

RAK Online Compiler

Quick Start Guide

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www.RAKwireless.com

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1. Where is RAK online compiler?

RAK online compiler IP address is 47.112.137.11

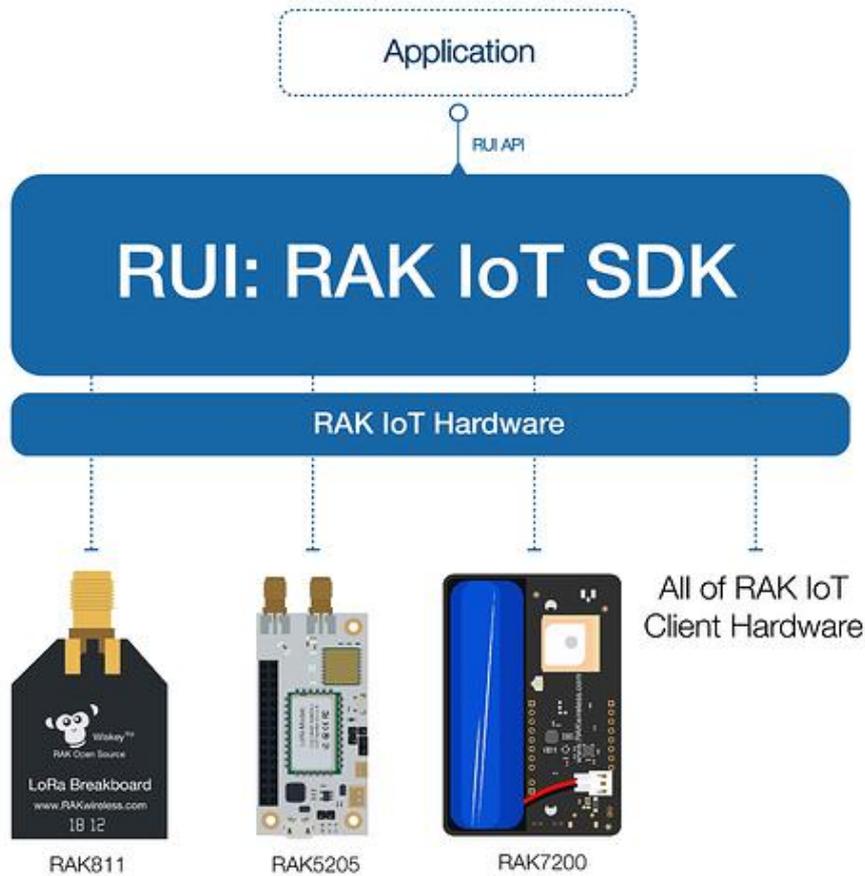
2. How can you login RAK online compiler?

Now, you can only login RAK online compiler through SSH, and we'll develop a webpage UI for it in future. The SSH account and password can be allocated to you after you apply in this topic:

<https://forum.rakwireless.com/t/rak-online-compiler-for-you-to-compile-your-customized-firmware-based-on-rui/662>

3. How to use RAK online compiler to compile a customized firmware?

Firstly, you need an application source code. You can download one of products practice from https://github.com/RAKWireless/Products_practice_based_on_RUI, or you can write a customized application based RUI by calling RUI APIs.



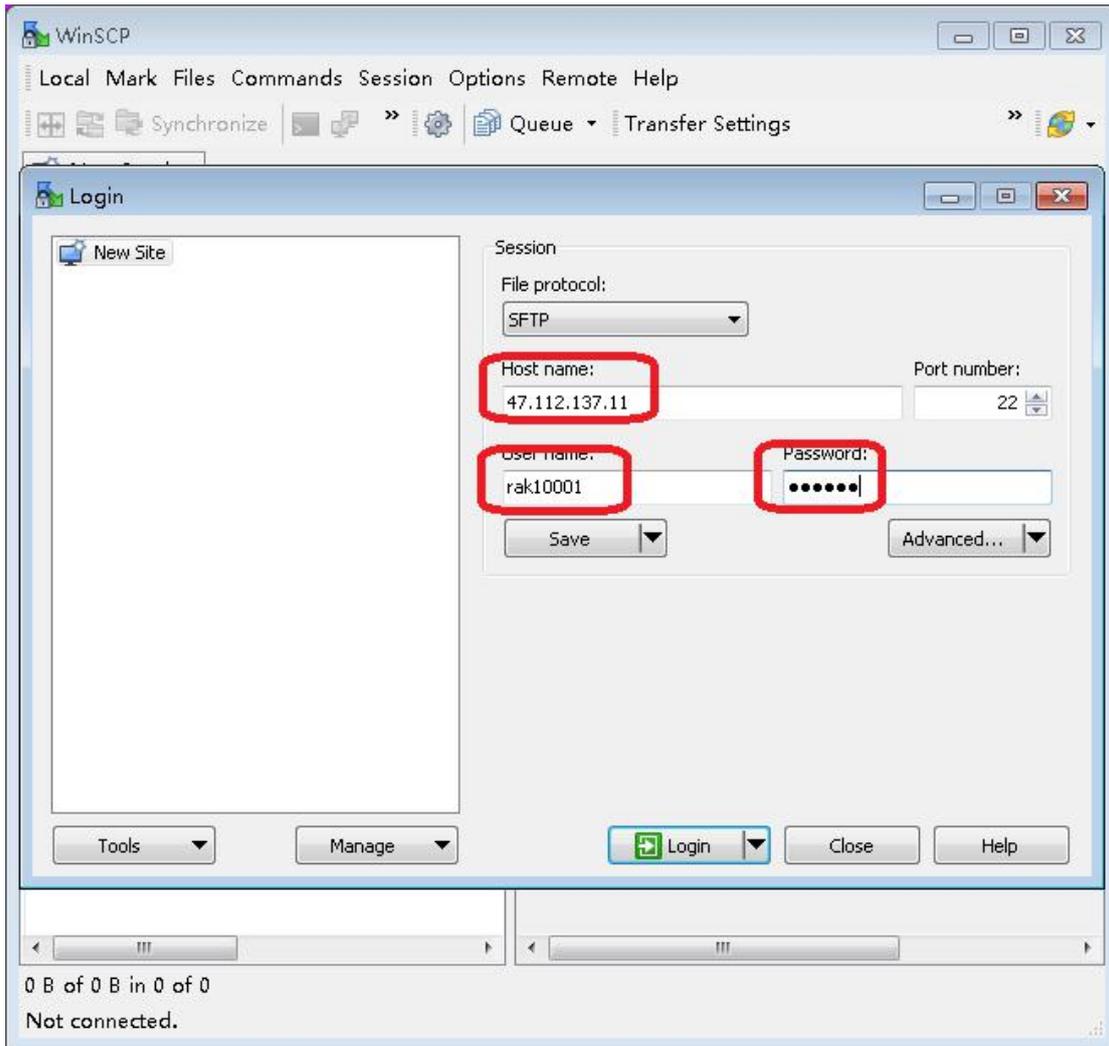
Then, you can use RAK online compiler to compile the application with RUI to get a customized firmware. The following steps show you how to use RAK online compiler:

Step 1: upload the source code of Application

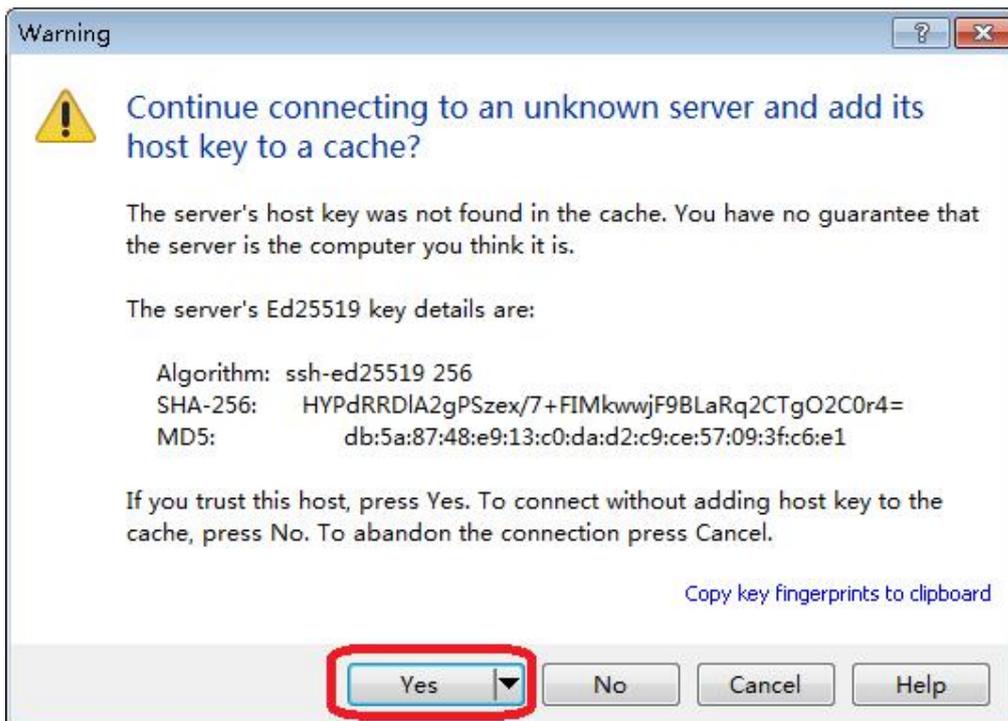
if you are using Windows, you can download WinSCP tool from here freely:

<https://winscp.net/eng/downloads.php>

and do as follow:

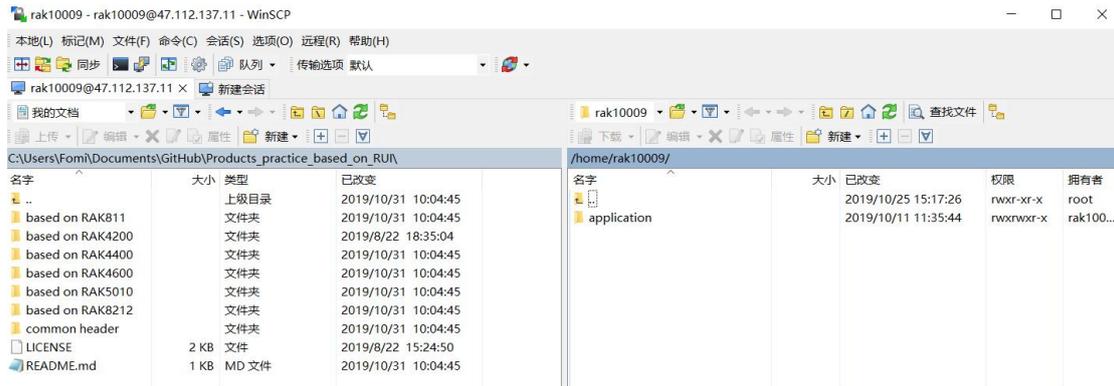


“Login”

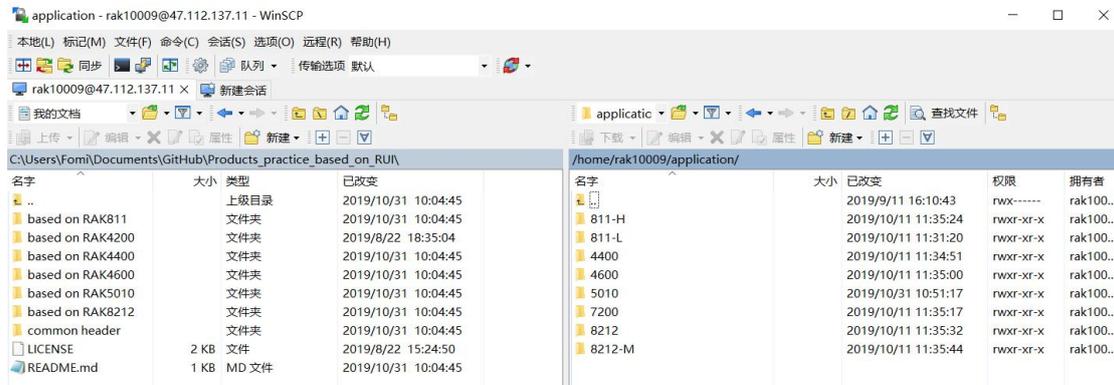


“Yes”

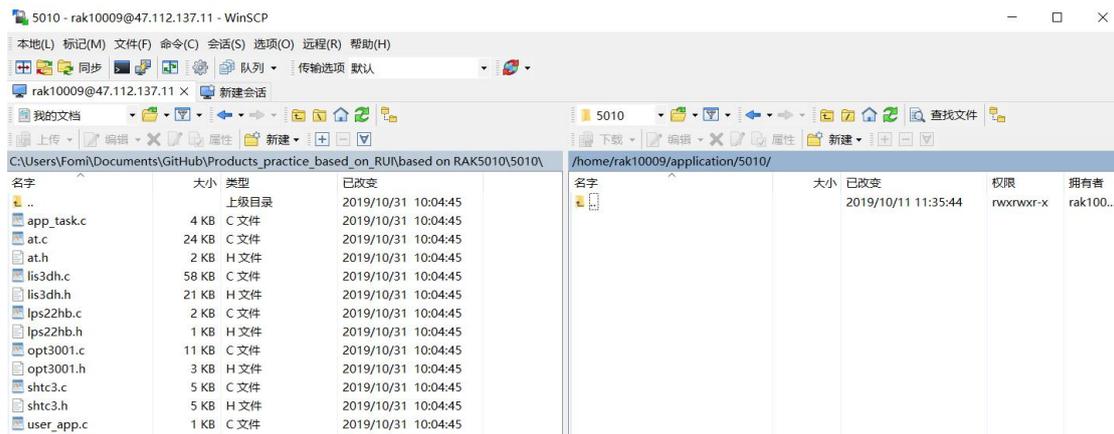
Then you can see the following page:



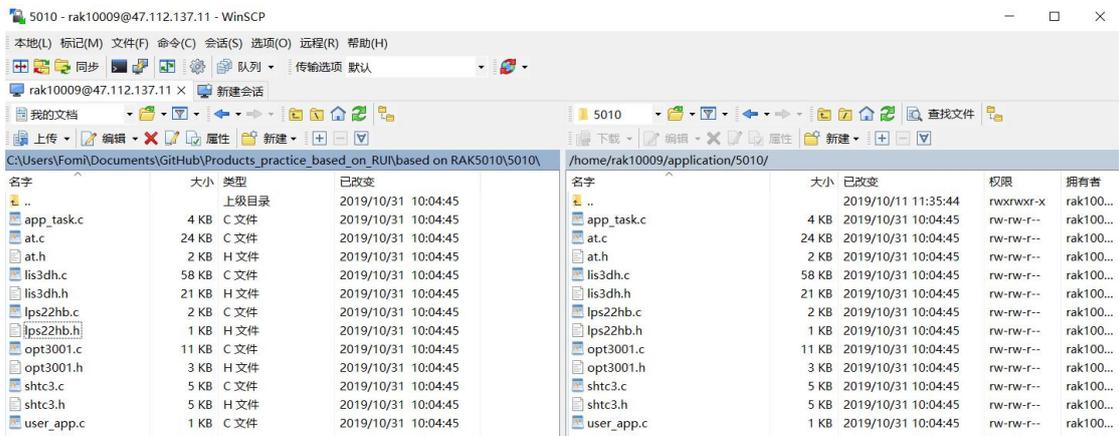
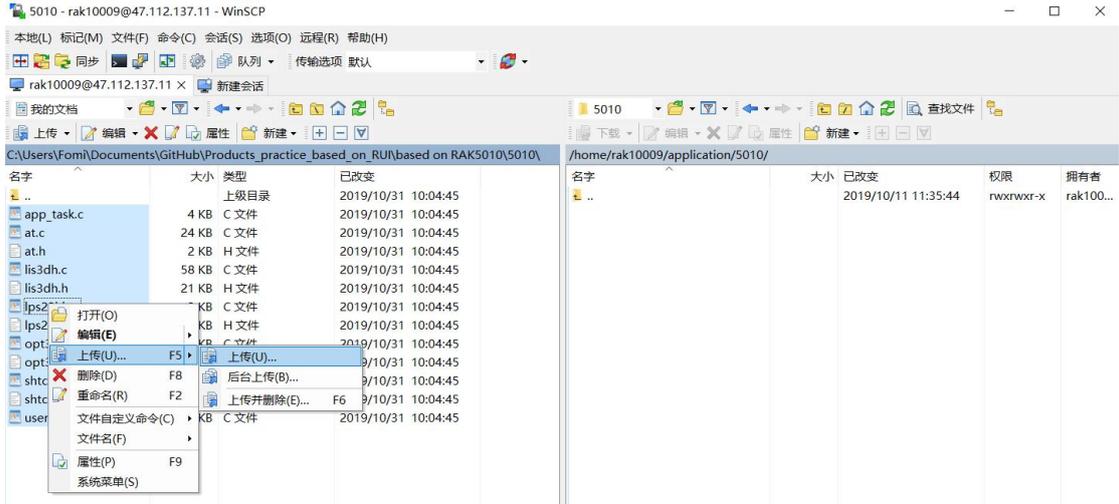
The right panel is RAK online compiler. In the application folder you can see different rak node models.



The left is your PC. Just select the folder of your application source code in the left page, and select the “application/<your node module>” folder in the right page, then upload. For example, we select RAK5010 as our base module:

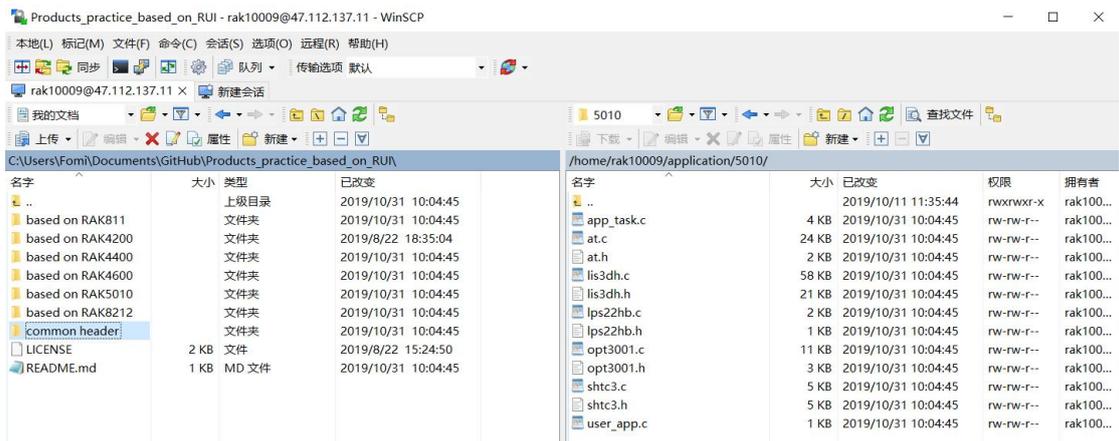


Upload the source code files:

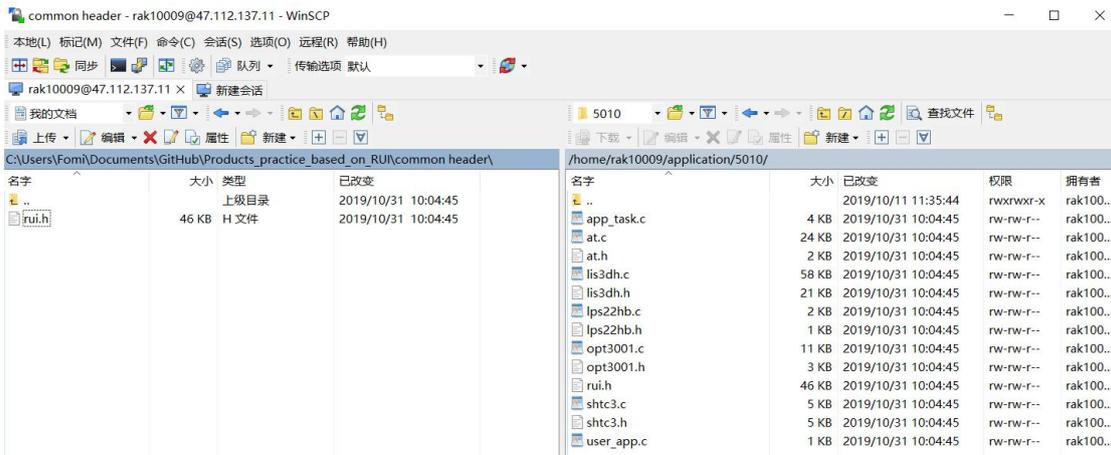
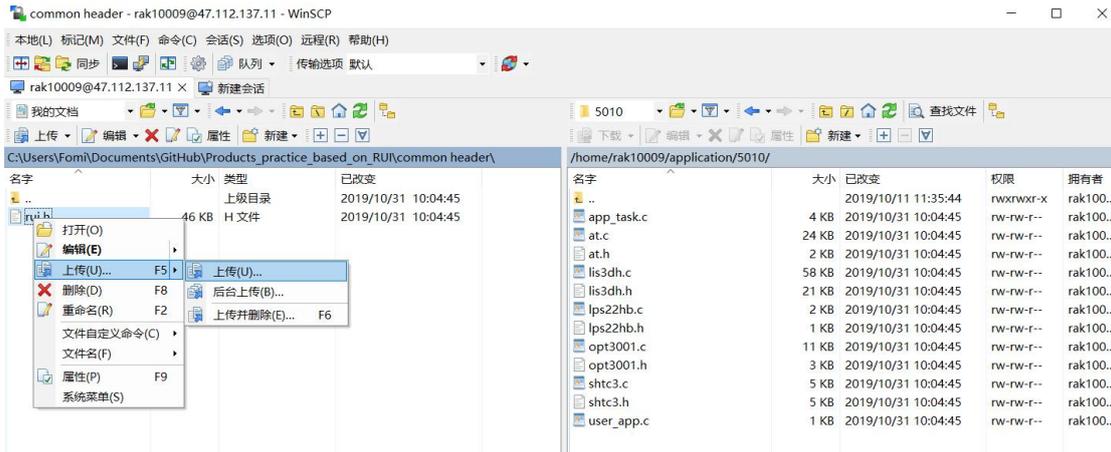


There are not enough source code files. We should upload some common files:

Open this folder:



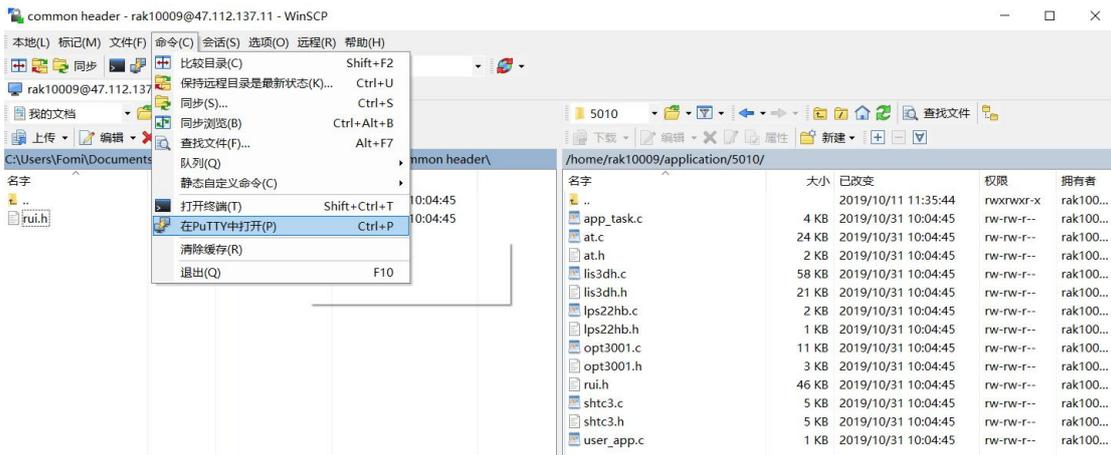
Upload the file/files in this folder:



OK, there are enough source code files now!

Step 2: compile your customized firmware

Login RAK online compiler through SSH using putty:




```

=====
*****Compile command*****
-- rak_rui_build xxxx
*****
*****Support module*****
-- RAK811(high freq): rak_rui_build 811-H
-- RAK811(low freq): rak_rui_build 811-L

--          5010: rak_rui_build 5010

--          4400: rak_rui_build 4400

--          4600: rak_rui_build 4600

--          8212-M: rak_rui_build 8212-M

--          8212: rak_rui_build 8212

Note: If you are in the waiting queue for a long time,
      execute the "rak_rui_build stop" command before
      executing the compile operation.
*****

Last login: Thu Oct 31 10:46:15 2019 from 45.41.181.3
rak10009@IoT-Server:~$ rak_rui_help
*****Compile command*****
-- rak_rui_build xxxx
*****
*****Support module*****
-- RAK811(high freq): rak_rui_build 811-H
-- RAK811(low freq): rak_rui_build 811-L

--          5010: rak_rui_build 5010

--          4400: rak_rui_build 4400

--          4600: rak_rui_build 4600

--          8212-M: rak_rui_build 8212-M

--          8212: rak_rui_build 8212

-- Note:If you are in the waiting queue for a long time,
      execute the "rak_rui_build stop" command before
      executing the compile operation.
*****
rak10009@IoT-Server:~$ █
  
```

As you see, there are some compile commands. In future, we'll add more and more IoT modules and compile command.

OK, let's compile a firmware for rak5010 now.

```

Last login: Thu Oct 31 10:46:15 2019 from 45.41.181.3
rak10009@IoT-Server:~$ rak_rui_help
*****Compile command*****
-- rak_rui_build xxxx
*****
*****Support module*****
-- RAK811(high freq): rak_rui_build 811-H
-- RAK811(low freq): rak_rui_build 811-L

--          5010: rak_rui_build 5010

--          4400: rak_rui_build 4400

--          4600: rak_rui_build 4600

--          8212-M: rak_rui_build 8212-M

--          8212: rak_rui_build 8212

-- Note:If you are in the waiting queue for a long time,
      execute the "rak_rui_build stop" command before
      executing the compile operation.
*****
rak10009@IoT-Server:~$ rak_rui_build 5010
Any issues you encounter while using rui can be posted to "https://forum.rakwireless.com/c/RUI".
The compile request has been successfully added to the queue.
rak10009@IoT-Server:~$

```

After about 30s-60s, it will be done:

```

Last login: Thu Oct 31 10:46:15 2019 from 45.41.181.3
rak10009@IoT-Server:~$ rak_rui_help
*****Compile command*****
-- rak_rui_build xxxx
*****
*****Support module*****
-- RAK811(high freq): rak_rui_build 811-H
-- RAK811(low freq): rak_rui_build 811-L

--          5010: rak_rui_build 5010

--          4400: rak_rui_build 4400

--          4600: rak_rui_build 4600

--          8212-M: rak_rui_build 8212-M

--          8212: rak_rui_build 8212

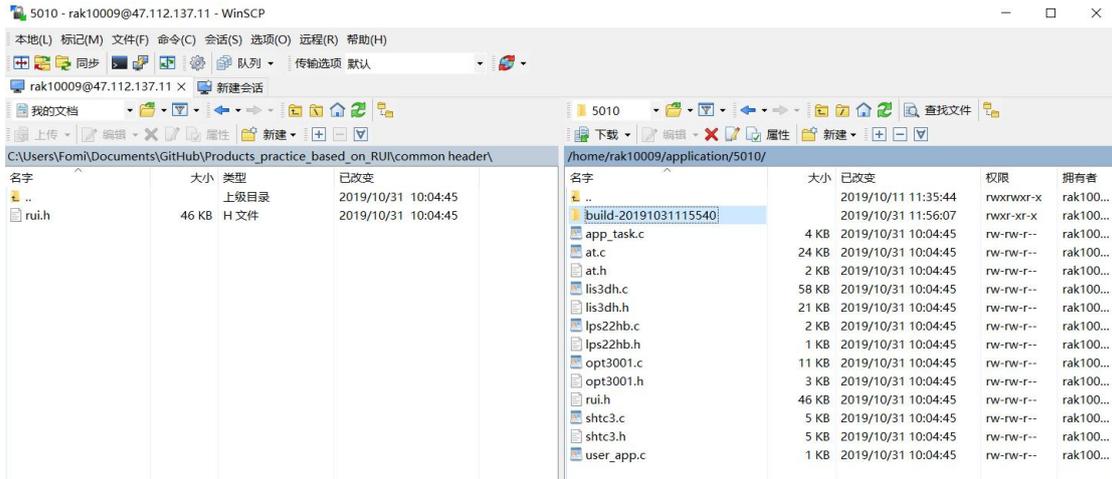
-- Note:If you are in the waiting queue for a long time,
      execute the "rak_rui_build stop" command before
      executing the compile operation.
*****
rak10009@IoT-Server:~$ rak_rui_build 5010
Any issues you encounter while using rui can be posted to "https://forum.rakwireless.com/c/RUI".
The compile request has been successfully added to the queue.
rak10009@IoT-Server:~$
The compilation task has been completed, you can view the log in the application/5010 directory.

```

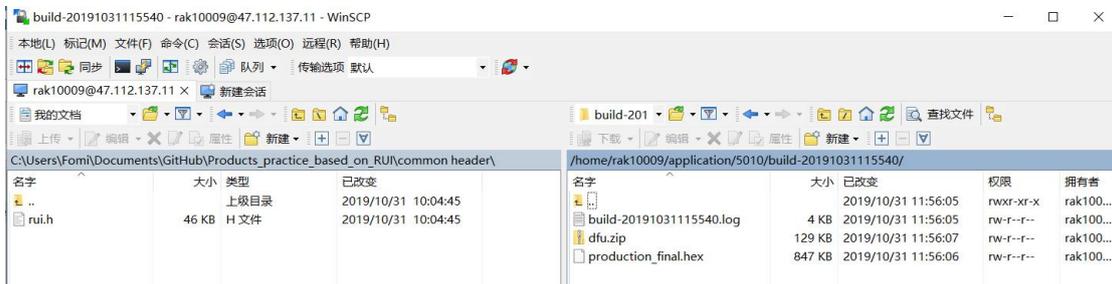
Great! You've compiled a customized firmware successfully.

Next step, let's export the firmware binary file.

After refreshing on the right page, you should see a new folder named "build-....." like this:



Open this folder, and you will see the firmware file which you just compiled:



(Note: For RAK5010, RAK8212, RAK8212-M, and RAK4600, there will be a dfu.zip file in this folder too. This file is used for DFU over BLE of these modules)

Just download this file to your PC.

OK, that's all about how to use RAK online compiler to compile your own customized firmware.

Once you have completed the above steps and got a customized firmware, you can flash it into RAK IoT module according to the document of that module. You can find all documents of RAK IoT modules on RAK website: <https://downloads.rakwireless.com/en/>