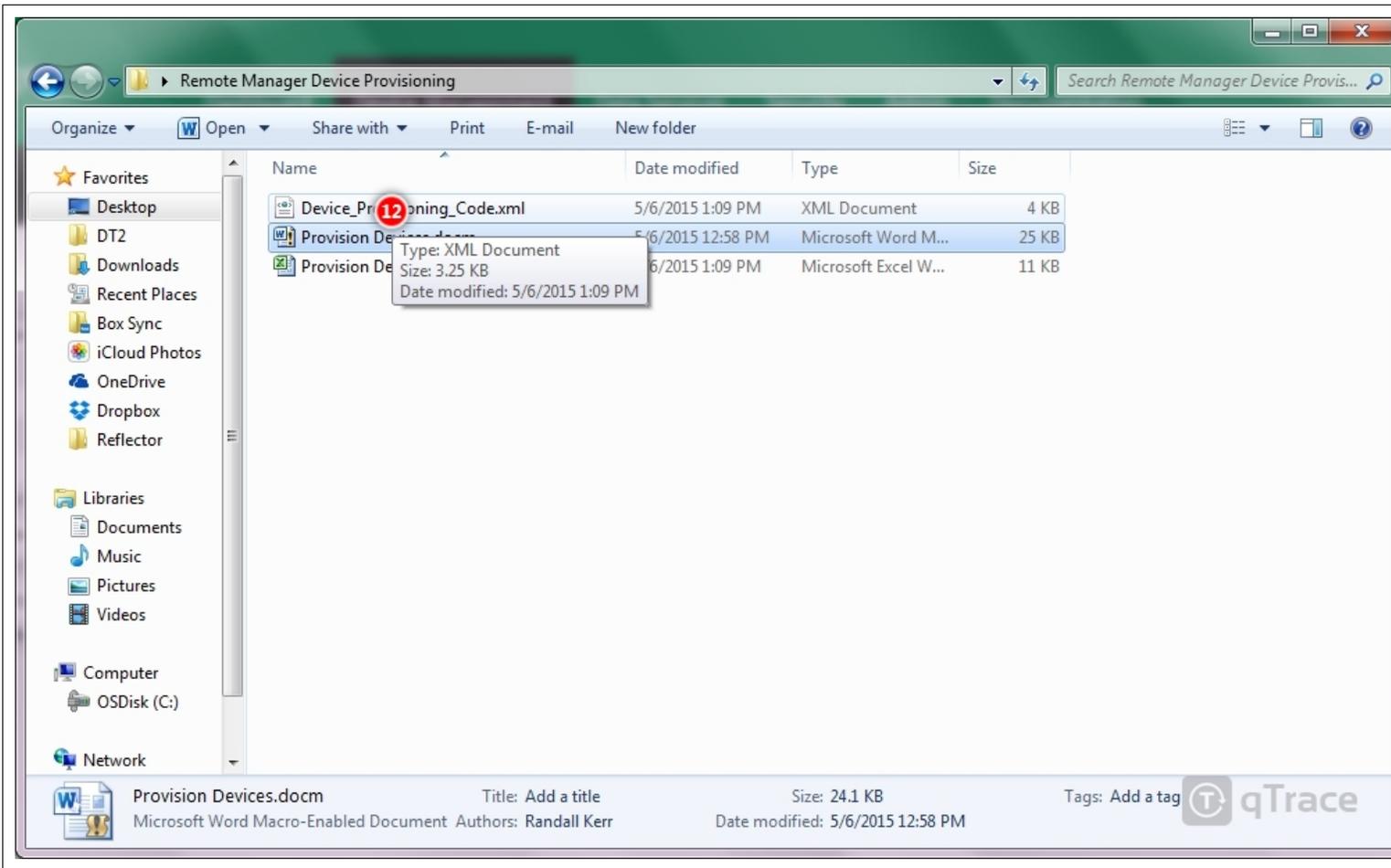
	<p>Step 10: When the code generator has finished running, you will see a message that "Device_Provisioning_Code.xml has been created" - Click 'OK' to continue</p>
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Screen 7: Microsoft Word



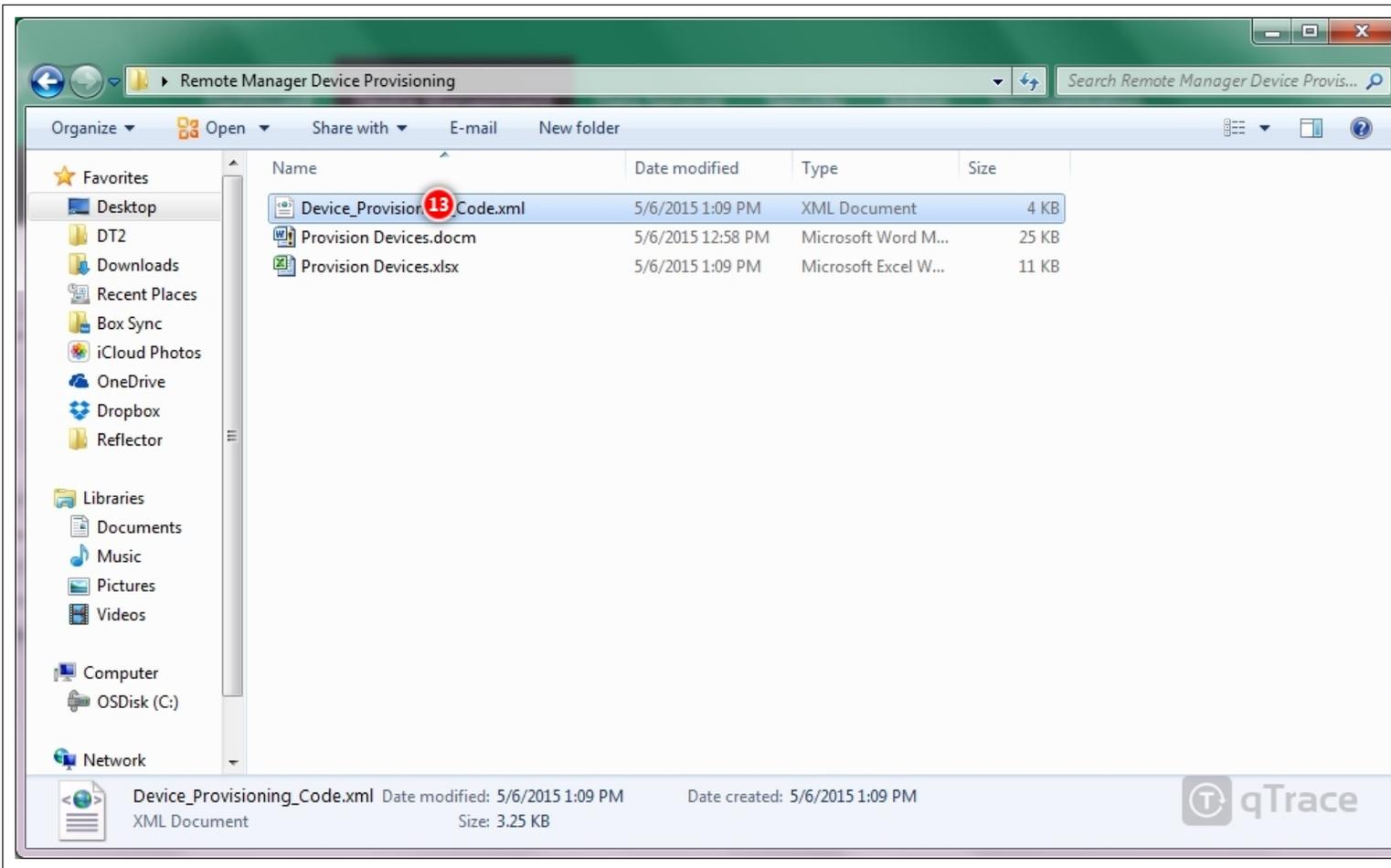
Step 11: Click 'Close' button

Screen 8: Remote Manager Device Provisioning



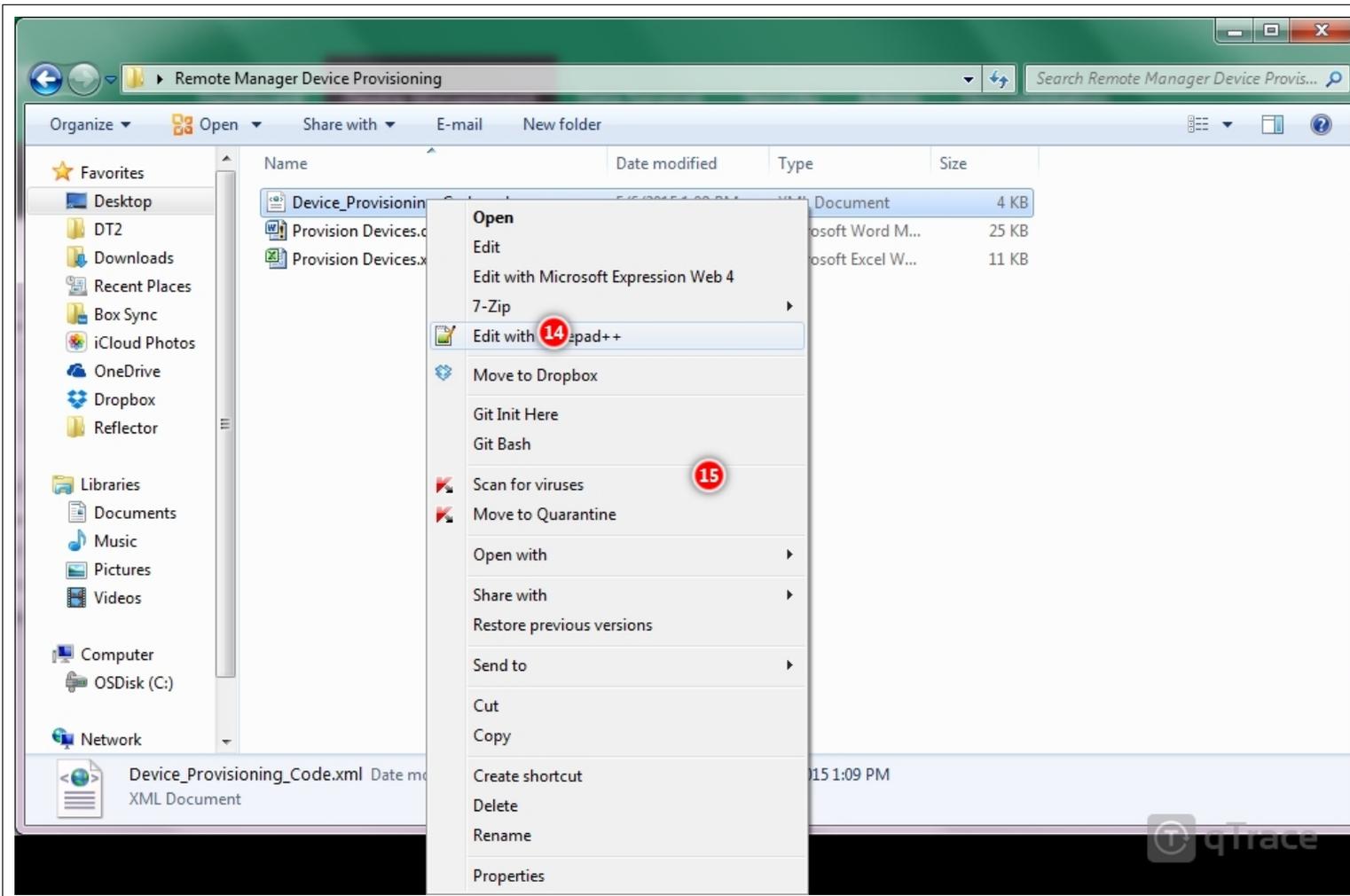
Step 12: There should now be a file called 'Device_Provisioning_Code.xml' in the folder from which you launched "Provision Devices.docm" - this new file contains the XML code you will use to provision your devices on Remote Manager

Screen 9: Remote Manager Device Provisioning



Step 13: You will need to open and copy the contents of the new XML file so the code can be used in Remote Manager - Right click 'Device_Provisioning_Code.xml'

Screen 10: Remote Manager Device Provisioning



Step 14: You can open the file in a text editor of your choice - Notepad is fine, but in example demonstrates use of Notepad++

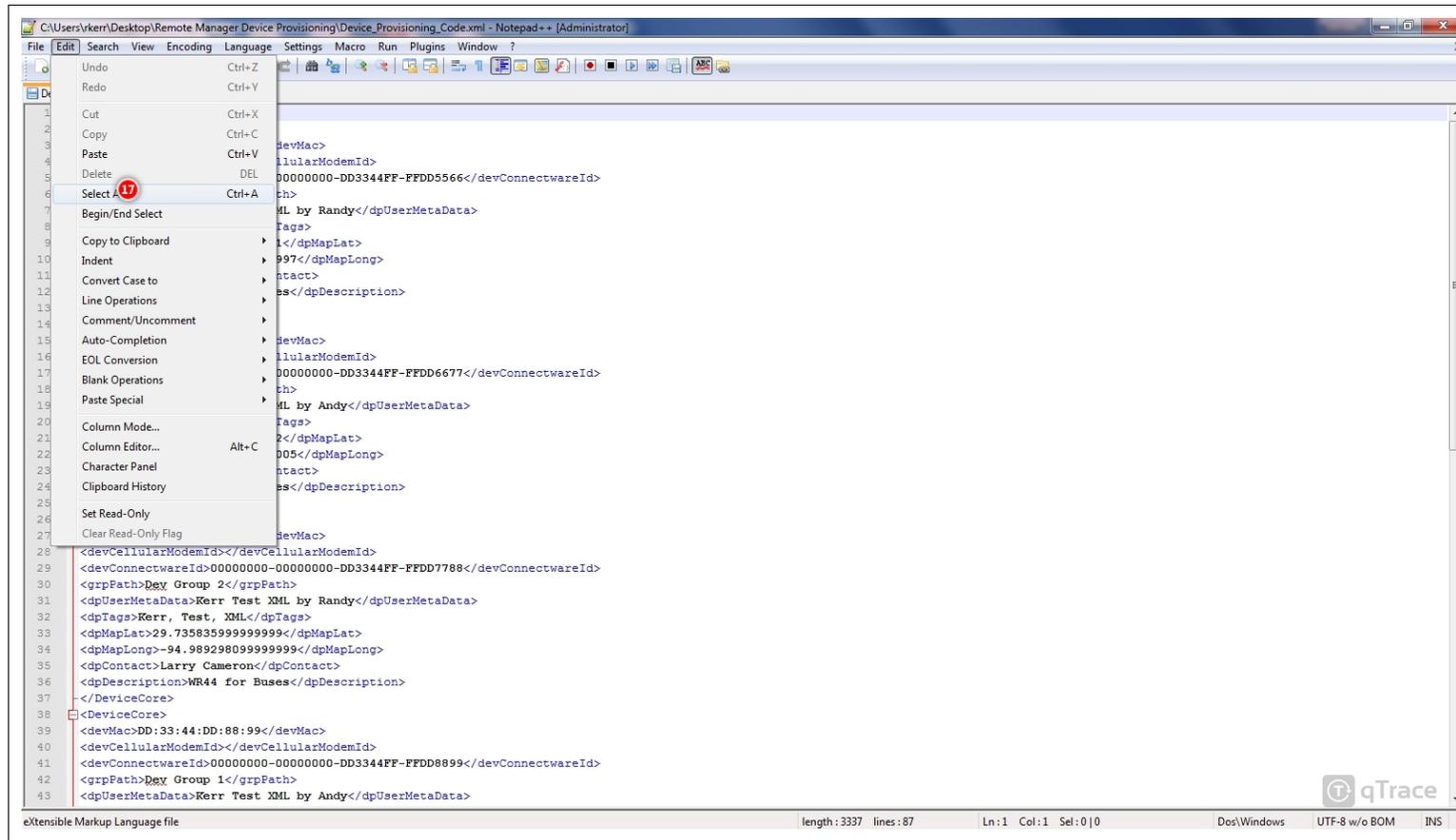
Step 15: Select 'Edit with Notepad++'

Screen 11: C:\Users\rkerr\Desktop\Remote Manager Device Provisioning\Device_Provisioning_Code.xml - Notepad++ [Administrator]

```
1 <list>
2 <DeviceCore>
3 <devMac>DD:33:44:DD:55:66</devMac>
4 <devCellularModemId></devCellularModemId>
5 <devConnectwareId>00000000-00000000-DD3344FF-FFDD5566</devConnectwareId>
6 <grpPath>Dey Group 1</grpPath>
7 <dpUserMetaData>Kerr Test XML by Randy</dpUserMetaData>
8 <dpTags>Kerr, Test, XML</dpTags>
9 <dpMapLat>29.735834000000001</dpMapLat>
10 <dpMapLong>-94.989297899999997</dpMapLong>
11 <dpContact>Randy Kerr</dpContact>
12 <dpDescription>WR44 for Buses</dpDescription>
13 </DeviceCore>
14 <DeviceCore>
15 <devMac>DD:33:44:DD:66:77</devMac>
16 <devCellularModemId></devCellularModemId>
17 <devConnectwareId>00000000-00000000-DD3344FF-FFDD6677</devConnectwareId>
18 <grpPath>Dey Group 2</grpPath>
19 <dpUserMetaData>Kerr Test XML by Andy</dpUserMetaData>
20 <dpTags>Kerr, Test, XML</dpTags>
21 <dpMapLat>29.735835000000002</dpMapLat>
22 <dpMapLong>-94.989298000000005</dpMapLong>
23 <dpContact>Randy Kerr</dpContact>
24 <dpDescription>WR44 for Buses</dpDescription>
25 </DeviceCore>
26 <DeviceCore>
27 <devMac>DD:33:44:DD:77:88</devMac>
28 <devCellularModemId></devCellularModemId>
29 <devConnectwareId>00000000-00000000-DD3344FF-FFDD7788</devConnectwareId>
30 <grpPath>Dey Group 2</grpPath>
31 <dpUserMetaData>Kerr Test XML by Randy</dpUserMetaData>
32 <dpTags>Kerr, Test, XML</dpTags>
33 <dpMapLat>29.735835999999999</dpMapLat>
34 <dpMapLong>-94.989298099999999</dpMapLong>
35 <dpContact>Larry Cameron</dpContact>
36 <dpDescription>WR44 for Buses</dpDescription>
37 </DeviceCore>
38 <DeviceCore>
39 <devMac>DD:33:44:DD:88:99</devMac>
40 <devCellularModemId></devCellularModemId>
41 <devConnectwareId>00000000-00000000-DD3344FF-FFDD8899</devConnectwareId>
42 <grpPath>Dey Group 1</grpPath>
43 <dpUserMetaData>Kerr Test XML by Andy</dpUserMetaData>
```

Step 16: You will need to select and copy all of the XML code from the "Device_Provisioning_Code.xml" file - Select 'Edit' menu item

Screen 12: C:\Users\rkerr\Desktop\Remote Manager Device Provisioning\Device_Provisioning_Code.xml - Notepad++ [Administrator]



Step 17: Select 'Select All Ctrl+A' menu item

Screen 13: C:\Users\rkerr\Desktop\Remote Manager Device Provisioning\Device_Provisioning_Code.xml - Notepad++ [Administrator]

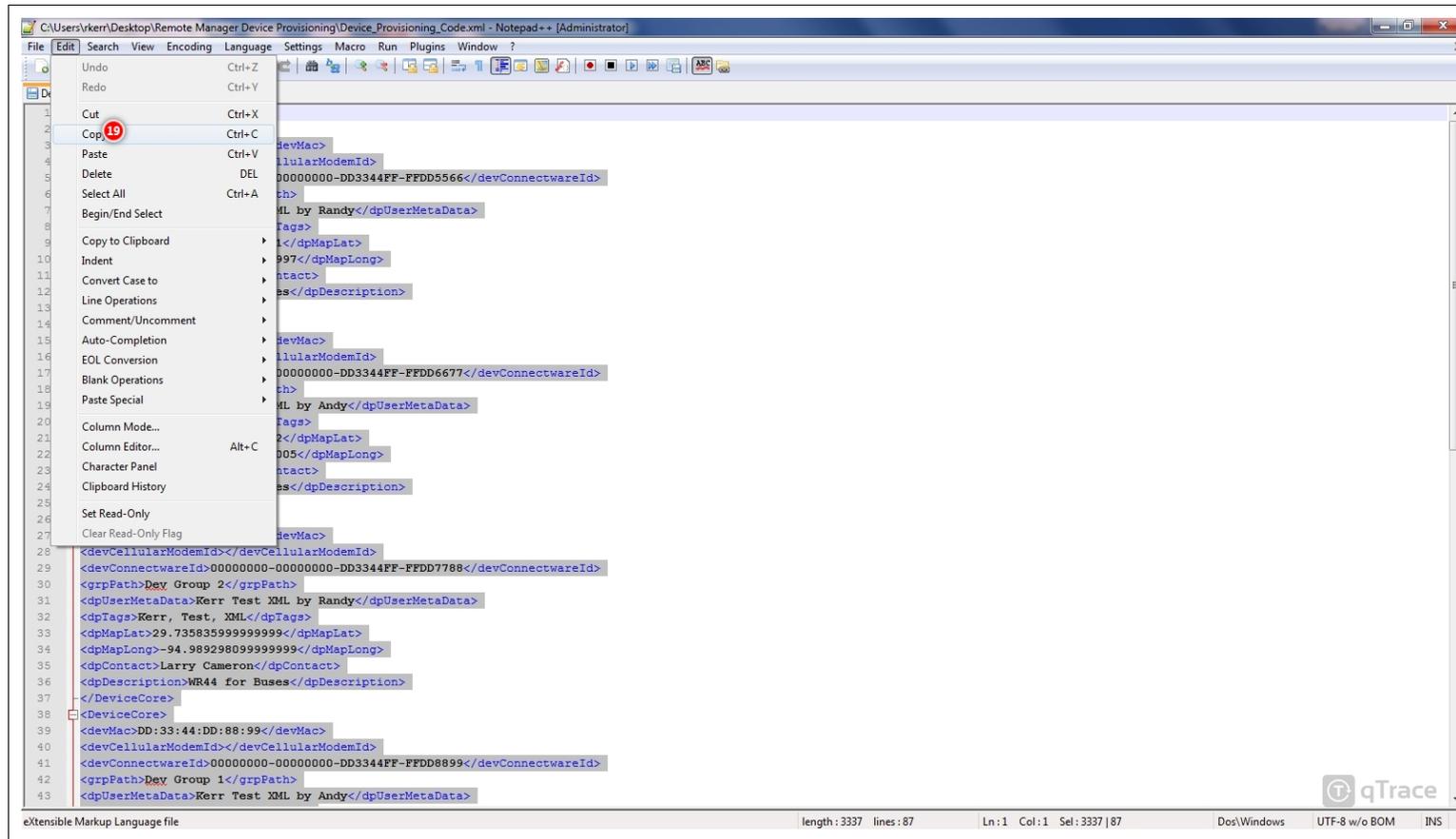
```
1 <list>
2 <DeviceCore>
3 <devMac>DD:33:44:DD:55:66</devMac>
4 <devCellularModemId></devCellularModemId>
5 <devConnectwareId>00000000-00000000-DD3344FF-FFDD5566</devConnectwareId>
6 <grpPath>Dev Group 1</grpPath>
7 <dpUserMetaData>Kerr Test XML by Randy</dpUserMetaData>
8 <dpTags>Kerr, Test, XML</dpTags>
9 <dpMapLat>29.73583400000001</dpMapLat>
10 <dpMapLong>-94.98929789999999</dpMapLong>
11 <dpContact>Randy Kerr</dpContact>
12 <dpDescription>WR44 for Buses</dpDescription>
13 </DeviceCore>
14 <DeviceCore>
15 <devMac>DD:33:44:DD:66:77</devMac>
16 <devCellularModemId></devCellularModemId>
17 <devConnectwareId>00000000-00000000-DD3344FF-FFDD6677</devConnectwareId>
18 <grpPath>Dev Group 2</grpPath>
19 <dpUserMetaData>Kerr Test XML by Andy</dpUserMetaData>
20 <dpTags>Kerr, Test, XML</dpTags>
21 <dpMapLat>29.73583500000002</dpMapLat>
22 <dpMapLong>-94.98929800000005</dpMapLong>
23 <dpContact>Randy Kerr</dpContact>
24 <dpDescription>WR44 for Buses</dpDescription>
25 </DeviceCore>
26 <DeviceCore>
27 <devMac>DD:33:44:DD:77:88</devMac>
28 <devCellularModemId></devCellularModemId>
29 <devConnectwareId>00000000-00000000-DD3344FF-FFDD7788</devConnectwareId>
30 <grpPath>Dev Group 2</grpPath>
31 <dpUserMetaData>Kerr Test XML by Randy</dpUserMetaData>
32 <dpTags>Kerr, Test, XML</dpTags>
33 <dpMapLat>29.73583599999999</dpMapLat>
34 <dpMapLong>-94.98929809999999</dpMapLong>
35 <dpContact>Larry Cameron</dpContact>
36 <dpDescription>WR44 for Buses</dpDescription>
37 </DeviceCore>
38 <DeviceCore>
39 <devMac>DD:33:44:DD:88:99</devMac>
40 <devCellularModemId></devCellularModemId>
41 <devConnectwareId>00000000-00000000-DD3344FF-FFDD8899</devConnectwareId>
42 <grpPath>Dev Group 1</grpPath>
43 <dpUserMetaData>Kerr Test XML by Andy</dpUserMetaData>
```

Step 18: Select 'Edit' menu item

qTrace

eXtensible Markup Language file length: 3337 lines: 87 Ln: 1 Col: 1 Sel: 3337 | 87 Dos: Windows UTF-8 w/o BOM INS

Screen 14: C:\Users\rkerr\Desktop\Remote Manager Device Provisioning\Device_Provisioning_Code.xml - Notepad++ [Administrator]



Step 19: Select 'Copy
Ctrl+C' menu item

Screen 15: Remote Manager

The screenshot shows the Digi Remote Manager web interface. The top navigation bar includes 'Dashboard', 'Device Management', 'Data Services', 'Security', 'Admin', and 'Documentation'. Below this is a secondary navigation bar with 'Devices', 'XBee Networks', 'Alarms', 'Operations', 'Schedules', 'Carrier', and 'Profiles'. The main content area displays a table of devices. The table has the following columns: MAC Address, Device ID, IP Address, Global IP, Device Type, Description, Firmware Level, Health Status, Last Update Time, and User Meta. The table contains 10 rows of device data. A sidebar on the left shows a tree view with 'Digi Hardware' and 'FT. Hood Barracks'. At the bottom right, there is a 'qTrace' button and a '10 devices' indicator.

MAC Address	Device ID	IP Address	Global IP	Device Type	Description	Firmware Level	Health Status	Last Update Time	User Meta
00042D:02F08A	00000000-00000000-00042DFF-FF02F08A	216.80.131.204	216.80.131.204	TransPort WR44	Kerr WR44R v1 Master Ethernet Only	5.2.8.1	Unknown	a day ago	Kerr WR4
00080003-00000000-FE000002-CF59D10D	...	...	...	TransPort WR21	Air Conditioner Control	...	Unknown	...	...
00080003-00000000-FE000002-7729E453	...	...	...	TransPort WR21	Air Conditioner Control	...	Unknown	...	...
00080003-00000000-FE000002-CB978185	...	...	...	TransPort WR21	Air Conditioner Control	...	Unknown	...	...
00080003-00000000-FE000002-65E9EC06	...	...	...	TransPort WR21	Air Conditioner Control	...	Unknown	...	...
00042D:0571D7	00000000-00000000-00042DFF-FF0571D7	100.79.3.119	70.198.64.11	TransPort WR11	Kerr WR11 VZW LTE	5.2.8.1	Warning	27 minutes ago	Kerr WR1
00042D:05EF54	00000000-00000000-00042DFF-FF05EF54	10.173.27.71	107.92.58.251	TransPort WR21	Kerr WR21 AT&T LTE (1)	5.2.8.1	Error	an hour ago	Kerr WR2
00042D:05C517	00000000-00000000-00042DFF-FF05C517	10.173.232.101	107.107.184.130	TransPort WR21	Kerr WR21 AT&T LTE (2)	5.2.8.1	Error	28 minutes ago	Kerr WR2
00042D:05E27D	00000000-00000000-00042DFF-FF05E27D	10.101.1.195	166.176.121.109	TransPort WR11	Kerr WR11 AT&T LTE	5.2.8.1	Error	44 minutes ago	Kerr WR1
00042D:08193B	00000000-00000000-00042DFF-FF08193B	10.33.82.25	166.172.122.218	TransPort WR44v2	Kerr WR44R v2 Master AT&T LTE	5.2.8.1	Error	35 minutes ago	Kerr WR4

Step 20: Now that you have copied the XML code, you can return to and provision your devices - Click 'Documentation' link

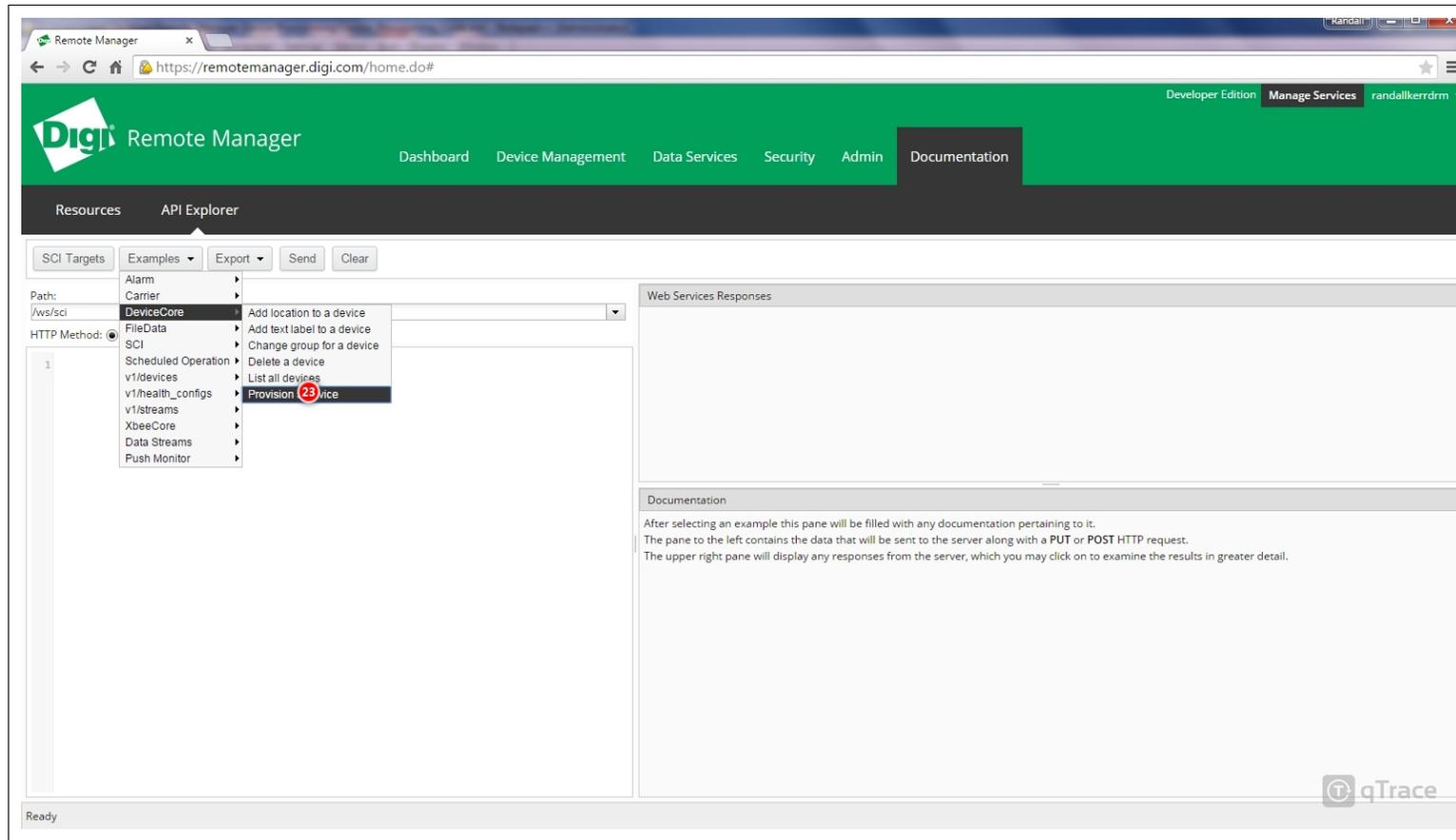
Screen 16: Remote Manager

The screenshot shows the Digi Remote Manager web application. The browser address bar displays `https://remotemanager.digi.com/home.do#`. The application has a green header with the Digi logo and 'Remote Manager' text. A navigation menu includes 'Dashboard', 'Device Management', 'Data Services', 'Security', 'Admin', and 'Documentation'. Below the header, there are tabs for 'Resources' and 'API Explorer'. The 'API Explorer' tab is active, showing a sub-tab 'Example 22'. The interface includes a 'Path' field with `/ws/sci`, an 'HTTP Method' dropdown set to 'GET', and buttons for 'Send' and 'Clear'. The main area is divided into three panes: 'Web Services Responses' (empty), 'Documentation' (containing explanatory text), and a large empty area for the request body. A 'qTrace' logo is visible in the bottom right corner of the interface.

Step 21: Click 'API Explorer' sub-tab located under the Documentation tab

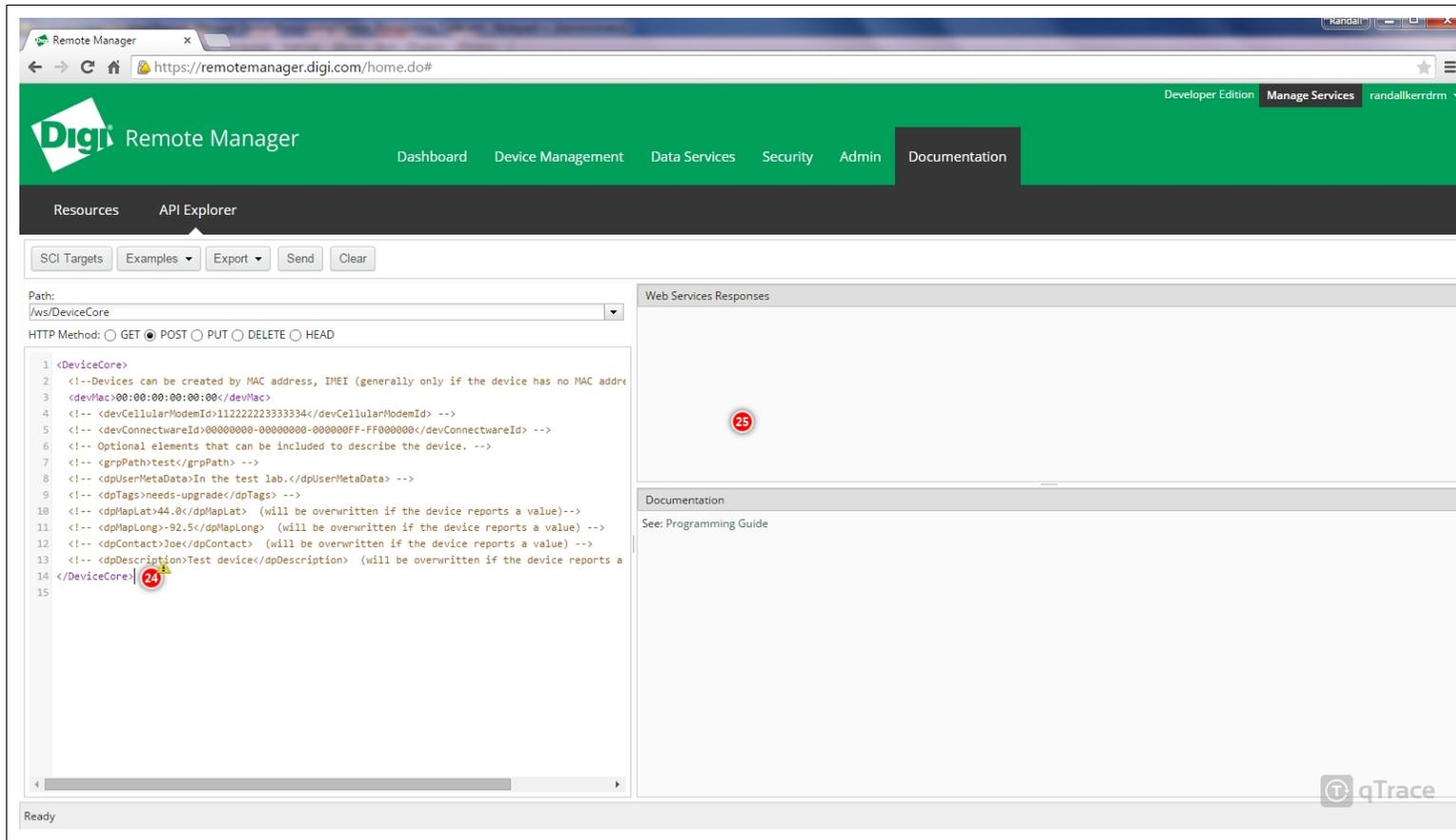
Step 22: You will use the DeviceCore example to provision your devices - Click 'Examples' button

Screen 17: Remote Manager



Step 23: Click Examples >> DeviceCore >> Provision Device

Screen 18: Remote Manager



The screenshot shows the Remote Manager web interface. The top navigation bar is green with the 'Digi Remote Manager' logo and menu items: Dashboard, Device Management, Data Services, Security, Admin, and Documentation. Below this is a dark grey bar with 'Resources' and 'API Explorer'. The main content area has a light grey background with a search bar and buttons for 'SCI Targets', 'Examples', 'Export', 'Send', and 'Clear'. The 'API Explorer' is active, showing a path of '/ws/DeviceCore' and a selected HTTP method of 'POST'. The XML example is displayed in a text area with line numbers 1 through 15. A red circle with the number '24' is placed at the end of the XML code on line 14. To the right of the XML area are two panels: 'Web Services Responses' and 'Documentation'. The 'Web Services Responses' panel is empty and has a red circle with the number '25' in the center. The 'Documentation' panel contains the text 'See: Programming Guide'. The bottom status bar shows 'Ready' and a 'qTrace' logo.

```
1 <DeviceCore>
2 <!-- Devices can be created by MAC address, IMEI (generally only if the device has no MAC address) -->
3 <devMac>00:00:00:00:00:00</devMac>
4 <!-- <devCellularModemId>112222223333334</devCellularModemId -->
5 <!-- <devConnectwareId>00000000-00000000-000000FF-FF000000</devConnectwareId -->
6 <!-- Optional elements that can be included to describe the device. -->
7 <!-- <grpPath>test</grpPath -->
8 <!-- <dpUserMetaData>In the test lab.</dpUserMetaData -->
9 <!-- <dpTags>needs-upgrade</dpTags -->
10 <!-- <dpMapLat>44.0</dpMapLat --> (will be overwritten if the device reports a value)
11 <!-- <dpMapLong>-92.5</dpMapLong --> (will be overwritten if the device reports a value)
12 <!-- <dpContact>Joe</dpContact --> (will be overwritten if the device reports a value)
13 <!-- <dpDescription>Test device</dpDescription --> (will be overwritten if the device reports a value)
14 </DeviceCore>
15
```

Step 24: Click the code example - you need to select everything in the example frame and delete it

Note: You will paste the XML code you copied into this frame in place of the sample code

Step 25: Press Ctrl + A to select the code, then press the 'delete' key

Screen 19: Remote Manager

The screenshot shows the Digi Remote Manager API Explorer interface. The browser address bar displays `https://remotemanager.digi.com/home.do#`. The page features a green header with the Digi logo and navigation links: Dashboard, Device Management, Data Services, Security, Admin, and Documentation. Below the header, there are tabs for Resources and API Explorer. The API Explorer section includes buttons for SCI Targets, Examples, Export, Send, and Clear. The Path field is set to `/ws/DeviceCore`. The HTTP Method is set to POST. The main area is divided into two panes: Web Services Responses and Documentation. The Web Services Responses pane is empty. The Documentation pane contains the text "See: Programming Guide". A red circle with the number 26 is overlaid on the first line of the main content area. The qTrace logo is visible in the bottom right corner of the interface.

Step 26: Press Ctrl + V to paste your own XML code into the frame

Screen 20: Remote Manager

The screenshot displays the Digi Remote Manager web application. The browser address bar shows the URL <https://remotemanager.digi.com/home.do#>. The navigation bar includes 'Dashboard', 'Device Management', 'Data Services', 'Security', 'Admin', and 'Documentation'. The 'API Explorer' is active, showing the path `/ws/DeviceCore` and the HTTP method `POST` selected. The response area displays XML data for two device cores, including details like MAC addresses, cellular modem IDs, and user metadata. A red circle with the number '27' is placed over the 'Send' button in the API Explorer interface.

Step 27: The example frame should now look similar to this screenshot - Click 'Send' button to provision your devices

Screen 21: Remote Manager

The screenshot shows the Digi Remote Manager web interface. The browser address bar displays `https://remotemanager.digi.com/home.do#`. The navigation bar includes links for Dashboard, Device Management, Data Services, Security, Admin, and Documentation. Below the navigation bar, there are tabs for Resources and API Explorer. The main interface shows a path of `/ws/DeviceCore` and an HTTP method of `POST` selected. The response viewer shows the following XML data:

```
61 </DeviceCore>
62 <DeviceCore>
63 <devMac>DD:33:44:DD:00:11</devMac>
64 <devCellularModemId></devCellularModemId>
65 <devConnectwareId>00000000-00000000-DD3344FF-FFDD0011</devConnectwareId>
66 <grpPath>Dev Group 3</grpPath>
67 <dpUserMetaData>Kerr Test XML by Randy</dpUserMetaData>
68 <dpTags>Kerr, Test, XML</dpTags>
69 <dpMapLat>29.735838999999999</dpMapLat>
70 <dpMapLong>-94.989298399999996</dpMapLong>
71 <dpContact>Randy Kerr</dpContact>
72 <dpDescription>HR21 for Production Plant</dpDescription>
73 </DeviceCore>
74 <DeviceCore>
75 <devMac>DD:33:44:DD:11:22</devMac>
76 <devCellularModemId></devCellularModemId>
77 <devConnectwareId>00000000-00000000-DD3344FF-FFDD1122</devConnectwareId>
78 <grpPath>Dev Group 2</grpPath>
79 <dpUserMetaData>Kerr Test XML by Randy</dpUserMetaData>
80 <dpTags>Kerr, Test, XML</dpTags>
81 <dpMapLat>29.73584</dpMapLat>
82 <dpMapLong>-94.989298500000004</dpMapLong>
83 <dpContact>Larry Cameron</dpContact>
84 <dpDescription>HR21 for Production Plant</dpDescription>
85 </DeviceCore>
86 </list>
87
```

The response viewer also shows a notification for a successful POST request to `/ws/DeviceCore` with a status of 201. The documentation section below the response viewer indicates that the user should see the Programming Guide.

Step 28: Successful provisioning will be indicated by a Web Services Response of "POST / ws/DeviceCore 201" - Click the message to read the response

Screen 22: Remote Manager

The screenshot shows the Digi Remote Manager web application. The browser address bar displays `https://remotemanager.digi.com/home.do#`. The navigation menu includes Dashboard, Device Management, Data Services, Security, Admin, and Documentation. The API Explorer is active, showing a list of resources. A modal window titled "POST /ws/DeviceCore 201" is open, displaying the response of the request. The response is an XML document with the following content:

```
1 <?xml version="1.0" encoding="ISO-8859-1"?>
2 <result>
3   <location>DeviceCore/1526594/0</location>
4   <location>DeviceCore/1526539/0</location>
5   <location>DeviceCore/1526540/0</location>
6   <location>DeviceCore/1526541/0</location>
7   <location>DeviceCore/1526542/0</location>
8   <location>DeviceCore/1526543/0</location>
9   <location>DeviceCore/1526544/0</location>
10 </result>
```

The interface also shows the path `/ws/DeviceCore` and the HTTP method `POST` selected. The response window has a red "29" icon in the top right corner and a "Cancel" button.

Step 29: Click the 'X' button to close the response window

Screen 23: Remote Manager

Remote Manager

https://remotemanager.digi.com/home.do#

Developer Edition Manage Services randallkerrdrm

Digi Remote Manager

Dashboard Device Management Data Services Security Admin Documentation

Resources API Explorer

SCI Targets Examples Export Send Clear

Path: /ws/DeviceCore

HTTP Method: GET POST PUT DELETE HEAD

61 </DeviceCore>
62 <DeviceCore>
63 <devMac>DD:33:44:DD:00:11</devMac>
64 <devCellularModemId></devCellularModemId>
65 <devConnectwareId>00000000-00000000-DD3344FF-FFDD0011</devConnectwareId>
66 <grpPath>Dev Group 3</grpPath>
67 <dpUserMetaData>Kerr Test XML by Randy</dpUserMetaData>
68 <dpTags>Kerr, Test, XML</dpTags>
69 <dpMapLat>29.735838999999999</dpMapLat>
70 <dpMapLong>-94.989298399999996</dpMapLong>
71 <dpContact>Randy Kerr</dpContact>
72 <dpDescription>HR21 for Production Plant</dpDescription>
73 </DeviceCore>
74 <DeviceCore>
75 <devMac>DD:33:44:DD:11:22</devMac>
76 <devCellularModemId></devCellularModemId>
77 <devConnectwareId>00000000-00000000-DD3344FF-FFDD1122</devConnectwareId>
78 <grpPath>Dev Group 2</grpPath>
79 <dpUserMetaData>Kerr Test XML by Randy</dpUserMetaData>
80 <dpTags>Kerr, Test, XML</dpTags>
81 <dpMapLat>29.73584</dpMapLat>
82 <dpMapLong>-94.989298500000004</dpMapLong>
83 <dpContact>Larry Cameron</dpContact>
84 <dpDescription>HR21 for Production Plant</dpDescription>
85 </DeviceCore>
86 </list>
87

Web Services Responses

POST /ws/DeviceCore 201

Documentation

See: Programming Guide

qTrace

Ready

Step 30: Click browser's 'Reload' button to refresh the Remote Manager application.

Screen 24: Remote Manager

The screenshot displays the Digi Remote Manager web interface. The browser address bar shows <https://remotemanager.digi.com/home.do#>. The page features a green header with the Digi Remote Manager logo and navigation links: Dashboard, Device Management (highlighted with a red notification badge), Data Services, Security, Admin, and Documentation. A user profile dropdown for 'randallkerrdm' is visible in the top right. Below the header, there is a filter section with 'Group - /' and 'Device Type' options. The main content area is divided into two columns. The left column contains a 'Device Health' pie chart with a legend: Normal: 0, Warning: 1, Error: 4, Unknown: 12. Below it is a 'Connection Status' gauge chart. The right column contains an 'Account' section with an 'Alarm Summary' pie chart (Device Health: 1, Device Profile: 2) and a 'Monitor Status' gauge chart. A 'qTrace' logo is located in the bottom right corner of the interface.

Step 31: Click 'Device Management' link

Screen 25: Remote Manager

The screenshot shows the Digi Remote Manager web interface. The top navigation bar includes 'Dashboard', 'Device Management', 'Data Services', 'Security', 'Admin', and 'Documentation'. Below this is a secondary navigation bar with icons for 'Devices', 'XBee Networks', 'Alarms', 'Operations', 'Schedules', 'Carrier', and 'Profiles'. The main content area displays a table of devices. The table has columns for MAC Address, Device ID, IP Address, Global IP, Device Type, Description, Firmware Level, Health Status, Last Update Time, and User Meta. A red circle highlights the Device ID '32' in the second row of the table. The status bar at the bottom indicates 'Ready' and '17 devices'.

MAC Address	Device ID	IP Address	Global IP	Device Type	Description	Firmware Level	Health Status	Last Update Time	User Meta
00042D:02F08A	00000000-00000000-00042DFF-FF02F08A	216.80.131.204	216.80.131.204	TransPort WR44	Kern WR44R v1 Master Ethernet Only	5.2.8.1	Unknown	a day ago	Kern WR4
00080003-00000000-FE000002-CF59D10D	...	...	...	TransPort WR21	Air Conditioner Control	...	Unknown	...	...
00080003-00000000-FE000002-7729E453	...	...	...	TransPort WR21	Air Conditioner Control	...	Unknown	...	...
00080003-00000000-FE000002-CB978185	...	...	...	TransPort WR21	Air Conditioner Control	...	Unknown	...	...
00080003-00000000-FE000002-65E9EC06	...	...	...	TransPort WR21	Air Conditioner Control	...	Unknown	...	...
00042D:0571D7	00000000-00000000-00042DFF-FF0571D7	100.79.3.119	70.198.64.11	TransPort WR11	Kern WR11 VZW LTE	5.2.8.1	Warning	35 minutes ago	Kern WR1
00042D:05EF54	00000000-00000000-00042DFF-FF05EF54	10.173.27.71	107.92.58.251	TransPort WR21	Kern WR21 AT&T LTE (1)	5.2.8.1	Error	an hour ago	Kern WR2
00042D:05C517	00000000-00000000-00042DFF-FF05C517	10.173.232.101	107.107.184.130	TransPort WR21	Kern WR21 AT&T LTE (2)	5.2.8.1	Error	37 minutes ago	Kern WR2
00042D:05E27D	00000000-00000000-00042DFF-FF05E27D	10.101.1.195	166.176.121.109	TransPort WR11	Kern WR11 AT&T LTE	5.2.8.1	Error	an hour ago	Kern WR1
DD3344:DD6677	00000000-00000000-32344FF-FFDD6677	...	...	...	WR44 for Buses	...	Unknown	...	Kern Test
DD3344:DD7788	00000000-00000000-DD3344FF-FFDD7788	...	...	...	WR44 for Buses	...	Unknown	...	Kern Test
DD3344:DD8899	00000000-00000000-DD3344FF-FFDD8899	...	...	...	WR41 for Refinery	...	Unknown	...	Kern Test
DD3344:DD9900	00000000-00000000-DD3344FF-FFDD9900	...	...	...	WR41 for Refinery	...	Unknown	...	Kern Test
DD3344:DD0011	00000000-00000000-DD3344FF-FFDD0011	...	...	...	WR21 for Production Plant	...	Unknown	...	Kern Test
DD3344:DD1122	00000000-00000000-DD3344FF-FFDD1122	...	...	...	WR21 for Production Plant	...	Unknown	...	Kern Test
DD3344:DD5566	00000000-00000000-DD3344FF-FFDD5566	...	...	...	WR44 for Buses	...	Unknown	...	Kern Test
00042D:08193B	00000000-00000000-00042DFF-FF08193B	10.33.82.25	166.172.122.218	TransPort WR44v2	Kern WR44R v2 Master AT&T LTE	5.2.8.1	Error	44 minutes ago	Kern WR4

Step 32: You can now see the newly provisioned devices in the Device List - in this example, the new devices are only examples, so they are shown as "offline"

Screen 26: Remote Manager

The screenshot shows the Digi Remote Manager web interface. The top navigation bar includes 'Dashboard', 'Device Management', 'Data Services', 'Security', 'Admin', and 'Documentation'. Below this is a secondary navigation bar with 'Devices', 'XBee Networks', 'Alarms', 'Operations', 'Schedules', 'Carrier', and 'Profiles'. The main content area displays a table of devices with columns for MAC Address, Device ID, IP Address, Global IP, Device Type, Description, Firmware Level, Health Status, Last Update Time, and User Meta. A left sidebar shows a tree view of device groups, with 'Dev Group 1' highlighted and circled in red. The status bar at the bottom indicates 'Ready' and '17 devices (1 selected)'.

MAC Address	Device ID	IP Address	Global IP	Device Type	Description	Firmware Level	Health Status	Last Update Time	User Meta
00042D:02F08A	00000000-00000000-00042DFF-FF02F08A	216.80.131.204	216.80.131.204	TransPort WR44	Kern WR44R v1 Master Ethernet Only	5.2.8.1	Unknown	a day ago	Kern WR4
00080003-00000000-FE000002-CF59D10D	...	...	...	TransPort WR21	Air Conditioner Control	...	Unknown	...	...
00080003-00000000-FE000002-7729E453	...	...	...	TransPort WR21	Air Conditioner Control	...	Unknown	...	...
00080003-00000000-FE000002-CB978185	...	...	...	TransPort WR21	Air Conditioner Control	...	Unknown	...	...
00080003-00000000-FE000002-65E9EC06	...	...	...	TransPort WR21	Air Conditioner Control	...	Unknown	...	...
00042D:0571D7	00000000-00000000-00042DFF-FF0571D7	100.79.3.119	70.198.64.11	TransPort WR11	Kern WR11 VZW LTE	5.2.8.1	Warning	35 minutes ago	Kern WR1
00042D:05EF54	00000000-00000000-00042DFF-FF05EF54	10.173.27.71	107.92.58.251	TransPort WR21	Kern WR21 AT&T LTE (1)	5.2.8.1	Error	an hour ago	Kern WR2
00042D:05C517	00000000-00000000-00042DFF-FF05C517	10.173.232.101	107.107.184.130	TransPort WR21	Kern WR21 AT&T LTE (2)	5.2.8.1	Error	37 minutes ago	Kern WR2
00042D:05E27D	00000000-00000000-00042DFF-FF05E27D	10.101.1.195	166.176.121.109	TransPort WR11	Kern WR11 AT&T LTE	5.2.8.1	Error	an hour ago	Kern WR1
DD3344:DD6677	00000000-00000000-DD3344FF-FFDD6677	...	...	WR44 for Buses	...	...	Unknown	...	Kern Test
DD3344:DD7788	00000000-00000000-DD3344FF-FFDD7788	...	...	WR44 for Buses	...	...	Unknown	...	Kern Test
DD3344:DD8899	00000000-00000000-DD3344FF-FFDD8899	...	...	WR41 for Refinery	...	...	Unknown	...	Kern Test
DD3344:DD9900	00000000-00000000-DD3344FF-FFDD9900	...	...	WR41 for Refinery	...	...	Unknown	...	Kern Test
DD3344:DD0011	00000000-00000000-DD3344FF-FFDD0011	...	...	WR21 for Production Plant	...	...	Unknown	...	Kern Test
DD3344:DD1122	00000000-00000000-DD3344FF-FFDD1122	...	...	WR21 for Production Plant	...	...	Unknown	...	Kern Test
DD3344:DD5566	00000000-00000000-DD3344FF-FFDD5566	...	...	WR44 for Buses	...	...	Unknown	...	Kern Test
00042D:08193B	00000000-00000000-00042DFF-FF08193B	10.33.82.25	166.172.122.218	TransPort WR44v2	Kern WR44R v2 Master AT&T LTE	5.2.8.1	Error	44 minutes ago	Kern WR4

Step 33: Notice that new Device Groups have been created on the left side of the screen - Click 'Dev Group 1' to see that devices have been added to the group based on the contents of the device provisioning spreadsheet

Screen 27: Remote Manager

The screenshot shows the Digi Remote Manager web interface. The browser address bar displays <https://remotemanager.digi.com/home.do#>. The page has a green header with the Digi logo and 'Remote Manager' text. Below the header is a navigation menu with options: Dashboard, Device Management (selected), Data Services, Security, Admin, and Documentation. A secondary navigation bar contains icons for Devices, XBee Networks, Alarms (with a red notification badge), Operations, Schedules, Carrier, and Profiles. The main content area features a table of devices and a left-hand navigation tree. The tree includes folders for 'Dev Group 1', 'Dev Group 2', 'Dev Group 3', 'Digi Hardware', and 'FT. Hood Barracks'. The 'Dev Group 1' folder is highlighted with a red circle. The table below lists two devices:

MAC Address	Device ID	IP Address	Global IP	Device Type	Description	Firmware Level	Health Status	Last Update Time	User Meta
DD3344:DD8899	00000000-00000000-DD3344FF-FFDD8899	...	...		WR41 for Refinery	...	Unknown	...	Kerr Test.
DD3344:DD5566	00000000-00000000-DD3344FF-FFDD5566	...	...		WR44 for Buses	...	Unknown	...	Kerr Test.

At the bottom right of the interface, there is a 'qTrace' button and a status indicator that says '2 devices'. The status bar at the very bottom of the browser window shows 'Ready'.

Step 34: Select tree item

Screen 28: Remote Manager

The screenshot shows the Digi Remote Manager web interface. The top navigation bar includes 'Dashboard', 'Device Management', 'Data Services', 'Security', 'Admin', and 'Documentation'. Below this is a secondary navigation bar with 'Devices', 'XBee Networks', 'Alarms 3', 'Operations', 'Schedules', 'Carrier', and 'Profiles'. The main content area displays a table of devices with the following columns: MAC Address, Device ID, IP Address, Global IP, Device Type, Description, Firmware Level, Health Status, Last Update Time, and User Meta. The table lists 17 devices, including various TransPort and WR series devices, with health statuses ranging from 'Unknown' to 'Error'.

MAC Address	Device ID	IP Address	Global IP	Device Type	Description	Firmware Level	Health Status	Last Update Time	User Meta
00042D:02F96A	00000000-00000000-00042DFF:FF02F96A	216.80.131.204	216.80.131.204	TransPort WR44	Kern WR44R v1 Master Ethernet Only	5.2.8.1	Unknown	a day ago	Kern WR4
00080003-00000000-FE000002-CF59D10D	...	...	...	TransPort WR21	Air Conditioner Control	...	Unknown	...	...
00080003-00000000-FE000002-7729E483	...	...	...	TransPort WR21	Air Conditioner Control	...	Unknown	...	...
00080003-00000000-FE000002-CB978185	...	...	...	TransPort WR21	Air Conditioner Control	...	Unknown	...	...
00080003-00000000-FE000002-65E9EC08	...	...	...	TransPort WR21	Air Conditioner Control	...	Unknown	...	...
00042D:0571D7	00000000-00000000-00042DFF:FF0571D7	100.79.3.119	70.196.84.11	TransPort WR11	Kern WR11 VZW LTE	5.2.8.1	Warning	38 minutes ago	Kern WR1
00042D:05EF54	00000000-00000000-00042DFF:FF05EF54	10.173.27.71	107.92.58.251	TransPort WR21	Kern WR21 AT&T LTE (1)	5.2.8.1	Error	an hour ago	Kern WR2
00042D:05C517	00000000-00000000-00042DFF:FF05C517	10.173.232.101	107.107.184.130	TransPort WR21	Kern WR21 AT&T LTE (2)	5.2.8.1	Error	37 minutes ago	Kern WR2
00042D:05E27D	00000000-00000000-00042DFF:FF05E27D	10.101.1.195	166.176.121.109	TransPort WR11	Kern WR11 AT&T LTE	5.2.8.1	Error	an hour ago	Kern WR1
DD3344:DD0877	00000000-00000000-DD3344FF:FFDD0877	...	...	WR44 for Buses	...	...	Unknown	...	Kern Test
DD3344:DD7788	00000000-00000000-DD3344FF:FFDD7788	...	...	WR44 for Buses	...	...	Unknown	...	Kern Test
DD3344:DD8899	00000000-00000000-DD3344FF:FFDD8899	...	...	WR41 for Refinery	...	...	Unknown	...	Kern Test
DD3344:DD9900	00000000-00000000-DD3344FF:FFDD9900	...	...	WR41 for Refinery	...	...	Unknown	...	Kern Test
DD3344:DD0011	00000000-00000000-DD3344FF:FFDD0011	...	...	WR21 for Production Plant	...	...	Unknown	...	Kern Test
DD3344:DD1122	00000000-00000000-DD3344FF:FFDD1122	...	...	WR21 for Production Plant	...	...	Unknown	...	Kern Test
DD3344:DD5566	00000000-00000000-DD3344FF:FFDD5566	...	...	WR44 for Buses	...	...	Unknown	...	Kern Test
00042D:06193B	00000000-00000000-00042DFF:FF06193B	10.33.82.25	166.172.122.218	TransPort WR44v2	Kern WR44R v2 Master AT&T LTE	5.2.8.1	Error	44 minutes ago	Kern WR4

Step 35: You have completed the process for automated XML code generation and provisioning devices on Remote Manager