



QNAP

TS-451D2

TS-451D2-2G

TS-451D2-4G

使用者指南

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1. 前言





關於本指南

本指南涵蓋裝置的相關資訊以及安裝硬體的步驟指示。此外，本指南也提供基本操作說明與疑難排解資訊。

適用對象

本文件的適用對象為消費者與儲存空間管理員。本指南預設使用者對於儲存與備份概念有基本的認識。

慣用符號

符號	說明
	注意事項。用於提供預設組態設定與其他補充資訊。
	重要注意事項。用於提供必要組態設定及其他重要資訊。
	提示。用於提供任務執行或組態設定的建議或替代方式。
	警告。忽略此類資訊可能導致潛在損失、受傷甚至死亡事故。

2. 產品概觀

本章介紹 QNAP 裝置的基本資訊。

關於 TS-451D2

TS-451D2 採用 Intel® Celeron® J4025 雙核心 2.0 GHz 處理器。TS-451D2 具備高效率的檔案管理、資料保護與 HDMI 輸出，在儲存、分享及備份檔案方面具有高儲存空間的潛力。家庭使用者可以透過串流及直接 4K HDMI 2.0 輸出，享受多媒體體驗。SOHO 使用者可以讓多位使用者在本地或遠端存取文件。NAS 最多支援 8 GB DDR4 記憶體並具備四個 USB 3.2 Gen 1 連接埠和兩個 Gigabit 乙太網路埠，提供更佳的連線能力。

硬體規格



警告


- 如果您的 QNAP 產品有硬體瑕疵，請將產品寄回 QNAP 或 QNAP 授權服務中心進行維修或換貨。只要您或未經授權的第三方嘗試修復產品或執行產品維修流程，皆會導致產品保固失效。
- 對於因未獲授權進行修改或安裝不支援之第三方應用程式所導致的任何損害或資料遺失，QNAP 一概不予負責。
- 如需詳細資訊，請參見：[QNAP 保固條款與條件](#)。



提示

型號規格如有變更，恕不另行通知。若要查看最新規格，請前往：<https://www.qnap.com>。

訂購料號	CPU	記憶體	電源供應器
TS-451D2-2G	Intel® Celeron® J4025	2 GB	AC 變壓器
TS-451D2-4G	Intel® Celeron® J4025	4 GB	AC 變壓器

元件	TS-451D2-2G	TS-451D2-4G
處理器	Intel® Celeron® J4025	
CPU	Intel® Celeron® J4025	
頻率	雙核心 2.0 GHz 基頻 / 2.9 GHz 超頻	
架構	x86 64 位元	
加密引擎	支援	
記憶體		
預載記憶體	2 GB RAM : 1 x 2 GB DDR4 SODIMM	4 GB RAM : 1 x 4 GB DDR4 SODIMM
記憶體插槽	2 x DDR4 SODIMM	
	 注意 僅限使用 QNAP 記憶體模組以維護系統效能和穩定性。若是具有一個以上記憶體插槽的 NAS 硬碟，請使用規格相同的 QNAP 記憶體模組。使用不支援的記憶體模組會導致效能降級、產生錯誤，或造成作業系統無法啟動。	
最大記憶體	8 GB RAM : 2 x 4 GB	
快閃記憶體	4 GB (雙啟動作業系統防護)	

元件	TS-451D2-2G	TS-451D2-4G
儲存空間		
硬碟插槽	4 x 3.5 吋 SATA 6 Gbps  注意 NAS 同時回溯相容 3 Gbps。	
硬碟相容性	3.5 吋插槽： <ul style="list-style-type: none"> • 3.5 吋 SATA 硬碟 • 2.5 吋 SATA 硬碟 • 2.5 吋 SATA 固態硬碟 	
SSD 快取加速技術支援	支援	
熱抽換	支援	
網路		
Gigabit 乙太網路埠	2 x GbE RJ45	
網路喚醒	是 (GbE RJ45)	
外接 I/O 埠和擴充插槽		
USB 連接埠	正面： 1 x USB 3.2 Gen 1 背面： 3 x USB 3.2 Gen 1	
HDMI 連接埠	1 x HDMI 2.0 (解析度最高 4096 x 2160 · 60 Hz)	
介面		
按鈕	<ul style="list-style-type: none"> • 電源 • USB 單鍵備份 • 重設 	
尺寸		
外型	直立式	
尺寸 (高 x 寬 x 深)	165.3 x 160 x 219.4 mm (6.50 x 6.29 x 8.63 in)	
淨重	2.09 kg (4.60 lbs)	
其他		
電源供應器	90W, 100-240V AC, 50/60 Hz	
系統電池	CR2032 鋰電池 3V	
噪音值	18.5 dB(A)  注意 從旁觀者位置 (距 NAS 一公尺內) 測試噪音值。在測試用的 NAS 中安裝最多數量的硬碟，並以低速運行。	
風扇	系統：1 x 120mmV DC	
操作溫度	0°C 到 40°C (32°F 到 104°F)	
相對濕度	<ul style="list-style-type: none"> • 不凝結相對溼度：5% 至 95% • 濕球溫度：27°C (80.6°F) 	
安全鎖	Kensington 安全插槽	



提示

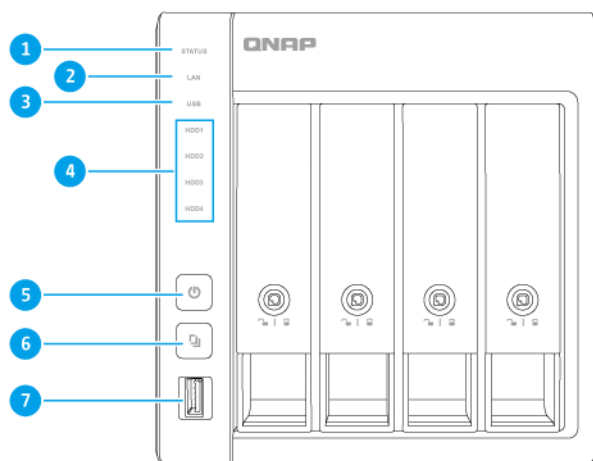
請前往 <https://www.qnap.com/compatibility>，查看相容硬碟型號及擴充卡清單。

包裝內容

項目	數量
TS-451D2	1
AC 電源變壓器	1
電源線	1
乙太網路線	1 x CAT5e
硬碟托盤鑰匙	2
3.5 吋硬碟用螺絲	8
2.5 吋硬碟用螺絲	6
快速安裝手冊 (QIG)	1

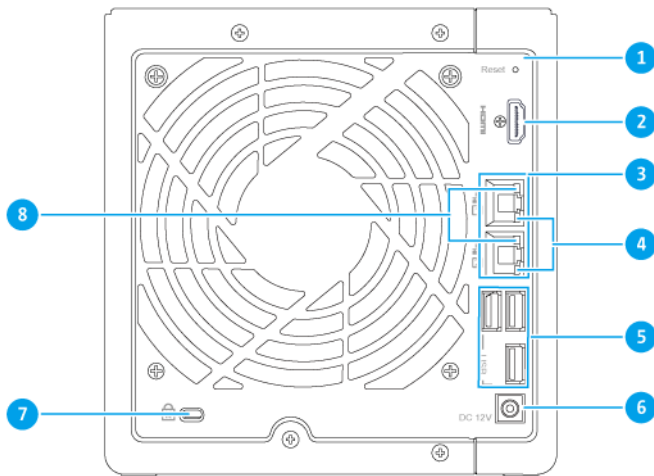
元件

前方面板



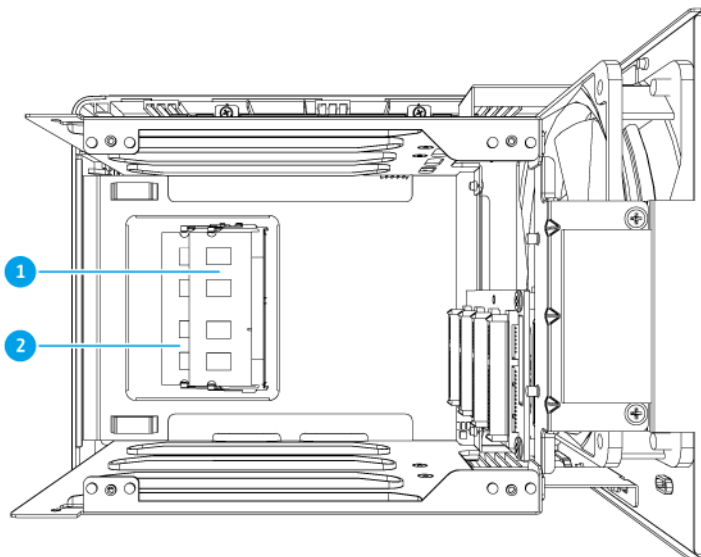
編號	元件	編號	元件
1	狀態 LED 燈	5	電源按鈕
2	LAN LED 燈	6	USB 單鍵備份按鈕
3	USB LED 燈	7	USB 3.2 Gen 1 單鍵備份 Type-A 連接埠
4	硬碟 LED 燈	-	-

背部面板



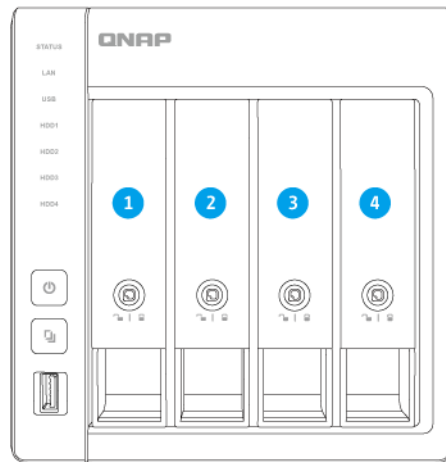
編號	元件	編號	元件
1	重設按鈕	5	USB 3.2 Gen 1 Type-A 連接埠
2	HDMI 2.0 連接埠	6	電源埠
3	Gigabit 乙太網路埠	7	Kensington 安全插槽
4	Gigabit 乙太網路速度 LED 燈	8	Gigabit 乙太網路活動 LED 燈

左側面板



編號	元件	編號	元件
1	記憶體插槽 1	2	記憶體插槽 2

硬碟編號



安全資訊

以下指示幫助確保人身安全及環境安全。執行任何操作前，請仔細閱讀本安全指示。

一般指示

- 裝置應放置在實施進出管制的場所，控管方式包括工具、鎖鑰或其他安全機制。
- 唯有具技能且獲得授權的合格裝置管理員能夠存取裝置；合格裝置管理員必須熟悉所有管制方法、安全注意事項、安裝及保養程序。
- 為避免受傷或元件損壞，在觸碰硬碟及其他內部系統元件前，請先確認其是否已經冷卻。
- 請遵守靜電放電 (ESD) 程序以防止潛在傷害或元件損壞。

電源

- 為了降低走火或觸電風險，務必只將電源線連接至正確接地的電源插座。



具有備援電源供應器的裝置可能配備一條或多條電源供應器 (PSU) 電源線。為防止嚴重傷害事故發生，在安裝或更換系統元件前，所有 PSU 電源線必須由經訓練之維修技術人員從裝置拔除。

系統電池

- 更換電池時，請務必使用相同類型的電池，以免電池爆炸造成受傷或元件損壞。
- 請遵照當地法規或電池製造商的指示妥善處置廢棄電池。

移動的零件

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轉動的風扇葉片：裝置連接至電源時，請使身體部位遠離正在轉動的風扇葉片。

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移動的元件：使身體部位遠離正在移動的其他元件。

安裝需求

類別	項目
環境	<ul style="list-style-type: none"> • 室溫：0°C 到 40°C (32°F 到 104°F) • 不凝結相對溼度：5% 至 95% • 濕球溫度：27°C (80.6°F) • 平坦且防靜電的表面，不受陽光直射，亦不與液體或化學物質接觸 • 沒有物體會阻礙 NAS 通風或者對 NAS 或電源線產生壓力
硬體和週邊設備	<ul style="list-style-type: none"> • 儲存硬碟 請前往 https://www.qnap.com/compatibility 以查看相容的硬碟機型清單。 • 網路線
工具	<ul style="list-style-type: none"> • 1 號或 2 號十字螺絲起子 • 防靜電腕帶

設定 NAS



重要

設定 NAS 或安裝 NAS 元件前，請詳閱[安全資訊](#)中所有安全要求及資訊。

1. 將 NAS 裝置放置在符合需求的環境。
如需詳細資訊，請參見：[安裝需求](#)。
2. 安裝硬碟。
如需詳細資訊，請參見下列主題：
 - [在 3.5 吋托盤上安裝 3.5 吋硬碟](#)
 - [在 3.5 吋托盤上安裝 2.5 吋硬碟或固態硬碟](#)
3. 選擇性: 更換記憶體模組。
4. 連接電源線與所有適用的網路線。

5. 開啟 NAS。
6. 安裝 QTS。
如需詳細資訊，請參見：[QTS 安裝](#)。
7. 登入 QTS。

3. 硬體安裝

本節介紹安裝硬碟、記憶體模組以及擴充卡的相關資訊。

硬碟安裝

TS-451D2 與 3.5 吋硬碟、2.5 吋硬碟以及 2.5 吋固態硬碟相容。

在 3.5 吋托盤上安裝 3.5 吋硬碟



警告

- 安裝硬碟會刪除硬碟上的所有資料。
- 請遵守靜電放電 (ESD) 程序以防止元件損壞。

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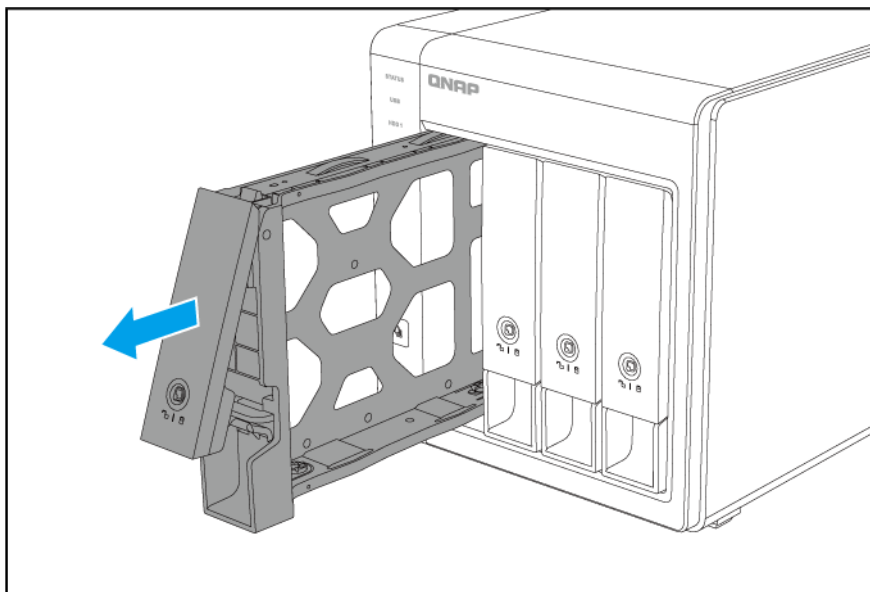
轉動的風扇葉片：使雙手及身體其他部位遠離正在轉動的風扇葉片。

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其他移動的元件：使雙手及身體其他部位遠離正在移動的其他元件。

1. 關閉 NAS 電源。
2. 取出硬碟托盤。
 - a. 拉把手以鬆開托盤。
 - b. 將托盤拉出。



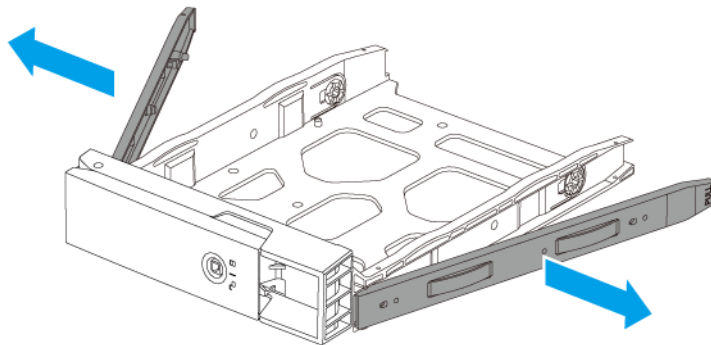
**注意**

預載的硬碟托盤會變成解鎖狀態。

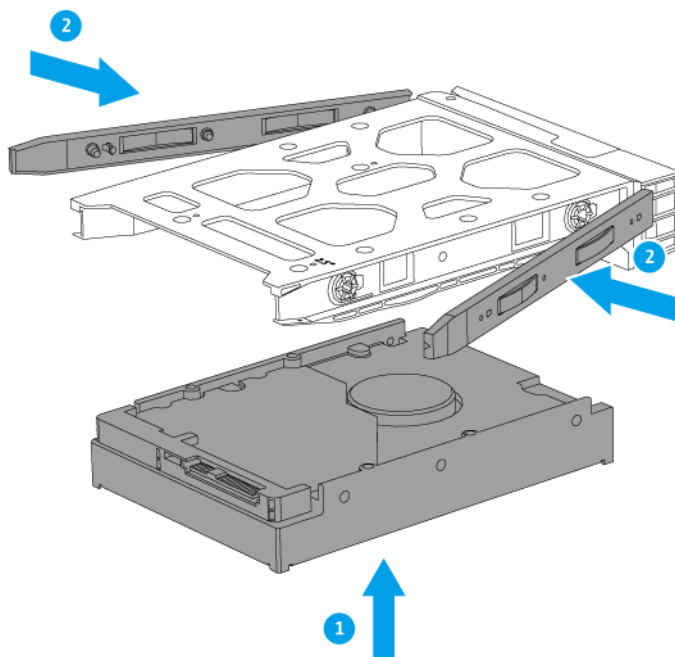
**重要**

確認已將硬碟托盤鑰匙放置在安全位置。

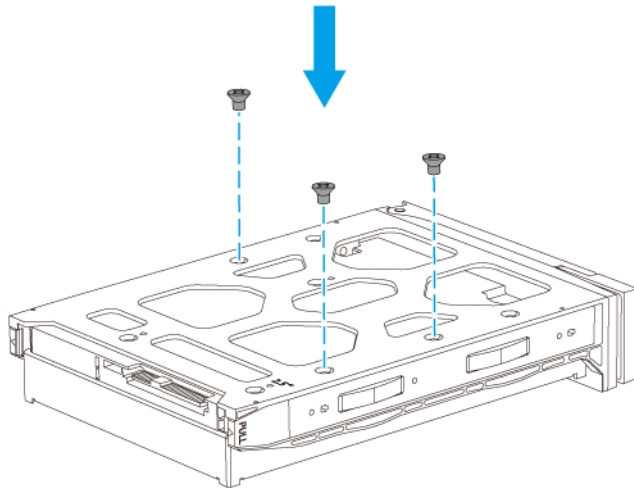
3. 在托盤上安裝硬碟。
 - a. 取下硬碟托盤兩側的固定面板。



- b. 將硬碟放在托盤上，讓硬碟兩側的孔洞與托盤兩側的孔洞對齊。
 - c. 裝上固定面板，將硬碟鎖定在托盤上。

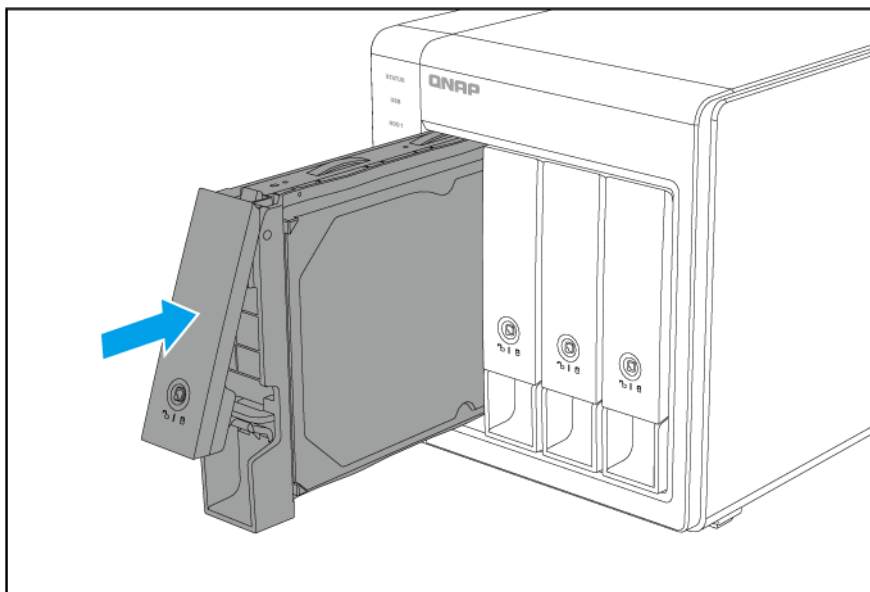


- d. 鎖上螺絲。

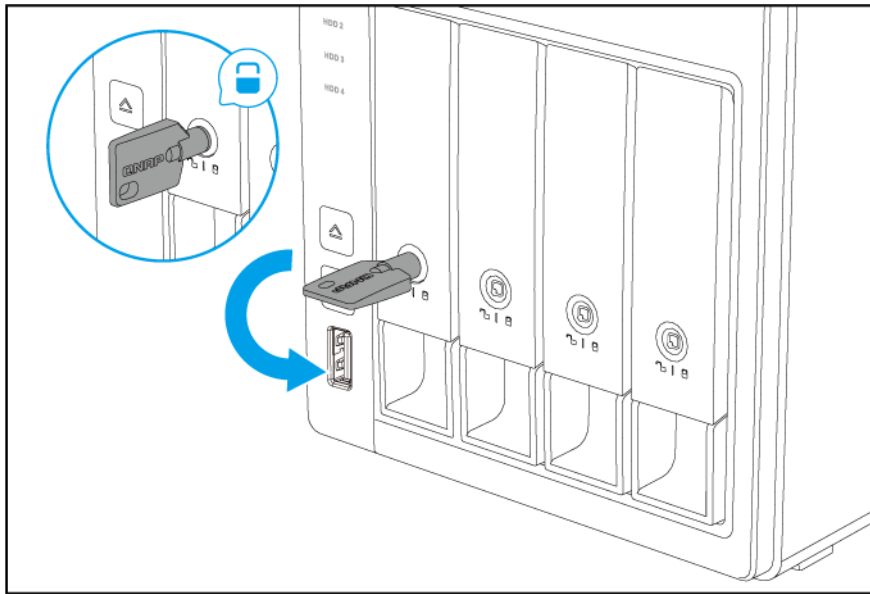


- 4. 將托盤裝入插槽。

- a. 將托盤插入插槽。
- b. 推入把手。



- c. 將托盤上鎖。



5. 開啟 NAS。

在 3.5 吋托盤上安裝 2.5 吋硬碟或固態硬碟



警告

- 安裝硬碟會刪除硬碟上的所有資料。
- 請遵守靜電放電 (ESD) 程序以防止元件損壞。

-



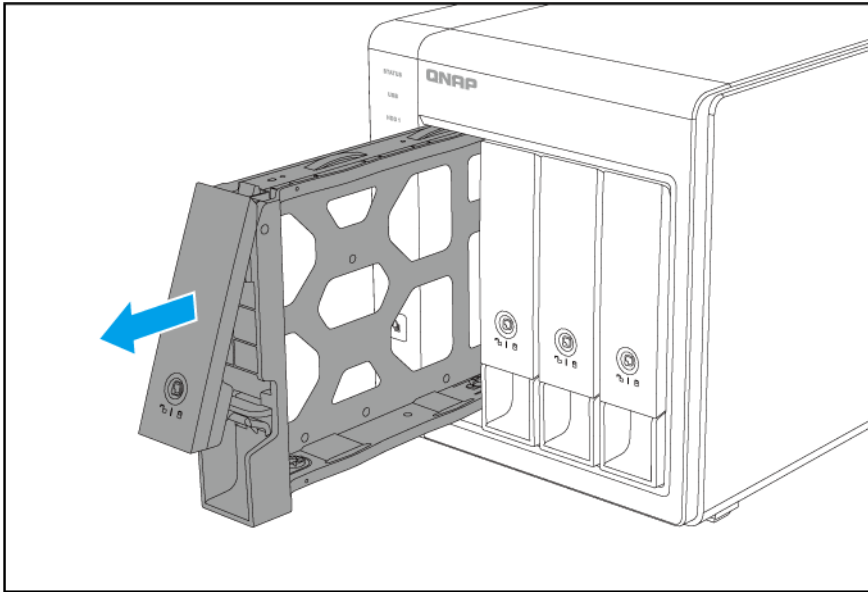
轉動的風扇葉片：使雙手及身體其他部位遠離正在轉動的風扇葉片。

-



其他移動的元件：使雙手及身體其他部位遠離正在移動的其他元件。

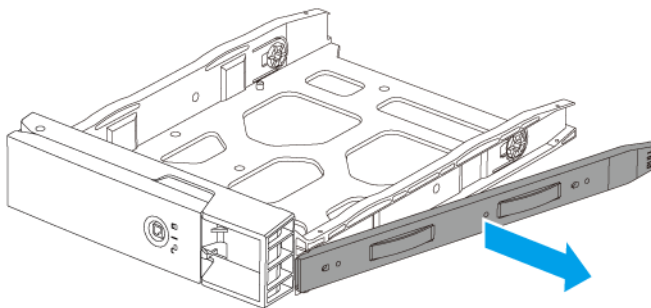
1. 關閉 NAS 電源。
2. 取出硬碟托盤。
 - a. 拉把手以鬆開托盤。
 - b. 將托盤拉出。



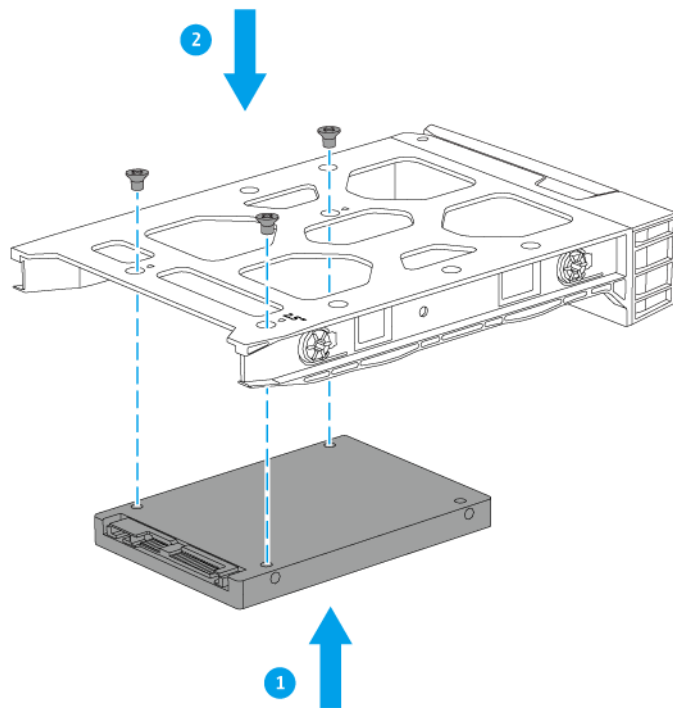
注意
預載的硬碟托盤會變成解鎖狀態。

重要
確認已將硬碟托盤鑰匙放置在安全位置。

3. 在托盤上安裝硬碟。
 - a. 取下硬碟托盤右側的固定面板。

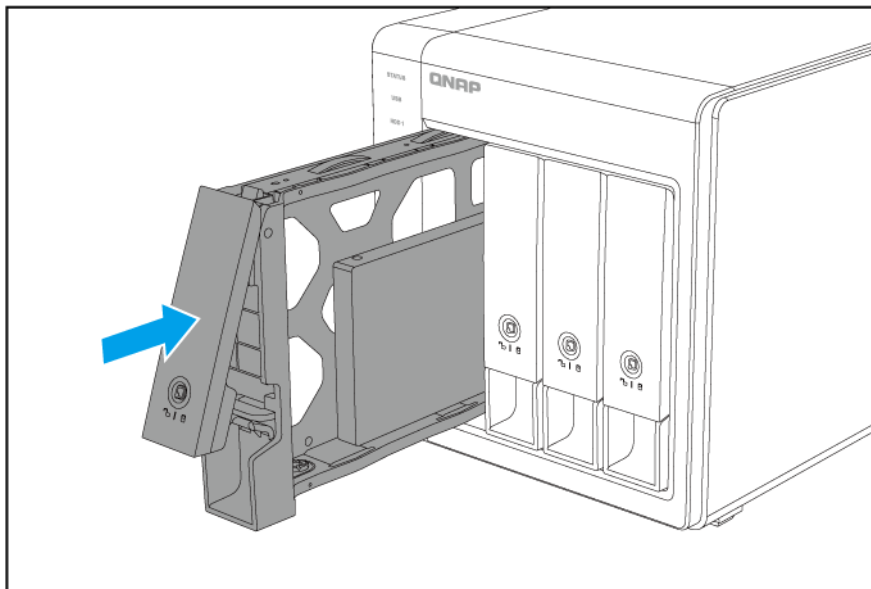


- b. 將硬碟放在托盤上，讓硬碟底部的孔洞與托盤底部的孔洞對齊。
 - c. 鎖上螺絲。

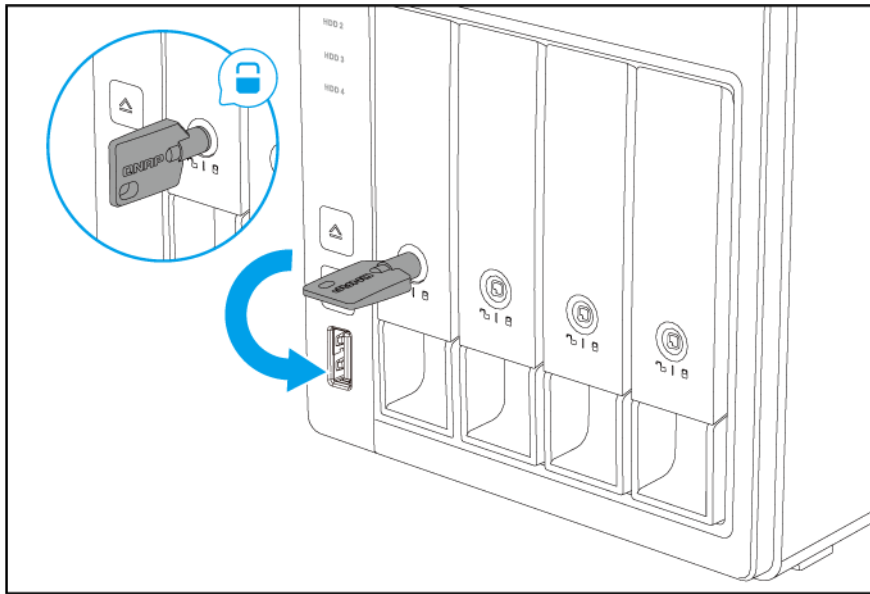


4. 將托盤裝入插槽。

- a. 將托盤插入插槽。
- b. 推入把手。



- c. 將托盤上鎖。



5. 開啟 NAS。

安裝擴充設備

TS-451D2 支援 USB 擴充設備。如需詳細資訊，請參見下方表格。

若要將裝置連接到 USB 擴充設備，需要使用 USB Type-A 轉 USB Type-C 的連接線。

您可以向 QNAP 或授權經銷商購買儲存擴充配件。

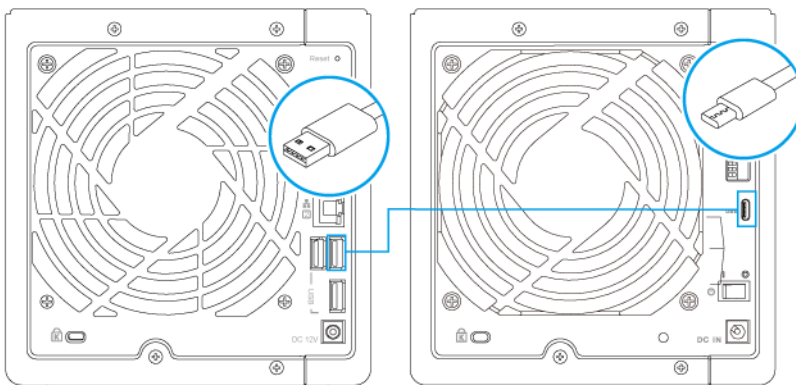
如需詳細資訊，請瀏覽：<https://shop.qnap.com/>。

如需相容擴充設備清單以及適用擴充設備的數量上限，請前往：<http://www.qnap.com/go/compatibility-expansion>。

擴充設備型號	說明	必要配件
TR-002	<ul style="list-style-type: none"> • 使用 USB 3.2 Gen 2 Type-C 介面 • 支援 SATA 硬碟 	USB 3.2 Gen 2 Type-A 轉 Type-C 連接線
TR-004	<ul style="list-style-type: none"> • 使用 USB 3.2 Gen 1 Type-C 介面 • 支援 SATA 硬碟 	USB 3.2 Gen 1 Type-A 轉 Type-C 連接線
TR-004U	<ul style="list-style-type: none"> • 使用 USB 3.2 Gen 1 Type-C 介面 • 支援 SATA 硬碟 	<ul style="list-style-type: none"> • USB 3.2 Gen 1 Type-A 轉 Type-C 連接線 • RAIL-B02
TL-D800C	<ul style="list-style-type: none"> • 使用 USB 3.2 Gen 2 Type-C 介面 • 支援 SATA 硬碟 	USB 3.2 Gen 2 Type-A 轉 Type-C 連接線

擴充設備型號	說明	必要配件
TL-R1200C-RP	<ul style="list-style-type: none"> • 使用 USB 3.2 Gen 2 Type-C 介面 • 支援 SATA 硬碟 	USB 3.2 Gen 2 Type-A 轉 Type-C 連接線

1. 將擴充設備連接至 NAS。
 - a. 將 USB 連接線接至擴充設備上的 USB Type-C 連接埠。
 - b. 將 USB 連接線接至 NAS 上的 USB 3.2 Gen 1 Type-A 連接埠。



注意

您可以在具備 USB Type-C 連接埠的 NAS 上，使用 Type-C 轉 Type-C 連接線。

2. 開啟擴充設備的電源。
3. 確認 NAS 可辨識所有擴充設備。
 - a. 請以管理員身分登入 QTS。
 - b. 前往 [主選單] > [儲存與快照總管] > [總覽] > [系統]。
 - c. 確認畫面列出擴充設備。

更換記憶體模組

僅限使用 QNAP 記憶體模組以維護系統效能和穩定性。您可向授權經銷商購買 QNAP 記憶體模組。



警告

- 請遵守靜電放電 (ESD) 程序以防止元件損壞。

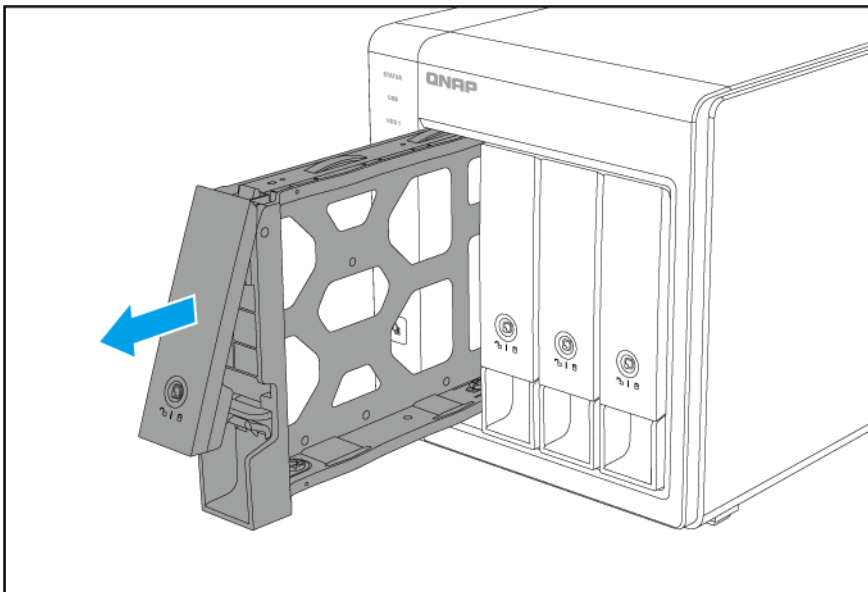


轉動的風扇葉片：使雙手及身體其他部位遠離正在轉動的風扇葉片。



其他移動的元件：使雙手及身體其他部位遠離正在移動的其他元件。

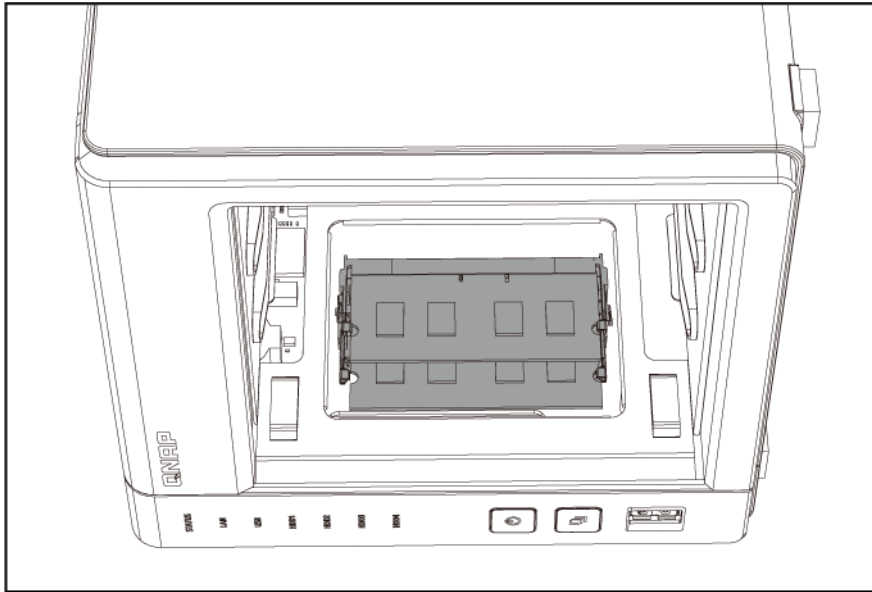
1. 關閉裝置的電源。
2. 從電源插座拔下電源線。
3. 中斷所有連接線和外接裝置的連線。
4. 取出硬碟托盤。
 - a. 拉把手以鬆開托盤。
 - b. 將托盤拉出。



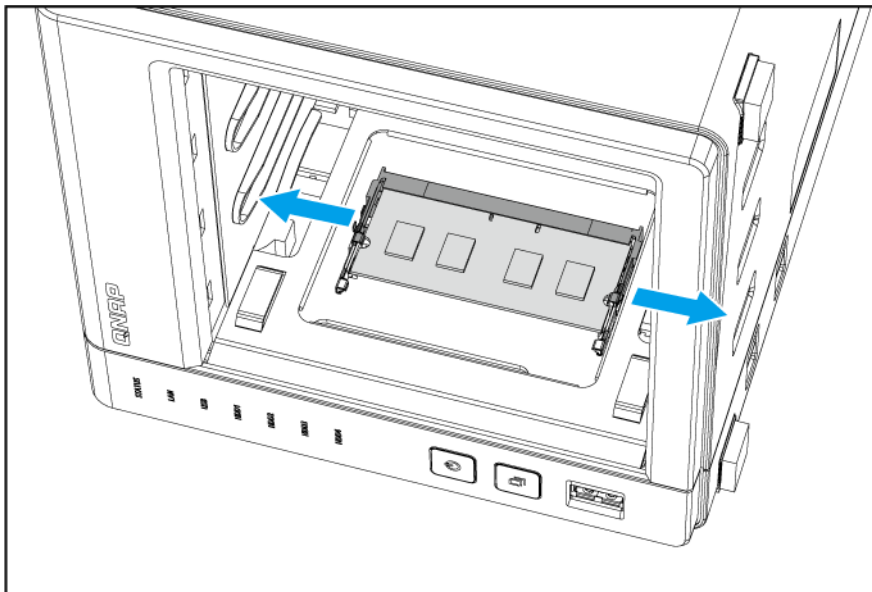
重要

請記下每個硬碟的編號，硬碟托盤之後必須再放回原本的插槽。
如需詳細資訊，請參見：[硬碟編號](#)。

5. 將裝置置於其左側。



6. 取下現有的記憶體模組。
 - a. 將固定夾同時往外推以鬆開記憶體模組。

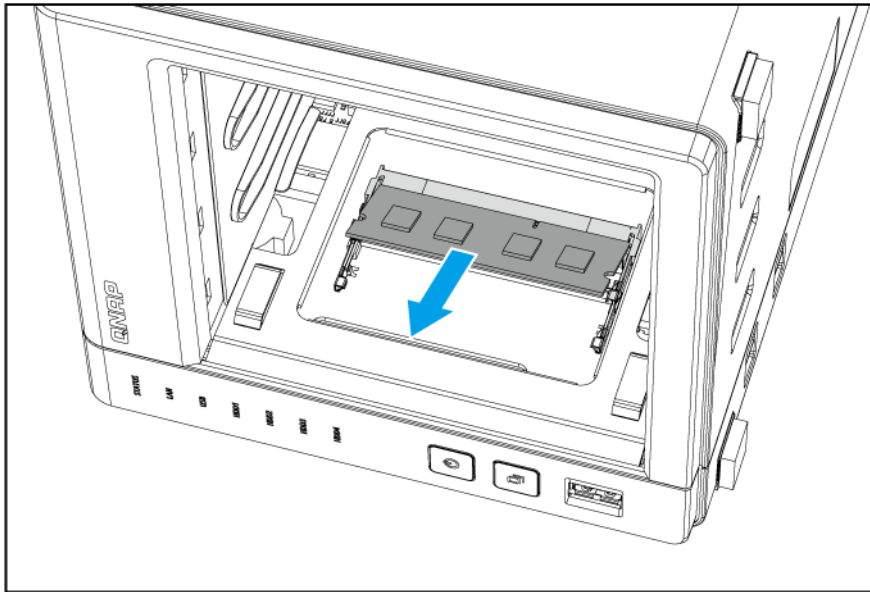


- b. 確認記憶體模組已向上傾斜且完全從插槽鬆脫。

**警告**

若嘗試取下未完全鬆脫的記憶體模組，可能會損壞記憶體模組與主機板。

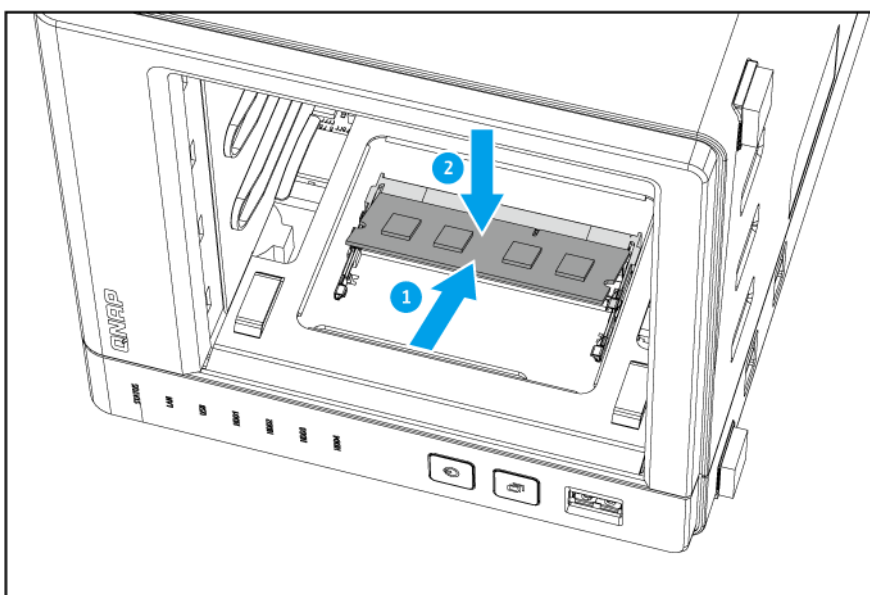
- c. 握住模組的邊緣。
 - d. 小心地將模組滑出插槽。

**警告**

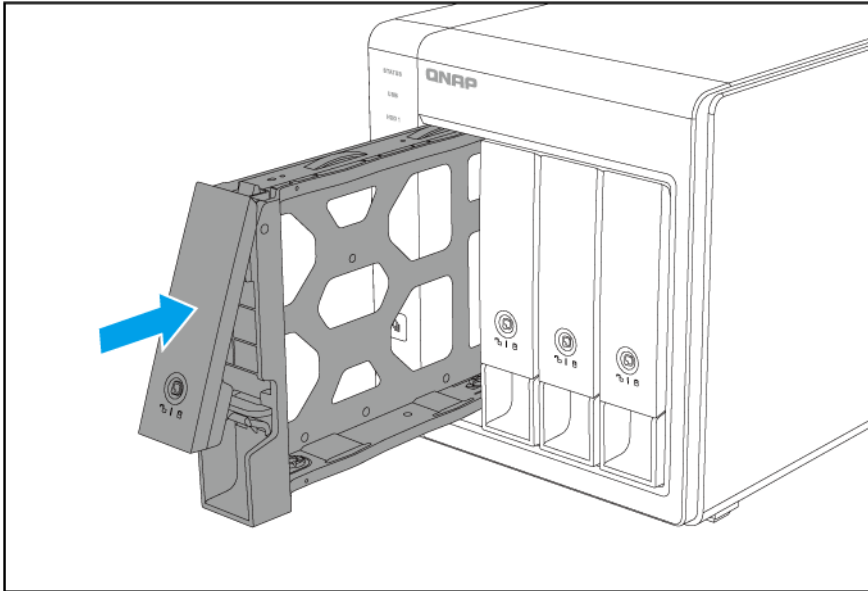
- 請勿觸碰內部元件，尤其是金屬接頭。
- 請勿彎折記憶體模組。

7. 安裝新的記憶體模組。

- a. 將接口與插槽的凸出部分對齊。
- b. 將記憶體模組插入插槽。
- c. 確認金屬接頭已完全插入插槽。
- d. 小心按下記憶體模組，直到固定夾正確扣住記憶體模組。



8. 將裝置正常直立。
9. 將硬碟托盤放回原本的插槽。
 - a. 將硬碟托盤推入硬碟插槽。
 - b. 推入把手。



10. 連上所有連接線和外接裝置。
11. 開啟裝置。
12. 確認裝置可辨識記憶體模組。
 - a. 以管理員身分登入 QTS。
 - b. 前往 [控制台] > [系統] > [系統狀態] > [硬體資訊]。
 - c. 查看 [記憶體總容量] 的值。

4. QTS 安裝

方法	說明	需求
Qfinder Pro 安裝 (建議使用)	<p>如果 NAS 已連接您的區域網路，您可以執行下列操作：</p> <ul style="list-style-type: none"> • 使用 Qfinder Pro 定位 NAS。 • 完成 [智慧安裝導引] 精靈中的步驟。 	<ul style="list-style-type: none"> • 電腦 • 網路線 • Qfinder Pro 安裝程式
雲端安裝	<p>如果 NAS 已連接網際網路，您可以執行下列操作：</p> <ul style="list-style-type: none"> • 掃描 NAS 上的 QR 碼。 • 指定 Cloud Key。 • 登入 myQNAPcloud 帳號。 • 使用 myQNAPcloud Link 遠端存取您的 NAS。 • 完成 [智慧安裝導引] 精靈中的步驟。 	<ul style="list-style-type: none"> • 電腦或行動裝置 • myQNAPcloud 帳號 • Cloud Key
本機安裝	<p>如果 NAS 支援 HDMI 輸出，您可以執行下列操作：</p> <ul style="list-style-type: none"> • 將 NAS 連接至所需的硬碟。 • 完成 [智慧安裝導引] 精靈中的步驟。 	<ul style="list-style-type: none"> • 監控器 • HDMI 連接線 • USB 鍵盤或遙控器 (並非所有型號皆有提供)

使用 Qfinder Pro 安裝 QTS



警告

安裝 QTS 會刪除硬碟上的所有資料。繼續操作前請先備份資料。

1. 開啟 NAS。
2. 將 NAS 連接至區域網路。
3. 在連接相同區域網路的電腦上執行 Qfinder Pro。



注意

若要下載 Qfinder Pro，請前往 <https://www.qnap.com/utilities>。

4. 在清單中找到 NAS，然後按兩下它的名稱或 IP 位址。
[智慧安裝導引] 隨即在預設的網頁瀏覽器中開啟。
5. 按一下 [啟動智慧安裝導引]。
6. 指定下列資訊。
 - **NAS 名稱**：指定 1 到 14 個字元的名稱。名稱支援使用英文字母 (A 到 Z、a 到 z)、數字 (0 到 9) 以及連字號 (-)，但不能以連字號做結尾。

- **密碼**：指定 1 到 64 個字元的管理員密碼。密碼支援使用所有 ASCII 字元。

7. 按一下 [下一步] 。
8. 指定時區、日期和時間。

**提示**

QNAP 建議連接至 NTP 伺服器，以確保 NAS 符合國際標準時間 (UTC) 的標準。

9. 按一下 [下一步] 。
 10. 選擇 [自動取得 IP 位址 (DHCP)] 。
 11. 按一下 [下一步] 。
 12. 選擇將用於存取 NAS 共用資料夾的裝置類型。
 13. 按一下 [下一步] 。
 14. 檢視設定值。
 15. 按一下 [套用] 。
- 確認訊息隨即出現。

**警告**

按一下 [確認] 後，系統會在安裝 QTS 前刪除硬碟的所有資料。

16. 按一下 [確認] 。
- QTS 安裝完成。

使用 Cloud Key 安裝 QTS

**警告**

安裝 QTS 會刪除硬碟上的所有資料。繼續操作前請先備份資料。

1. 開啟 NAS 。
2. 將 NAS 連接至網際網路。
3. 使用下列其中一種方式前往 QNAP 雲端安裝頁面：
 - 使用電腦前往 <http://install.qnap.com/> 。
 - 使用行動裝置掃描 NAS 上的 QR 碼。

該網頁列出區域網路內所有未初始化的 QNAP NAS 裝置。

4. 在清單中找出自己的 NAS，然後按一下 [初始化] 。

**注意**

如果未列出您的 NAS，請按照網頁上的指示指定 NAS 的 Cloud Key。

安裝精靈隨即在預設的網頁瀏覽器中開啟。

5. 建立帳號或登入 myQNAPcloud 。

**注意**

建立帳號之後，必須返回此頁面完成安裝步驟。

- 指定 NAS 的 myQNAPcloud 裝置名稱。



注意

- 遠端存取 NAS 時，需要用到 myQNAPcloud 裝置名稱。
- 基於安全考量，NAS 將於初始化後停用 myQNAPcloud Link 遠端連線服務。日後若要再度啟用，請透過 LAN 連接至 QTS，然後安裝 myQNAPcloud Link。

- 按一下 [下一步]。
[智慧安裝導引] 隨即在預設的網頁瀏覽器中開啟。
- 按一下 [啟動智慧安裝導引]。
- 指定下列資訊。
 - NAS 名稱**：指定 1 到 14 個字元的名稱。名稱支援使用英文字母 (A 到 Z、a 到 z)、數字 (0 到 9) 以及連字號 (-)，但不能以連字號做結尾。
 - 密碼**：指定 1 到 64 個字元的管理員密碼。密碼支援使用所有 ASCII 字元。
- 按一下 [下一步]。
- 指定時區、日期和時間。



提示

QNAP 建議連接至 NTP 伺服器，以確保 NAS 符合國際標準時間 (UTC) 的標準。

- 按一下 [下一步]。
- 選擇 [自動取得 IP 位址 (DHCP)]。
- 按一下 [下一步]。
- 選擇將用於存取 NAS 共用資料夾的裝置類型。
- 按一下 [下一步]。
- 檢視設定值。
- 按一下 [套用]。
確認訊息隨即出現。



警告

按一下 [確認] 後，系統會在安裝 QTS 前刪除硬碟的所有資料。

- 按一下 [確認]。
QTS 安裝完成。

使用 HDMI 連線安裝 QTS



警告

安裝 QTS 會刪除硬碟上的所有資料。繼續操作前請先備份資料。

- 將 HDMI 顯示器連接至 NAS。
- 將 USB 鍵盤連接至 NAS，或準備 QNAP 紅外線 (IR) 遙控器 (並非所有型號皆有提供)。
- 開啟 NAS。

智慧安裝導引的 [歡迎] 畫面隨即出現。

4. 選擇 [啟動智慧安裝導引] 。
5. 選擇 [否，略過這個程序] 。
- 若啟用多媒體功能，您就能在 [儲存與快照總管] 中設定硬碟之後，安裝多媒體應用程式。
- 如需在 QTS 啟用多媒體功能的詳細資訊，請參見《QTS 使用者指南》的 < 系統管理 > 一節。
6. 選擇 [稍後設定] 。
- 如需設定硬碟的詳細資訊，請參見《QTS 使用者指南》的 < 儲存與快照總管 > 一節。
7. 檢視設定值。
8. 按一下 [下一步] 。
9. 檢視設定值。
10. 按一下 [下一步] 。
- 確認畫面隨即出現。

**警告**

按一下 [下一步] 後，系統會在安裝 QTS 前刪除硬碟的所有資料。


11. 按一下 [下一步] 。
- QTS 安裝完成。

5. 基本操作

本章介紹 NAS 的基本操作。

電源按鈕

操作	使用者動作	結果
開啟電源	按一下按鈕。	裝置開機。
關閉電源	按住按鈕 1.5 秒。	裝置關機。
強制關機	按住按鈕 5 秒。	裝置關機。



重要
請在裝置沒有回應時才使用此方法。

重設按鈕

操作	使用者動作	結果
系統基本重設	按住按鈕 3 秒。	<p>以下設定將回復至預設值：</p> <ul style="list-style-type: none"> • 系統管理員密碼：預設密碼為第一個 MAC 位址 (不包含特殊字元)。例如，若第一個 MAC 位址為 00-08-9B-F6-15-75，則管理員密碼為 00089BF61575。 <div style="border: 1px solid black; padding: 5px; margin-top: 10px;">  <p>提示 您可以透過 Qfinder Pro 找到第一個 MAC 位址。黏貼至裝置的標籤亦將位址列為 MAC1。</p> </div> <ul style="list-style-type: none"> • TCP/IP 設定： <ul style="list-style-type: none"> • 透過 DHCP 自動取得 IP 位址設定 • 停用 Jumbo Frame • 若已啟用 Port Trunking (僅適用於支援多 LAN 的型號)，系統將重設為「Active Backup (網路容錯)」模式。 • 系統通訊埠：8080 (系統服務埠) • 安全等級：低 (接受所有連線) • VLAN：已停用

操作	使用者動作	結果
系統進階重設	按住按鈕 15 秒。	回復為出廠預設值。 <ul style="list-style-type: none"> 若要在系統進階重設後取得舊有資料，請在 NAS 上重建先前的資料夾結構。

USB 單鍵備份按鈕

您可以使用 [USB 單鍵備份] 按鈕，將資料從 USB 裝置備份至 NAS，或從 NAS 備份至 USB 裝置。

本功能支援增量備份。NAS 僅複製上次備份後修改或新增的檔案。

LED 燈號

LED 燈號指示裝置開機時的系統狀態與相關資訊。下列 LED 燈號資訊僅適用於已正確安裝硬碟，且裝置已連線至網路或主機的狀態下。

如需 LED 燈號的位置資訊，請參見：[元件](#)。

LED	狀態	說明
系統狀態	綠燈與紅燈每 0.5 秒交錯閃爍	<ul style="list-style-type: none"> • 硬碟正在格式化。 • 裝置正在初始化。 • 作業系統正在更新。 • RAID 重建作業正在進行。 • 線上 RAID 容量擴充正在進行。 • 線上 RAID 組態遷移正在進行。 • 韌體正在更新。 <p> 注意 請勿在韌體更新期間拔下電源線或 USB 連接線，也不要強制結束應用程式。</p>
	紅燈	<ul style="list-style-type: none"> • 硬碟無效。 • 磁碟區容量已滿。 • 磁碟區容量將滿。 • 系統風扇異常。 • 資料存取 (讀寫) 錯誤。 • 硬碟壞軌。 • 裝置處於降階唯讀模式 (RAID 5 或 RAID 6 有兩個硬碟故障，但資料仍可讀取)。 • 硬體自我檢查發生錯誤。
	紅燈每 0.5 秒閃爍	裝置處於降階模式 (RAID 1、RAID 5 或 RAID 6 有一個硬碟故障)。
	紅燈閃爍一次	裝置收到遙控器的指令。
	綠燈	裝置已就緒。
	綠燈每 0.5 秒閃爍	<ul style="list-style-type: none"> • 裝置未設定。 • 硬碟未格式化。
	關閉	<ul style="list-style-type: none"> • 所有硬碟處於待命模式。 • 裝置已關機。
硬碟	紅燈閃爍	資料存取中並發生讀寫錯誤。
	紅燈	硬碟讀寫錯誤。
	綠燈閃爍	正在存取資料。
	綠燈	硬碟已就緒
	關閉	偵測不到硬碟。
區域網路	橙燈	網路執行速度為 1 Gbps。
	橙燈閃爍	使用者正在從網路存取裝置。
	關閉	裝置未連接至網路。

LED	狀態	說明
1 Gigabit 乙太網路速度	綠燈	網路執行速度為 1 Gbps。
	橙燈	網路執行速度為 100 Mbps。
	關閉	<ul style="list-style-type: none"> 網路執行速度為 10 Mbps。 無網路連線。
1 Gigabit 乙太網路活動	橙燈	網路連線已建立。
	橙燈閃爍	使用者正在從網路存取裝置。
	關閉	無網路連線。
USB	藍燈	偵測到 USB 裝置已連接至 USB 單鍵備份埠。
	關閉	未偵測到 USB 擴充設備。

警示音

持續期間	頻率	說明
短嗶 (0.5 秒)	1	<ul style="list-style-type: none"> NAS 啟動中。 按住重設按鈕 3 秒鐘後，NAS 將重設配置。 按住重設按鈕 10 秒鐘後，NAS 將重設配置並重新啟動。 作業系統已更新。 裝置正在啟動 USB 單鍵備份。
	2	USB 裝置已移除 (USB 單鍵備份按鈕)。
	3	<ul style="list-style-type: none"> 偵測不到安裝的硬碟。 無法將 NAS 資料複製到連接正面 USB 埠的外接硬碟。

持續期間	頻率	說明
長嗶 (1.5 秒)	3 聲 (每 5 分鐘)	<ul style="list-style-type: none"> • 電源發生錯誤。 • 系統風扇異常。 • 風扇模組已移除。
	2	<ul style="list-style-type: none"> • 儲存池容量即將用盡。 • 儲存池容量已滿。 • 發生儲存池狀態錯誤。 • 磁碟區容量將滿。 • 磁碟區容量已滿。 • USB 裝置正在移除 (USB 單鍵備份按鈕)。 • 磁碟區狀態發生錯誤。 • 插入或抽出硬碟。 • iSCSI 容量即將用盡。
	1	<ul style="list-style-type: none"> • NAS 強制關機 (硬體關機) 。 • NAS 成功開機且可供使用。
長嗶聲及短嗶聲	1 次長嗶聲及 2 次短嗶聲	JBOD 擴充設備已移除。

6. NAS 遷移

您可以透過將所有硬碟從來源 NAS 安裝到目標 NAS，將資料和設定從目前的 NAS 遷移到另一個 NAS 機型，使遷移的干擾程度降到最低。遷移後，RAID 配置和其他設定將保留在目標 NAS 上。

NAS 遷移需求

您只能根據來源 NAS，將硬碟遷移到特定的 NAS 機型。有關相容於直接 NAS 遷移的機型，請參閱：<https://www.qnap.com/en/nas-migration> 中的清單。

裝置應符合以下要求：

- QTS NAS 支援多種類型的 NAS 遷移：
 - 從 ARM NAS 到 ARM NAS
 - x86 NAS 到 x86 NAS
 - 從 ARM NAS 到 x86 NAS



注意

您不能從 x86 NAS 遷移到 ARM NAS。


- 目標 NAS 必須在與來源 NAS 相同的 QTS 版本上執行（或更高版本）。
- 目標 NAS 必須具有足夠的可用硬碟插槽，以容納要從來源 NAS 遷移的所有硬碟。

對於不支援 NAS 遷移的 NAS 機型，可以利用 HBS 來遷移現有資料。有關詳細資訊，請參閱：[利用 HBS 複製 NAS 資料](#)。

NAS 遷移後的狀態和設定變更

NAS 遷移之後，資料和設定的狀態會隨著改變。

資料和設定	NAS 遷移後
myQNAPcloud 註冊名稱	您的 myQNAPcloud 註冊名稱不會遷移。
加密磁碟區	<p>如果 NAS 不支援檔案系統加密，加密磁碟區就不會遷移。</p> <p> 警告 為避免資料遺失，請備份加密磁碟區的加密金鑰並將其保存在安全的地方。您也可以選擇在遷移之前解密磁碟區。</p>
共用資料夾	<p>所有共用資料夾及其中的檔案會被保留。</p> <p> 警告 為避免資料遺失，請在遷移之前將加密金鑰或加密共享資料夾的密碼備份並保存在安全的地方。</p> <p> 重要 遷移後，必須重新設定目標 NAS 上的資料夾權限。</p>

資料和設定	NAS 遷移後
網路	<ul style="list-style-type: none"> 如果目標 NAS 上的網路連接埠數量或網路連接埠規格與來源 NAS 不同，以下網路和虛擬設定可能會變更並需要重新設定：Port Trunking、虛擬機器、Thunderbolt、USB QuickAccess 等。 當來源 NAS 在 QTS 4.3.5 或更早版本上執行時，必須重新設定網路。
Windows AD 配置	必須重新設定 Windows AD 配置。
授權	授權不會遷移。  警告 為了避免遺失所有軟體授權，QNAP 建議在資料遷移之前在來源 NAS 上停用授權。
應用程式	如果目標 NAS 的記憶體少於來源 NAS 的記憶體，以下功能和應用程式可能無法執行：Virtualization Station、Qsirch 和快照總管。
服務	只能使用目標 NAS 所支援的服務。
多媒體功能	部分多媒體功能預設停用。

遷移 NAS



重要

在執行 NAS 遷移之前，請確保您了解所有要求以及遷移後可能發生的變化。如需詳細資訊，請參見下列主題。

- [NAS 遷移需求](#)
- [NAS 遷移後的狀態和設定變更](#)

1. 關閉來源 NAS 和目標 NAS 的電源。
2. 取出硬碟。



重要

QNAP 建議在安裝硬碟時遵照來源 NAS 硬碟的順序。要移除硬碟時，請記下硬碟托盤順序。

- a. 從來源 NAS 取出硬碟。
 - b. 從目標 NAS 取出硬碟托盤。
3. 安裝硬碟。
 - a. 將來源 NAS 硬碟安裝到目標 NAS 硬碟托盤上。
 - b. 將硬碟托盤插入目標 NAS。
 4. 打開目標 NAS 的電源。
 5. 在目標 NAS 上以管理員身份登入 QTS。
目標 NAS 自動檢查最新的韌體更新。

利用 HBS 遷移 NAS 資料

針對不支援直接遷移的 NAS 機型，您可以初始化目標 NAS，然後透過 HBS 3 從來源 NAS 複製資料到目標 NAS。

準備目標 NAS

1. 登入 QTS。
2. 建立一個或多個儲存池。
 - 有關詳細資訊，請參閱：《QTS 使用者指南》中的「建立儲存池」主題。
3. 建立一個或多個磁碟區。
 - 如需詳細資訊，請參閱：《QTS 使用者指南》中的「建立磁碟區」主題。
4. 在目標 NAS 上建立共用資料夾
 - 有關詳細資訊，請參閱：《QTS 使用者指南》中的「建立共用資料夾」主題。
5. 將 HBS 3 安裝到目標 NAS。
 - a. 前往 [App Center]。
 - b. 搜尋 HBS 3。
 - c. 按一下 [安裝]。
 - HBS 3 已安裝在目標 NAS 上。
6. 在目標 NAS 上啟用遠端伺服器設定。
 - a. 前往 [App Center] > [HBS] > [服務]。
 - b. 按一下 [啟動 RTRR 伺服器]。
 - RTRR 伺服器設定視窗隨即出現。
 - c. 指定 [RTRR 伺服器] 設定。

設定	說明
密碼	設定長度為 1 到 16 個字元的密碼，可包含下列任一類型的字元： <ul style="list-style-type: none"> • 字母：A 到 Z · a 到 z • 數字：0 到 9 • 特殊字元：.-_~!@#\$%^&(){} • 開頭或結尾不能為空格。
連接埠	指定 RTRR 伺服器的存取埠號。

7. 按一下 [套用]。
 - 確認視窗隨即出現。
8. 按一下 [確定]。
 - 遠端伺服器設定已完成。

建立單向同步工作

1. 在來源 NAS 上，前往 [App Center] > [HBS 3] > [同步]。

2. 按一下 [立即同步] 。
3. 選擇 [單向同步工作] 。
- [建立同步工作] 視窗隨即出現。
4. 按一下 [遠端 NAS] 。
- [建立儲存空間] 視窗隨即出現。
5. 選擇目標 NAS 作為目標儲存空間並指定以下內容：

設定	說明
名稱	用於識別儲存空間的名稱
IP 位址/主機名稱	用於存取儲存空間的 IP 位址或主機名稱  提示 按一下 🔍 掃描可用的裝置。
連接埠	用於存取儲存空間的埠號 此值必須介於 1 - 65535 之間。
密碼	用於存取儲存空間的密碼
使用 SSL 連線	存取遠端 NAS 時需用 SSL 連線



6. 選擇性: 測試網路連線。

測試	說明
偵測伺服器	測試所選儲存空間的存取性。
速度測試	測試所選儲存空間的網路連線速度。

7. 按一下 [建立] 。
8. 按一下 [選擇] 。
9. 選取配對資料夾。



重要

- 在所選擇資料夾中已選取所有子資料夾和檔案。
 - 每個作業最多只能同步 16 個配對資料夾。
- a. 在來源下方，按一下  。
 - 對話方塊隨即開啟。
 - b. 選擇資料夾。
 - c. 按一下 [確定] 。
 - 對話方塊隨即關閉。
 - d. 在目的地下方，按一下  。
 - 對話方塊隨即開啟。
 - e. 選擇資料夾。
 - f. 按一下 [確定] 。
 - 對話方塊隨即關閉。
 - g. 選擇性: 如有必要，加入更多配對的資料夾。

**提示**

- 按一下  編輯現有資料夾。
- 按一下  刪除現有的配對。

10. 按一下 [下一步] 。
[排程] 視窗隨即出現。
 11. 選擇 [立即同步] 。
 12. 按一下 [下一步] 。
 13. 檢視工作摘要。
 14. 按一下 [建立] 。
- 來源 NAS 執行建立的單向同步工作。

**注意**

將共享資料夾從來源 NAS 遷移到目標 NAS 可能需要幾分鐘。

將本地使用者或群組設定匯入目標 NAS

1. 打開來源 NAS 的電源。
2. 從來源 NAS 備份使用者或群組設定。
 - a. 登入 QTS。
 - b. 按一下 [匯入/匯出使用者] 。
 - [匯入/匯出使用者] 視窗隨即出現。
 - c. 選擇 [匯出使用者及群組設定] 。
 - d. 按一下 [下一步] 。
 - NAS 使用者和使用者群組設定將匯出為檔案，然後下載到電腦上。
3. 將來源 NAS 上的使用者設定匯入至目標 NAS 。
 - a. 在目標 NAS 上，登入 QTS。
 - b. 前往 [控制台] > [權限] > [使用者] 。
 - c. 按一下 [匯入/匯出使用者] 。
 - d. 選擇 [匯入使用者及群組設定] 。

**注意**

您可以選擇向新建立的使用者傳送通知郵件或覆寫重複的使用者。

- e. 在您的電腦上，選擇從來源 NAS 匯出的使用者設定檔。
- 有關詳細資訊，請參閱：備份來源 NAS 使用者或群組設定。
來源 NAS 使用者設定檔已匯入至目標 NAS 。

7. 疑難排解

本章介紹基本的疑難排解資訊。

強制 Qfinder Pro 或 myQNAPcloud 定位 NAS

如果 Qfinder Pro 或 myQNAPcloud 在 QTS 安裝的期間找不到 NAS，表示硬碟或資料發生問題。

1. 關閉 NAS 電源。
2. 移除所有硬碟。
3. 開啟 NAS。
4. 使用 Qfinder Pro 或 myQNAPcloud 定位 NAS。
5. 將硬碟重新插入。
6. 繼續執行 QTS 安裝作業。

熱抽換故障硬碟

NAS 於下列情況支援硬碟熱抽換：

RAID 類型	硬碟數量	情況
RAID 1	2	一個硬碟故障
RAID 5	≥ 3	一個硬碟故障
RAID 6	≥ 4	一個或兩個硬碟故障
RAID 10	≥ 4 (必須是偶數)	兩個不同鏡像對中有一或兩個硬碟故障。
RAID 50	≥ 6	每個子群組有一個硬碟故障。
RAID 60	≥ 8	每個子群組有兩個硬碟故障。

1. 登入 QTS。
2. 前往 [主選單] > [儲存與快照總管] > [儲存空間] > [磁碟/VJBOD]。
3. 找出故障的硬碟。
4. 準備一個新的硬碟，且容量至少與故障硬碟相同。
5. 將裝置的故障硬碟拔出。
6. 等待 20 秒或等待裝置發出兩次嗶聲。
7. 將故障硬碟從硬碟托盤取下。
8. 將新的硬碟插入硬碟托盤。
9. 安裝新的硬碟。
NAS 會發出兩次嗶聲。
10. 前往 [主選單] > [儲存與快照總管] > [儲存空間]。
11. 找出新硬碟所在的磁碟區，然後確認其狀態為 [重建中]。

復原意外移除的正常硬碟

NAS 支援獨家 RAID 復原技術，若有硬碟意外斷線或遭到移除，使用者可以復原失效的 RAID 硬碟磁碟區。使用者可以從降級模式復原擱置中的 RAID 1、RAID 5、RAID 6、RAID 10、RAID 50 或 RAID 60 磁碟區。

磁碟 / 磁碟群組	RAID 復原支援	硬碟數量	遭移除的硬碟最大數目
單一	否	1	N/A
JBOD	是	≥ 2	
RAID 0	是	≥ 2	
RAID 1	是	2	1
RAID 5	是	≥ 3	2
RAID 6	是	≥ 4	
RAID 10	否	≥ 4 (必須是偶數)	兩個不同鏡像對中有一或兩個硬碟故障。
RAID 50	是	≥ 6	每個子群組有一個硬碟故障。
RAID 60	是	≥ 8	每個子群組有兩個硬碟故障。

支援和其他資源

QNAP 提供下列資源：

資源	URL
文件	https://docs.qnap.com
相容性列表	https://www.qnap.com/compatibility/
NAS 遷移相容性	https://www.qnap.com/en/nas-migration
擴充設備相容性	http://www.qnap.com/go/compatibility-expansion
服務入口網站	https://service.qnap.com
產品支援狀態	https://www.qnap.com/product/eol.php
下載	https://download.qnap.com
社群論壇	https://forum.qnap.com
QNAP 配件商店	https://shop.qnap.com/

8. 詞彙

Cloud Key

指定至每個 NAS 裝置的唯一 8 位數代碼

myQNAPcloud Link

讓您透過網際網路存取 NAS，無需配置複雜的連接埠轉址設定

myQNAPcloud

提供各種遠端存取服務，例如 DDNS 與 myQNAPcloud Link

QNAP ID

讓您使用 myQNAPcloud 遠端存取及其他 QNAP 服務的使用者帳戶

Qfinder Pro

QNAP 應用工具可讓您定位和存取區域網路內的 QNAP NAS 裝置

QTS

QNAP NAS 作業系統

9. 聲明

本章介紹擔保、免責聲明、授權以及聯邦法規的相關資訊。

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Version 3, 29 June 2007

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“Major Component”, in this context, means a major essential component (kernel, window system, and so on) of the specific operating system (if any) on which the executable work runs, or a compiler used to produce the work, or an object code interpreter used to run it.

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