# Cisco IOS和Cisco IOS XE路由器中的口令恢復故障排除

## 目錄

## 簡介

本檔案介紹在Cisco IOS®和Cisco IOS® XE路由器中執行密碼復原的程式。

## 必要條件

### 需求

- 本文檔適用於來自ISRG2、ISR4000、ASR1000和ISR1000系列的Cisco路由器。
  對於運行不同Cisco IOS和Cisco IOS XE系列的路由器，該過程可能會發生更改。
- 為了執行密碼恢復，您必須具有裝置控制檯連線。

✎ 注意：無法使用到裝置的遠端連線（SSH或Telnet）執行密碼恢復過程。如果終端伺服器用於控制檯連線，則進程無法工作。建議使用直接控制檯連線。

- 您必須具有物理裝置訪問許可權或可用性才能遠端管理受影響裝置的電源。
- 必須使用終端模擬器才能傳送Break序列。

✎ 註：某些PC鍵盤具有Break鍵，可用於傳送訊號。

### 採用元件

本文中的資訊係根據以下軟體和硬體版本：

- 運行Cisco IOS XE 16.12.4的路由器ISR4331
- Putty終端會話版本0.71

本文中的資訊是根據特定實驗室環境內的裝置所建立。文中使用到的所有裝置皆從已清除（預設）的組態來啟動。如果您的網路運作中，請確保您瞭解任何指令可能造成的影響。

## 背景資訊

此步驟可用於恢複使用者名稱和密碼憑據以及啟用密碼。
根據當前裝置配置，可以提取密碼，也可以直接用新密碼替換。

Cisco IOS和Cisco IOS XE路由器將配置儲存在startup-config和running-config。

預設情況下，啟動配置檔案儲存在NVRAM中，運行配置（實際裝置配置）儲存在DRAM中。

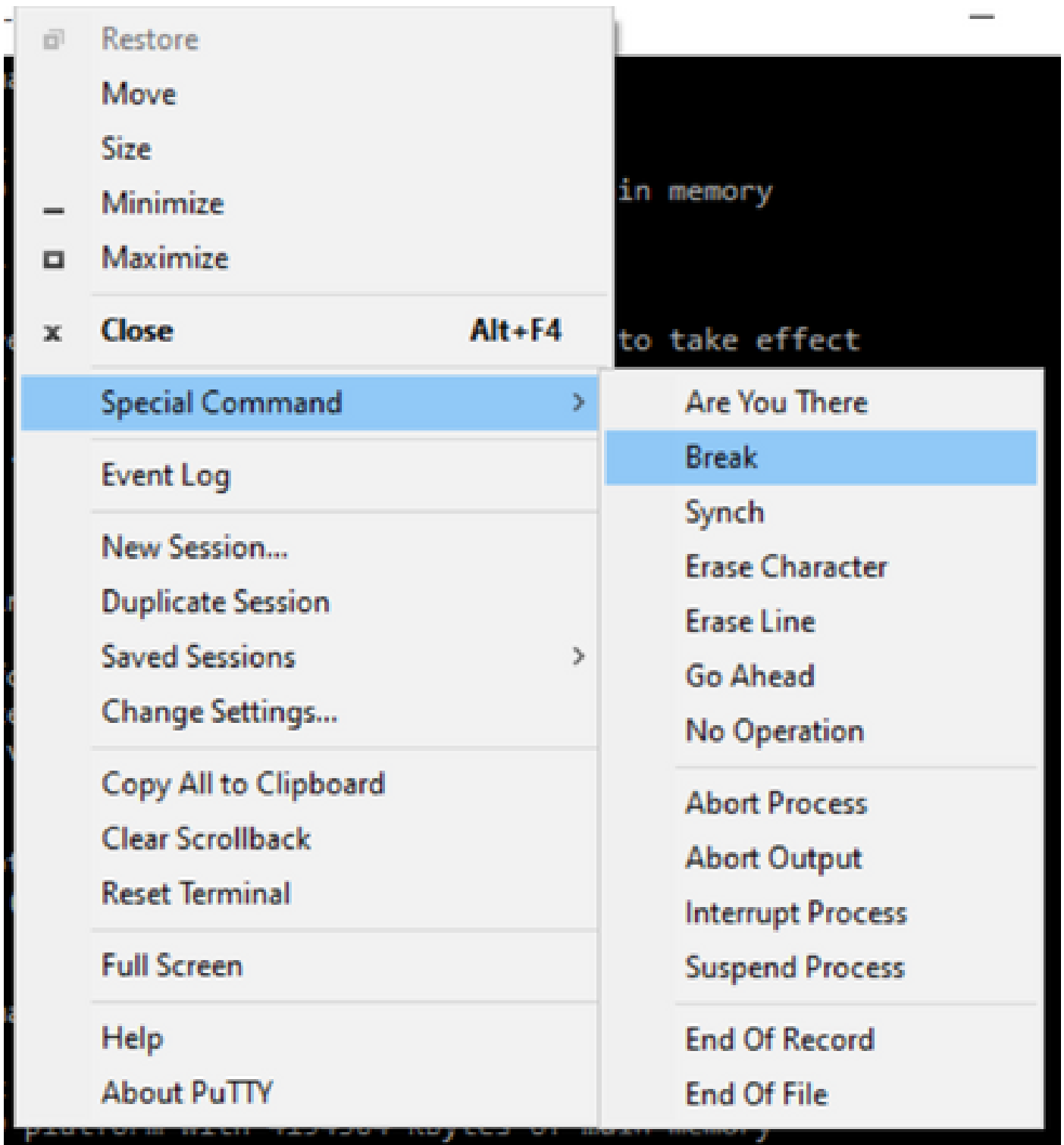密碼恢復過程的主要目的是使用預設配置引導裝置，一旦有訪問裝置的許可權，載入當前配置並更改憑據。

✎ 註：如果路由器配置了no service password-recovery功能，則無法進行密碼恢復。裝置啟動時可以識別此配置。您可以檢視此文檔，以獲取有關無服務密碼恢復功能的更多詳細資訊。

## Cisco IOS和Cisco IOS XE路由器中的密碼恢復

步驟 1.重新啟動裝置。您需要從電源/交換機重新啟動裝置，因為您無權通過命令列訪問該裝置。

步驟 2.當裝置啟動時，您必須發出break序列。

如果是Putty，請導航到Special Command > Break選項，如下圖所示。

1. 你必須傳送多個中斷訊號。POST通過後，緊接在Cisco IOS完成啟動之前，會識別break訊號：

```
Initializing Hardware ...

Checking for PCIe device presence...done
System integrity status: 0x610
Rom image verified correctly

System Bootstrap, Version 16.12(2r), RELEASE SOFTWARE
Copyright (c) 1994-2019 by cisco Systems, Inc.
```

```
Current image running: Boot ROM1

Last reset cause: LocalSoft
ISR4331/K9 platform with 4194304 Kbytes of main memory

........
Located isr4300-universalk9.16.12.04.SPA.bin
###########################################################################

Failed to boot file bootflash:isr4300-universalk9.16.12.04.SPA.bin

.......
rommon 1 >
```

步驟 3.登入到裝置。在rommon模式下，必須將配置暫存器配置為0x2142，以便使用預設配置在下一次重新載入時啟動。
您可以使用reset指令重新載入。您必須保持裝置正常啟動。

```
rommon 1 > confreg 0x2142

You must reset or power cycle for new config to take effect
rommon 2 > reset

Resetting .......

Initializing Hardware ...

Checking for PCIe device presence...done
System integrity status: 0x610
Rom image verified correctly


System Bootstrap, Version 16.12(2r), RELEASE SOFTWARE
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Current image running: Boot ROM1

Last reset cause: LocalSoft
ISR4331/K9 platform with 4194304 Kbytes of main memory


........
Located isr4300-universalk9.16.12.04.SPA.bin
###########################################################################

Package header rev 3 structure detected
IsoSize = 609173504
Calculating SHA-1 hash...Validate package: SHA-1 hash:
calculated 9E1353EB:8A02B6C4:C7B841DC:7A78BA24:5D48AA9B
expected 9E1353EB:8A02B6C4:C7B841DC:7A78BA24:5D48AA9B
RSA Signed RELEASE Image Signature Verification Successful.
Image validated

Restricted Rights Legend
```

Cisco IOS Software [Gibraltar], ISR Software (X86_64_LINUX_IOSD-UNIVERSALK9-M), Version 16.12.4, RELEAS
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All TCP AO KDF Tests Pass
cisco ISR4331/K9 (1RU) processor with 1694893K/3071K bytes of memory.
Processor board ID FLM1922W1BZ
3 Gigabit Ethernet interfaces
32768K bytes of non-volatile configuration memory.
4194304K bytes of physical memory.
3223551K bytes of flash memory at bootflash:.
OK bytes of WebUI ODM Files at webui:.

Press RETURN to get started!


步驟 4.此時，路由器具有預設配置。您必須備份運行配置中的配置，您需要使用儲存在啟動配置檔案或其他檔案中的配置。 為了使用startup-config檔案，您必須在全域性模式下將該檔案複製到 running-config。

1. 備份後，您可以進入配置模式並更改/檢查憑據。
2. 必須將配置暫存器修改為0x2102。之後，您可以儲存更改並重新啟動裝置。

```
Router#copy startup-config running-config
Destination filename [running-config]?
% Please write mem and reload
% The config will take effect on next reboot

2793 bytes copied in 0.363 secs (7694 bytes/sec)

Router#show running-config | sec password
enable password cisco
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#enable password cisco123
Router(config)#config-register 0x2102

Router(config)#exit
Router#show running-config | sec password
enable password cisco123
Router#write
Building configuration...

[OK]
Router#reload
```

步驟 5.若要確認組態暫存器是否正確修改，可以執行show version指令，並檢查show version輸出中的最後一行。

```
Router#show version
Cisco IOS XE Software, Version 16.12.04
Cisco IOS Software [Gibraltar], ISR Software (X86_64_LINUX_IOSD-UNIVERSALK9-M), Version 16.12.4, RELEASE
Technical Support: http://www.cisco.com/techsupport
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software.


ROM: 16.12(2r)

Router uptime is 19 minutes
Uptime for this control processor is 22 minutes
System returned to ROM by Reload Command at 21:14:19 UTC Tue Apr 13 2021
System image file is "bootflash:isr4300-universalk9.16.12.04.SPA.bin"
Last reload reason: Reload Command


This product contains cryptographic features and is subject to United
States and local country laws governing import, export, transfer and
```

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http://www.cisco.com/wwl/export/crypto/tool/stqrg.html

If you require further assistance please contact us by sending email to
export@cisco.com.

Suite License Information for Module:'esg'


--------------------------------------------------------------------------------
Suite Suite Current Type Suite Next reboot
--------------------------------------------------------------------------------
FoundationSuiteK9 None Smart License None
securityk9
appxk9

AdvUCSuiteK9 None Smart License None
uck9
cme-srst
cube


Technology Package License Information:

----------------------------------------------------------------------
Technology Technology-package Technology-package
Current Type Next reboot
----------------------------------------------------------------------
appxk9 appxk9 Smart License appxk9
uck9 uck9 Smart License uck9
securityk9 None Smart License None
ipbase ipbasek9 Smart License ipbasek9

The current throughput level is 300000 kbps

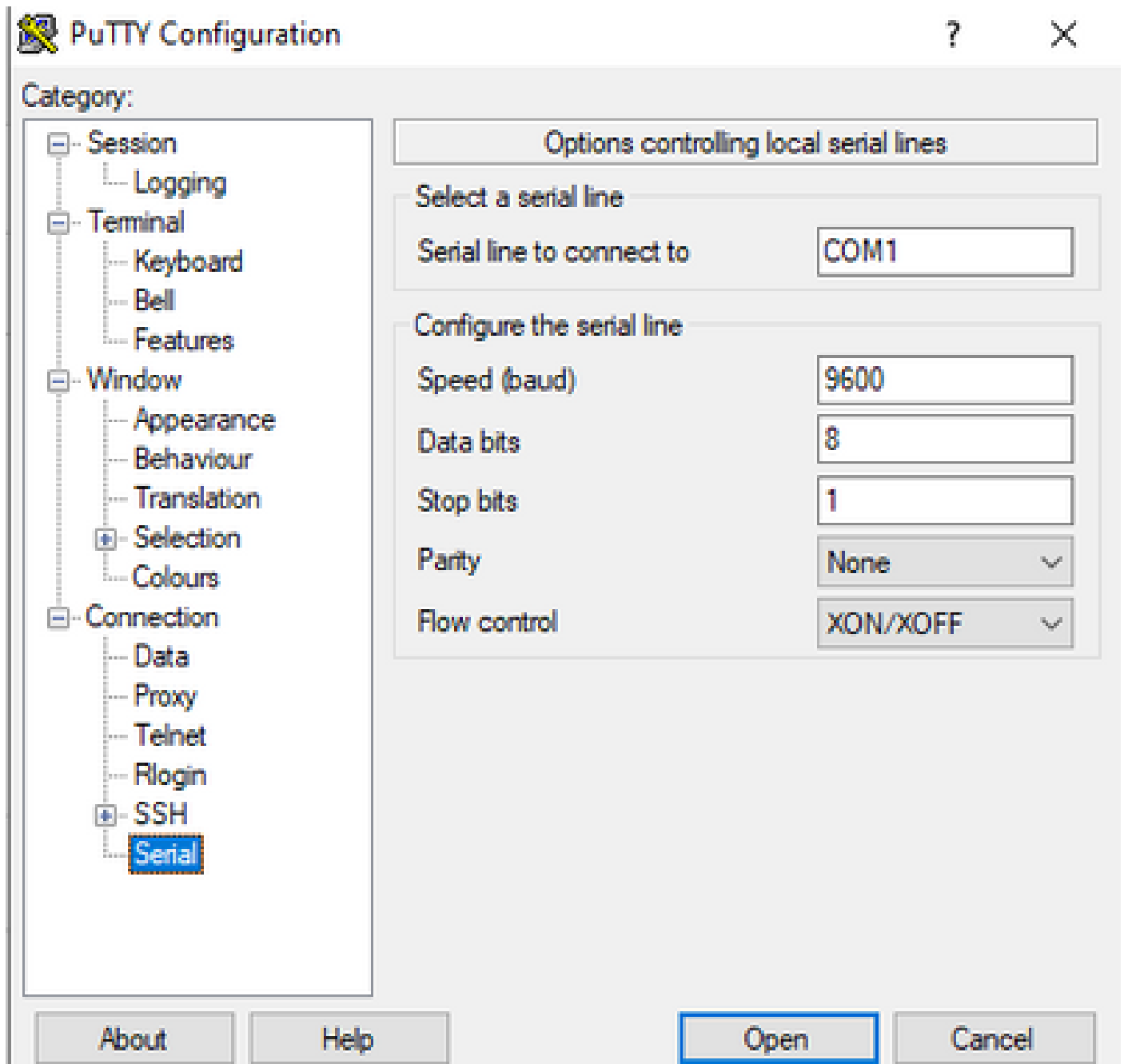Smart Licensing Status: UNREGISTERED/EVAL MODE

cisco ISR4331/K9 (1RU) processor with 1694893K/3071K bytes of memory.
Processor board ID FLM1922W1BZ
3 Gigabit Ethernet interfaces
32768K bytes of non-volatile configuration memory.
4194304K bytes of physical memory.
3223551K bytes of flash memory at bootflash:.
OK bytes of WebUI ODM Files at webui:.

Configuration register is 0x2142 (will be 0x2102 at next reload)

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✎ 注意：不同的配置暫存器可能會產生意外行為。
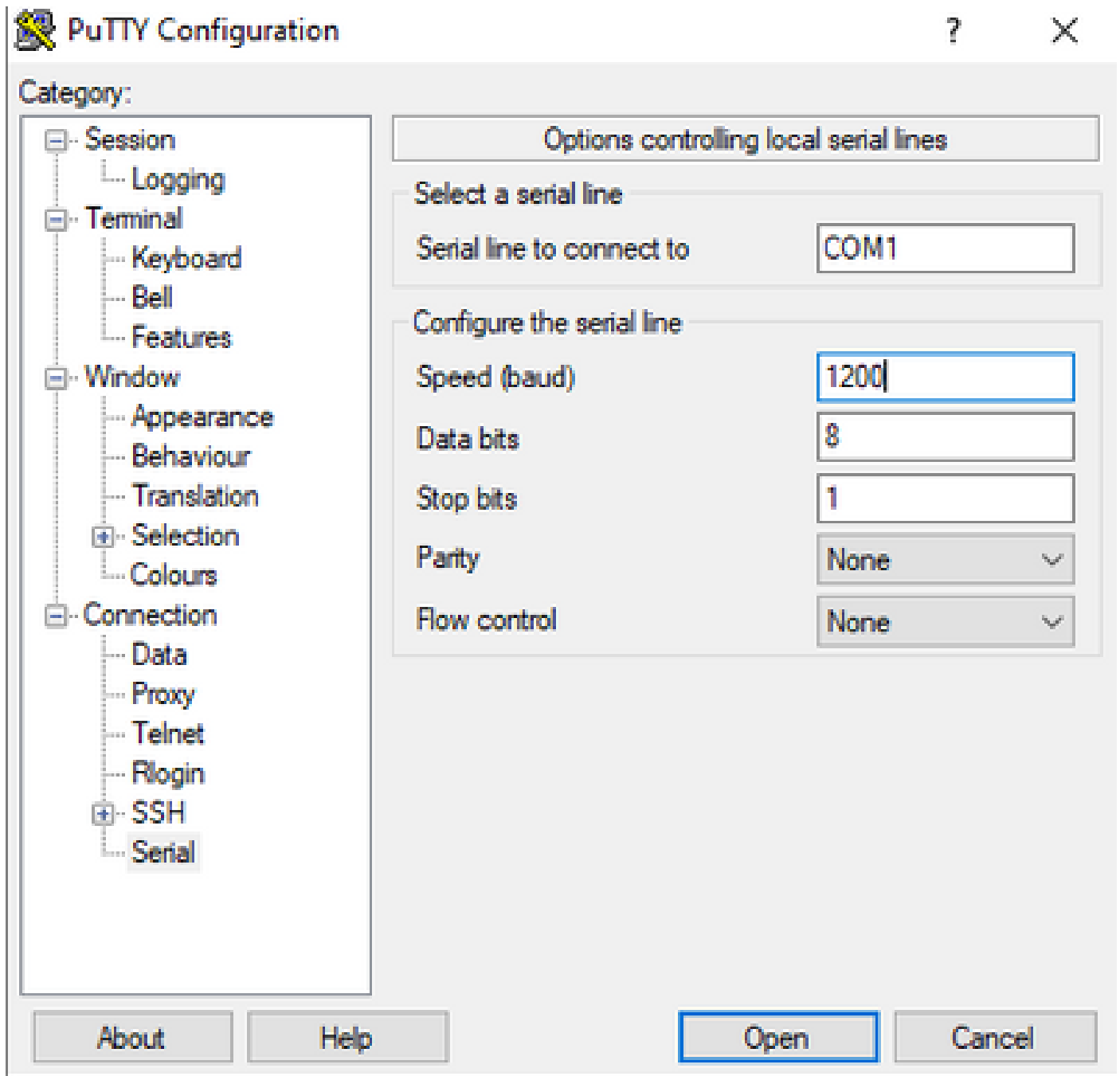
---

# 模擬Break訊號

預設串列/控制檯配置可以在Putty配置中檢視，如下圖所示。



如果路由器無法正確識別中斷訊號，可以使用Putty模擬該訊號，以便進入rommon模式。

步驟 1.為了模擬Break訊號，您必須按以下步驟設定序列/主控台組態：

- 速度：1200。
- 資料位：8。
- Srop位元：1。
- 同位：無。
- 流量控制：無。

此串列配置的配置如圖所示。

將裝置與先前的配置連線後，您將不再從控制檯看到任何輸出。這是預期行為。

步驟 2.您必須重新啟動裝置電源，然後按空格鍵10-15秒，以便在路由器中生成中斷訊號。

之後，路由器處於rommon模式，但無法看到rommon提示。

步驟 3.使用預設值開啟Putty會話，然後再次嘗試連線到控制檯。它顯示rommon提示。