

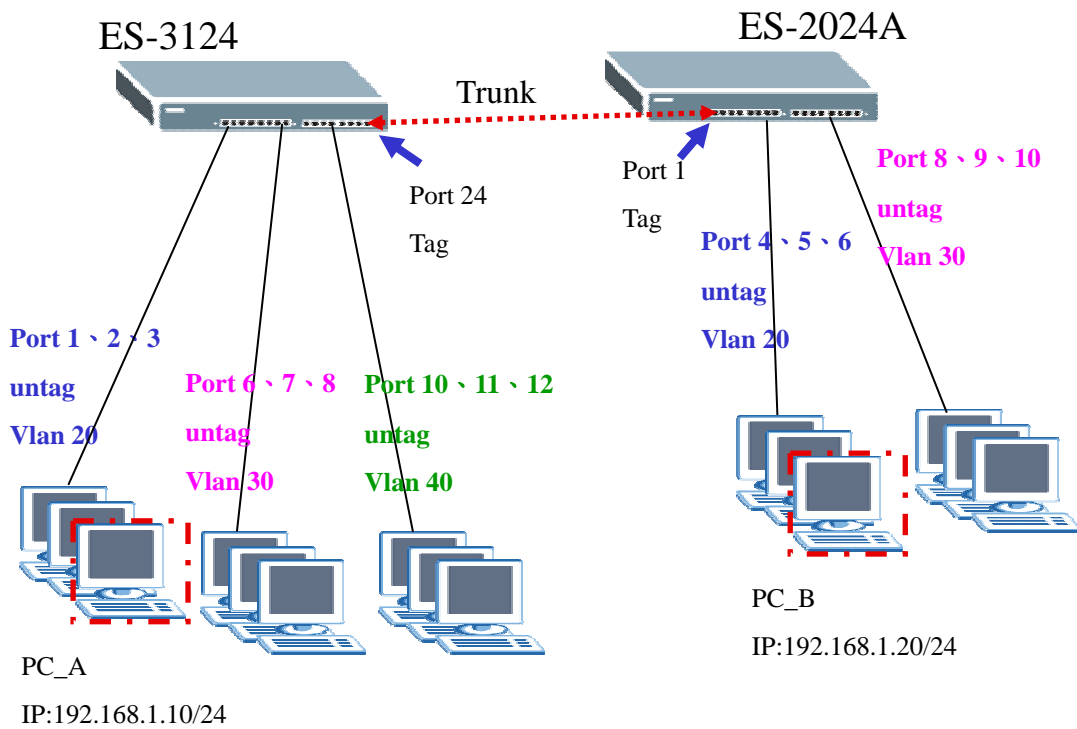
# ES-3124

# VLAN Trunking Setting

情境說明：

第一台 Layer 2 交換器上有三個 VLAN，分別為 VLAN20、VLAN30、VLAN40；第二台 Layer 2 交換器上有兩個 VLAN，分別為 VLAN20、VLAN30。該如何設定將此兩台交換器上相同的 VLAN 的使用者們能跨交換器相互之溝通呢？

拓撲：



## 交換器組態設定

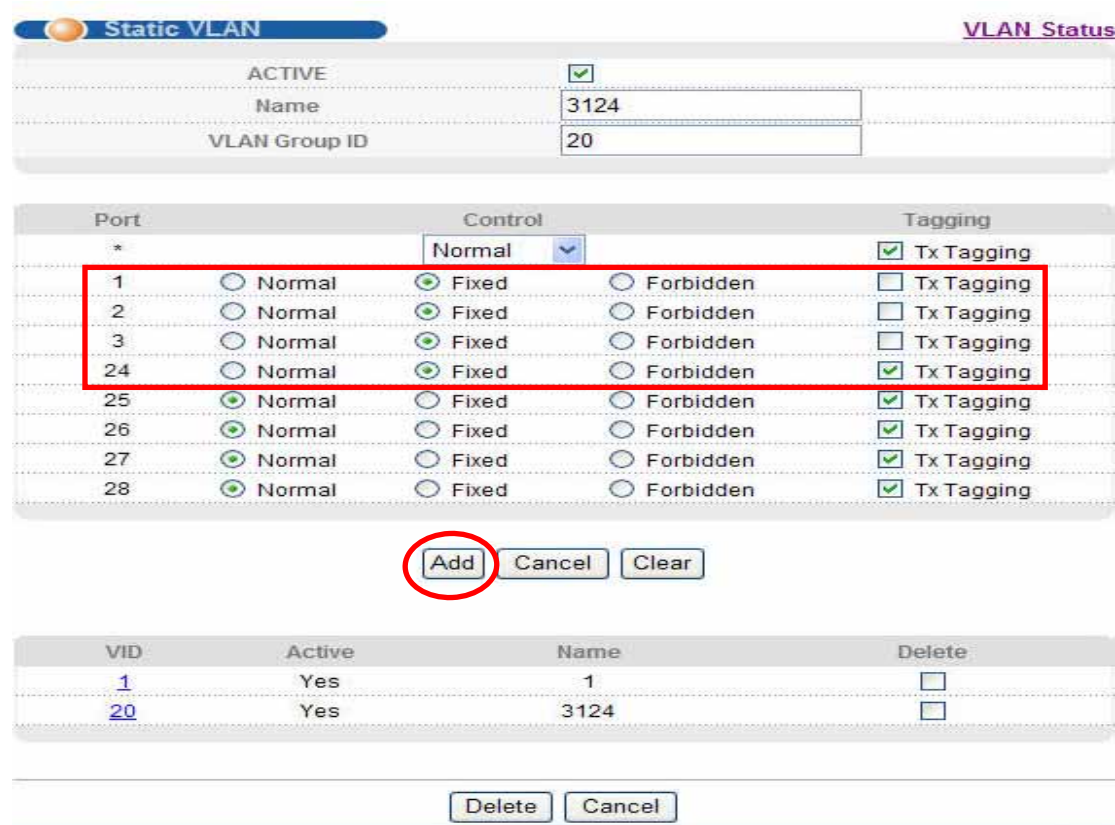
### 第一部分：組態 VLAN

在不同的交換器上分別進入 WebGUI(網頁設定頁面)，點選 **Advanced Application > VLAN > Static VLAN**，個別新增 VLAN 20、VLAN 30、VLAN 40，設定方式如以下步驟：

**步驟一：**點選 Static VLAN 進行 VLAN 新增(在此以新增 VLAN 20 為例)



**步驟二：**請勾選 **Active**，並輸入 VLAN 的名稱，然後輸入 **VLAN Group ID**，然後將 Port 1、2、3 歸屬為 VLAN 20(點選 **Fixed**)，並選擇 **Untag**；再將 Port 24 歸屬為 VLAN 20(點選 **Fixed**)，並選擇 **Tag**，最後點選 **Add** 進行新增



步驟三：點選 VLAN 1，準備將其 Port 1、2、3、24 從該 VLAN 中移除

24	<input checked="" type="radio"/> Normal	<input type="radio"/> Fixed	<input type="radio"/> Forbidden	<input type="checkbox"/> Tx Tagging
25	<input type="radio"/> Normal	<input checked="" type="radio"/> Fixed	<input type="radio"/> Forbidden	<input type="checkbox"/> Tx Tagging
26	<input type="radio"/> Normal	<input checked="" type="radio"/> Fixed	<input type="radio"/> Forbidden	<input type="checkbox"/> Tx Tagging
27	<input type="radio"/> Normal	<input checked="" type="radio"/> Fixed	<input type="radio"/> Forbidden	<input type="checkbox"/> Tx Tagging
28	<input type="radio"/> Normal	<input checked="" type="radio"/> Fixed	<input type="radio"/> Forbidden	<input type="checkbox"/> Tx Tagging

VID	Active	Name	Delete
<u>1</u>	Yes	1	<input type="checkbox"/>
<u>20</u>	Yes	3124	<input type="checkbox"/>

步驟四：選擇 Port 1、2、3、24，並選擇「Normal」將其從 VLAN 1 中移除，最後點選 **Add** 進行確定

**Static VLAN** VLAN Status

ACTIVE

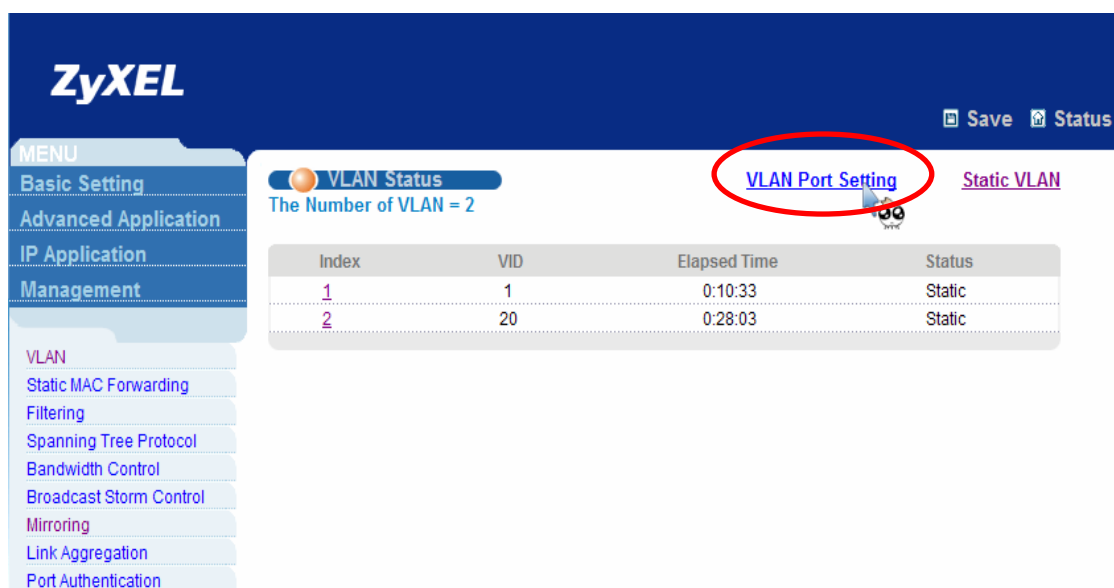
Name

VLAN Group ID

Port	Control	Tagging
*	Normal <input type="button" value="v"/>	<input checked="" type="checkbox"/> Tx Tagging
1	<input checked="" type="radio"/> Normal <input type="radio"/> Fixed <input type="radio"/> Forbidden	<input type="checkbox"/> Tx Tagging
2	<input checked="" type="radio"/> Normal <input type="radio"/> Fixed <input type="radio"/> Forbidden	<input type="checkbox"/> Tx Tagging
3	<input checked="" type="radio"/> Normal <input type="radio"/> Fixed <input type="radio"/> Forbidden	<input type="checkbox"/> Tx Tagging
24	<input checked="" type="radio"/> Normal <input type="radio"/> Fixed <input type="radio"/> Forbidden	<input type="checkbox"/> Tx Tagging
25	<input type="radio"/> Normal <input checked="" type="radio"/> Fixed <input type="radio"/> Forbidden	<input type="checkbox"/> Tx Tagging
26	<input type="radio"/> Normal <input checked="" type="radio"/> Fixed <input type="radio"/> Forbidden	<input type="checkbox"/> Tx Tagging
27	<input type="radio"/> Normal <input checked="" type="radio"/> Fixed <input type="radio"/> Forbidden	<input type="checkbox"/> Tx Tagging
28	<input type="radio"/> Normal <input checked="" type="radio"/> Fixed <input type="radio"/> Forbidden	<input type="checkbox"/> Tx Tagging

VID	Active	Name	Delete
<u>1</u>	Yes	1	<input type="checkbox"/>
<u>20</u>	Yes	3124	<input type="checkbox"/>

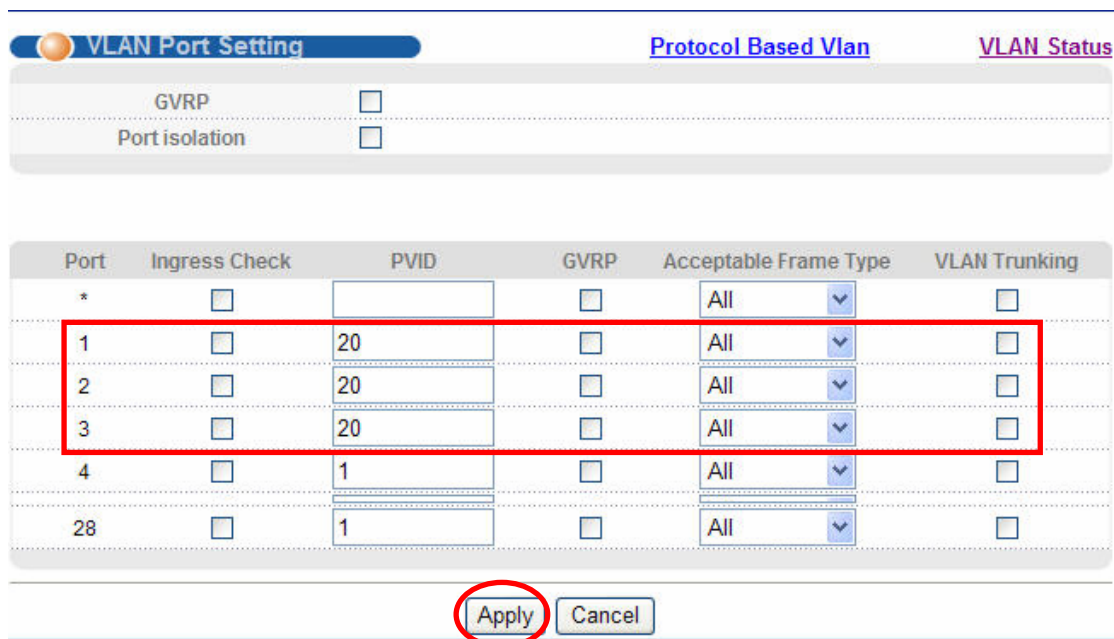
步驟五：選擇 **VLAN Port Setting**，進行 PVID 設定



The screenshot shows the ZyXEL web interface. On the left is a navigation menu with options like Basic Setting, Advanced Application, IP Application, and Management. The main area is titled 'VLAN Status' and shows 'The Number of VLAN = 2'. A table lists two VLANs: Index 1 with VID 1 and Index 2 with VID 20. The 'VLAN Port Setting' link is circled in red.

Index	VID	Elapsed Time	Status
1	1	0:10:33	Static
2	20	0:28:03	Static

步驟六：將 Port 1、2、3 的 PVID 輸入為 **20**(此設定與步驟二的 **VLAN Group ID** 相同)，並點選 Apply



The screenshot shows the 'VLAN Port Setting' page. It has tabs for 'Protocol Based Vlan' and 'VLAN Status'. There are checkboxes for 'GVRP' and 'Port isolation'. Below is a table for configuring ports. Ports 1, 2, and 3 are highlighted with a red box, showing their PVID set to 20. The 'Apply' button is circled in red.

Port	Ingress Check	PVID	GVRP	Acceptable Frame Type	VLAN Trunking
*	<input type="checkbox"/>		<input type="checkbox"/>	All	<input type="checkbox"/>
1	<input type="checkbox"/>	20	<input type="checkbox"/>	All	<input type="checkbox"/>
2	<input type="checkbox"/>	20	<input type="checkbox"/>	All	<input type="checkbox"/>
3	<input type="checkbox"/>	20	<input type="checkbox"/>	All	<input type="checkbox"/>
4	<input type="checkbox"/>	1	<input type="checkbox"/>	All	<input type="checkbox"/>
28	<input type="checkbox"/>	1	<input type="checkbox"/>	All	<input type="checkbox"/>

\* 以上為 **VLAN 20** 之新增方法，**VLAN 30**、**VLAN 40** 設定方式完全相同。

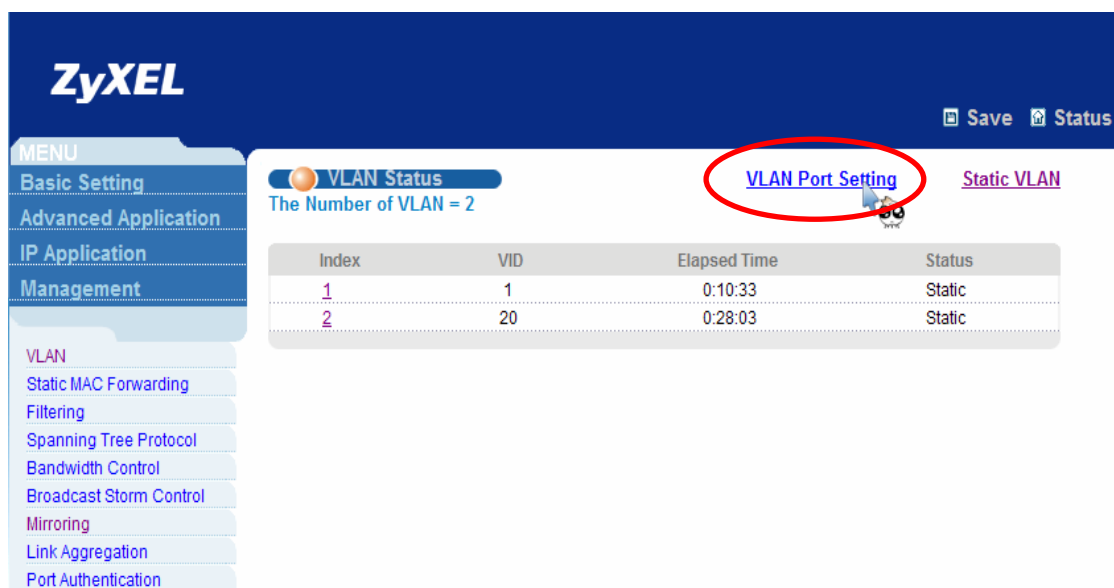
\* 至於範例中另一交換器，型號為 **ES-2024A** 之 **VLAN** 設定方法也如同上述。

## 第二部分：設定 VLAN Trunking Port

何謂 VLAN Trunking，即為在 VLAN 主幹中可運載多個 VLAN，若為相同 VLAN 之設備可透由 VLAN Trunking 進行跨交換器之溝通。依照情境說明，VLAN Trunking Port 在交換器 ES-3124 上為 Port 24，在交換器 ES-2024A 上為 Port 1。

點選 **Advanced Application > VLAN > VLAN Port Setting**，設定 VLAN Trunking Port 方式如下：

**步驟一：**點選 **VLAN Port Setting** 進入設定頁面



**ZyXEL** Save Status

MENU

- Basic Setting
- Advanced Application
- IP Application
- Management

VLAN Status  
The Number of VLAN = 2

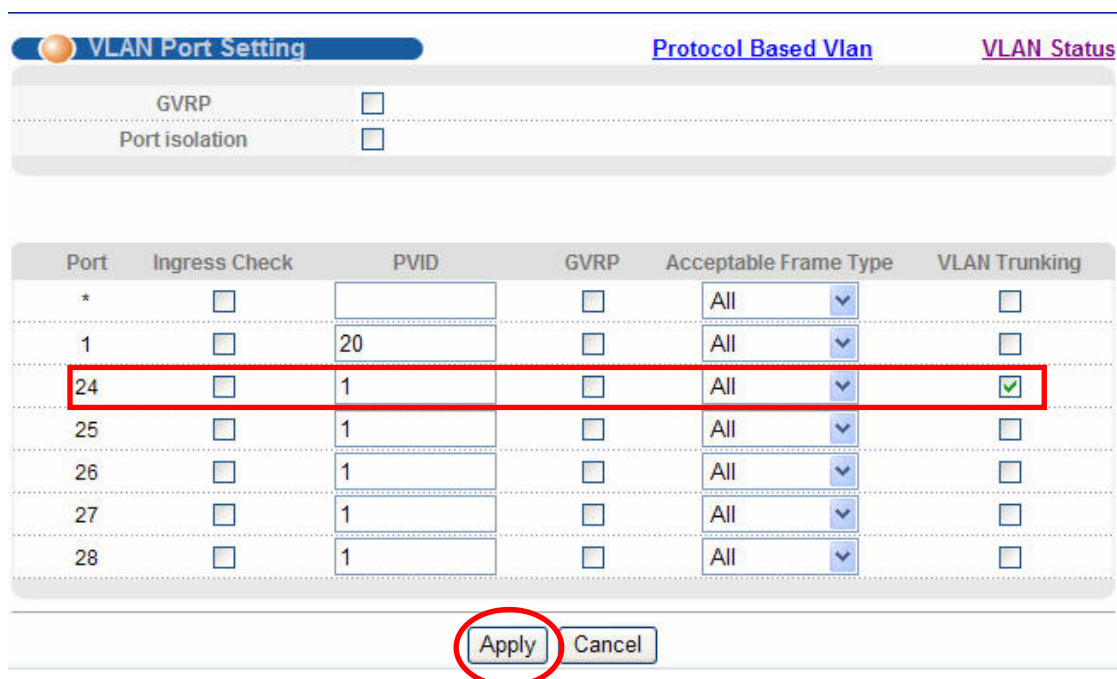
**VLAN Port Setting** Static VLAN

Index	VID	Elapsed Time	Status
1	1	0:10:33	Static
2	20	0:28:03	Static

VLAN

- Static MAC Forwarding
- Filtering
- Spanning Tree Protocol
- Bandwidth Control
- Broadcast Storm Control
- Mirroring
- Link Aggregation
- Port Authentication

**步驟二：**在 **Port 24** 勾選 VLAN Trunking，然後點選 Apply 進行套用，此即將該 Port 設定為 VLAN Trunking



**VLAN Port Setting** Protocol Based Vlan VLAN Status

GVRP

Port isolation

Port	Ingress Check	PVID	GVRP	Acceptable Frame Type	VLAN Trunking
*	<input type="checkbox"/>		<input type="checkbox"/>	All	<input type="checkbox"/>
1	<input type="checkbox"/>	20	<input type="checkbox"/>	All	<input type="checkbox"/>
24	<input type="checkbox"/>	1	<input type="checkbox"/>	All	<input checked="" type="checkbox"/>
25	<input type="checkbox"/>	1	<input type="checkbox"/>	All	<input type="checkbox"/>
26	<input type="checkbox"/>	1	<input type="checkbox"/>	All	<input type="checkbox"/>
27	<input type="checkbox"/>	1	<input type="checkbox"/>	All	<input type="checkbox"/>
28	<input type="checkbox"/>	1	<input type="checkbox"/>	All	<input type="checkbox"/>

Apply Cancel

然後請使用 PC\_A 與 PC\_B 底下的電腦互 ping，確認上述設定是否成功。

PC\_A ping PC\_B，顯示 “Reply from...” 即代表設定完成。

```
C:\ 命令提示字元
Microsoft Windows XP [版本 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

c:\>ping 192.168.1.20 -t

Pinging 192.168.1.20 with 32 bytes of data:

Reply from 192.168.1.20: bytes=32 time<1ms TTL=128
Reply from 192.168.1.20: bytes=32 time<1ms TTL=128
Reply from 192.168.1.20: bytes=32 time<1ms TTL=128
Reply from 192.168.1.20: bytes=32 time<1ms TTL=128
Reply from 192.168.1.20: bytes=32 time<1ms TTL=128
Reply from 192.168.1.20: bytes=32 time<1ms TTL=128
Reply from 192.168.1.20: bytes=32 time<1ms TTL=128
Reply from 192.168.1.20: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.20:
    Packets: Sent = 8, Received = 8, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
Control-C
^C
c:\>_
```