

## **Beispiel Einrichtung eines ES-2108 für VDSL (T-Home) mit VLAN-ID 7 Tag.**

Ziel ist es mittels einem VLAN fähigen Ethernet-Switch wie z.B. dem ES-2108-G eine VLAN7 Tag Verbindung für nicht T-Home Router zu realisieren.

Die VDSL-Verbindung zu T-Home bedarf eines VLAN7 Tag, dieser dadurch erreicht werden kann, wenn der WAN-Port des bisherigen Internet-Routers am Switch die Daten *unTagged* entgegen nimmt und über einen anderen Port (an dem sich das VDSL-Modem befindet) diese dann mit dem VLAN7 Tag versehen weiterschickt.

In diesem Beispiel schließen wir eine ZyWALL-5 mittels WAN-Port am Switch-Port 7 an. Den LAN-Port des T-Home VDSL-Modems wiederum schließen wir am Switch-Port 8 an.

Der Portbereich 1 bis 6 sowie der Port 9 sind VLAN ID-1.  
Der Portbereich 7 bis 8 befindet sich im VLAN ID-7 Segment.

Wenn man beide VLAN so einstellt, dass keine Ports ins andere VLAN können (*forbidden* und *fixed*), führt dies zur klaren Trennung im Layer-2 Segment.

Deshalb wurde das VLAN-1 so eingestellt, das Port 7~8 als „*forbidden*“ und die Ports 1~6 sowie Port 9 als „*fixed*“ gelten. – Im VLAN-2 ist dem genau anders herum.

### **Information der Konfiguration:**

**Port 1 ~ Port 6 sowie Port 9** befinden sich = **VLAN-ID 1**

IP-Adresse = 192.168.1.1/24 (255.255.255.0)

Getaway Adresse = 0.0.0.0 (nicht vergeben).

**Port 7 ~ Port 8** befinden sich = **VLAN-ID 7** (nicht vom *VLAN-1* erreichbar).

*Port-7 = hier den WAN-Port der Internet Routers anschließen.*

*Port 8 = hier den LAN-Port des T-Home Modems anschließen.*

Das Standard Config-File dazu findet sich unter:

- [http://www.zyxeltech.de/files/config\\_ES-2108-G\\_T-Home.zip](http://www.zyxeltech.de/files/config_ES-2108-G_T-Home.zip)

Im Weiteren finden sich bildliche Darstellungen wie dies richtig Eingestellt auszuschauen hat.

Ein Datenpaket, welches somit vom WAN-Port des Internet-Routers in den Port-7 gelangt, wird hier nun „*unTagged*“ entgegen genommen und dann über den Port-8 mit einem Vlan-7 Tag versehen weiter zum VDSL-Modem gesendet.

1. Darstellung nach Login <http://192.168.1.1/> mittels Benutzer: admin / Kennwort: 1234

The screenshot shows the ZyXEL Web Configurator interface in a Windows Internet Explorer browser window. The address bar shows <http://192.168.1.1/>. The page title is "Web Configurator". The ZyXEL logo is at the top left. A navigation menu on the left includes "Basic Setting", "Advanced Application", "IP Application", and "Management". The main content area is titled "Port Status" and displays a table of port information. Below the table are radio buttons for "Any" and "Port", and a "Clear Counter" button.

Port	Name	Link	State	LACP	TxPkts	RxPkts	Errors	Tx KB/s	Rx KB/s	Up Time
1	Port-1	100MF	FORWARDING	Disabled	2119	1864	0	0.0	0.0	0:16:04
2	Port-2	Down	STOP	Disabled	0	0	0	0.0	0.0	0:00:00
3	Port-3	Down	STOP	Disabled	0	0	0	0.0	0.0	0:00:00
4	Port-4	Down	STOP	Disabled	0	0	0	0.0	0.0	0:00:00
5	Port-5	Down	STOP	Disabled	0	0	0	0.0	0.0	0:00:00
6	Port-5	Down	STOP	Disabled	0	0	0	0.0	0.0	0:00:00
7	WAN-PORT	Down	STOP	Disabled	0	0	0	0.0	0.0	0:00:00
8	THomeMDM	Down	STOP	Disabled	0	0	0	0.0	0.0	0:00:00
9	Port-9	Down	STOP	Disabled	0	0	0	0.0	0.0	0:00:00

2. Menu: Basic Setting / System Info: Auf aktuelle Version prüfen, ggf. Updaten.

The screenshot shows the ZyXEL Web Configurator interface in a Windows Internet Explorer browser window. The address bar shows <http://192.168.1.1/>. The page title is "Web Configurator". The ZyXEL logo is at the top left. A navigation menu on the left includes "Basic Setting", "Advanced Application", "IP Application", and "Management". The main content area is titled "System Info" and displays a table with system information. Below the table, the "System Info" menu item is highlighted in the left sidebar.

System Name	ES-2108-G
ZyNOS F/W Version	V3.80(ABL.0)   08/18/2007
Ethernet Address	00:13:49:a7:db

3. Menu: Basic Setting / Port Setup: Hier ggf. entsprechenden Bezeichnungen vornehmen.

Web Configurator - Windows Internet Explorer

http://192.168.1.1/

ZyXEL

Save Status Logout Help

MENU

- Basic Setting
- Advanced Application
- IP Application
- Management
- System Info
- General Setup
- Switch Setup
- IP Setup
- Port Setup

Port Setup

Port	Active	Name	Type	Speed / Duplex	Flow Control	802.1p Priority
*	<input checked="" type="checkbox"/>		-	Auto	<input checked="" type="checkbox"/>	0
1	<input checked="" type="checkbox"/>	Port-1	10/100M	Auto	<input checked="" type="checkbox"/>	0
2	<input checked="" type="checkbox"/>	Port-2	10/100M	Auto	<input checked="" type="checkbox"/>	0
3	<input checked="" type="checkbox"/>	Port-3	10/100M	Auto	<input checked="" type="checkbox"/>	0
4	<input checked="" type="checkbox"/>	Port-4	10/100M	Auto	<input checked="" type="checkbox"/>	0
5	<input checked="" type="checkbox"/>	Port-5	10/100M	Auto	<input checked="" type="checkbox"/>	0
6	<input checked="" type="checkbox"/>	Port-5	10/100M	Auto	<input checked="" type="checkbox"/>	0
7	<input checked="" type="checkbox"/>	WAN-PORT	10/100M	Auto	<input checked="" type="checkbox"/>	0
8	<input checked="" type="checkbox"/>	THomeMDM	10/100M	Auto	<input checked="" type="checkbox"/>	0
9	<input checked="" type="checkbox"/>	Port-9	10/100/1000M	Auto	<input checked="" type="checkbox"/>	0

Apply Cancel

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4. Menu: Advanced Application / VLAN: Hier findet sich die VLAN Konfiguration.

Web Configurator - Windows Internet Explorer

http://192.168.1.1/

ZyXEL

Save Status Logout Help

MENU

- Basic Setting
- Advanced Application
- IP Application
- Management
- VLAN
- Static MAC Forwarding
- Filtering
- Spanning Tree Protocol
- Bandwidth Control
- Broadcast Storm Control
- Mirroring
- Link Aggregation
- Port Authentication
- Port Security
- Queuing Method
- Multicast
- Auth and Acct
- IP Source Guard
- Loop Guard

VLAN Status

VLAN Port Setting Static VLAN

The Number of VLAN = 2

Index	VID	Elapsed Time	Status
1	1	0:21:05	Static
2	7	0:21:05	Static

Change Pages Previous Next

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5. Menu: Advanced Application / VLAN Port Setting: Zuordnung der Ports zum VLAN.  
In diesem Menu muss man den Ports die jeweilige VLAN-ID fest eintragen.  
Wichtig hier ist, das Port-7 und Port-8 die VLAN-ID 7 bekommen!

The screenshot shows the ZyXEL web configurator interface for a Dimension ES-2108-G switch. The browser window is titled 'Web Configurator - Windows Internet Explorer' and shows the URL 'http://192.168.1.1/'. The ZyXEL logo is at the top left, and navigation buttons for Save, Status, Logout, and Help are at the top right. A left-hand menu lists various configuration options, with 'VLAN' selected. The main content area is titled 'VLAN Port Setting' and includes a 'VLAN Status' tab. Below this, there are three checkboxes: GVRP, Port isolation, and Ingress Check, all of which are checked. A table below lists the configuration for ports 1 through 9. The table has columns for Port, PVID, GVRP, Acceptable Frame Type, and VLAN Trunking. Port 7 and Port 8 are configured with PVID 7, while all other ports have PVID 1. The Acceptable Frame Type is set to 'All' for all ports, and VLAN Trunking is enabled for all ports. At the bottom of the table are 'Apply' and 'Cancel' buttons. The footer of the page contains the copyright notice: '© Copyright 1995-2006 by ZyXEL Communications Corp.'

Port	PVID	GVRP	Acceptable Frame Type	VLAN Trunking
*		✓	All	✓
1	1	✓	All	✓
2	1	✓	All	✓
3	1	✓	All	✓
4	1	✓	All	✓
5	1	✓	All	✓
6	1	✓	All	✓
7	7	✓	All	✓
8	7	✓	All	✓
9	1	✓	All	✓

6. Menu: Advanced Application / VLAN / Index-1: Darstellung des VLAN-1 (LAN).

The screenshot shows the ZyXEL Web Configurator interface in a Windows Internet Explorer browser window. The address bar shows 'http://192.168.1.1/'. The page title is 'Web Configurator'. The ZyXEL logo is at the top left, and navigation buttons for 'Save', 'Status', 'Logout', and 'Help' are at the top right. A left-hand menu is visible, with 'VLAN' selected under the 'Advanced Application' category. The main content area is titled 'VLAN Detail' and contains a table with the following data:

VID	Port Number					Elapsed Time	Status
	2	4	6	8			
1	U	U	U	-		0:24:33	Static
	U	U	U	-	U		

7. Menu: Advanced Application / VLAN / Index-2: Darstellung des VLAN-7 (T-Home/WAN)

The screenshot shows the ZyXEL Web Configurator interface in a Windows Internet Explorer browser window. The address bar shows 'http://192.168.1.1/'. The page title is 'Web Configurator'. The ZyXEL logo is at the top left, and navigation buttons for 'Save', 'Status', 'Logout', and 'Help' are at the top right. A left-hand menu is visible, with 'VLAN' selected under the 'Advanced Application' category. The main content area is titled 'VLAN Detail' and contains a table with the following data:

VID	Port Number					Elapsed Time	Status
	2	4	6	8			
7	-	-	-	T		0:25:48	Static
	-	-	-	U	-		

## 8. Menu: Advanced Application / VLAN / Static VLAN: Übersicht der eingerichteten VLAN

Web Configurator - Windows Internet Explorer  
 http://192.168.1.1/

ZyXEL  
 Save Status Logout Help

MENU  
 Basic Setting  
 Advanced Application  
 IP Application  
 Management

VLAN  
 Static MAC Forwarding  
 Filtering  
 Spanning Tree Protocol  
 Bandwidth Control  
 Broadcast Storm Control  
 Mirroring  
 Link Aggregation  
 Port Authentication  
 Port Security  
 Queuing Method  
 Multicast  
 Auth and Acct  
 IP Source Guard  
 Loop Guard

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 checked="" type="checkbox"/> Tx Tagging
2	<input checked="" type="radio"/> Normal <input type="radio"/> Fixed <input type="radio"/> Forbidden	<input checked="" type="checkbox"/> Tx Tagging
3	<input checked="" type="radio"/> Normal <input type="radio"/> Fixed <input type="radio"/> Forbidden	<input checked="" type="checkbox"/> Tx Tagging
4	<input checked="" type="radio"/> Normal <input type="radio"/> Fixed <input type="radio"/> Forbidden	<input checked="" type="checkbox"/> Tx Tagging
5	<input checked="" type="radio"/> Normal <input type="radio"/> Fixed <input type="radio"/> Forbidden	<input checked="" type="checkbox"/> Tx Tagging
6	<input checked="" type="radio"/> Normal <input type="radio"/> Fixed <input type="radio"/> Forbidden	<input checked="" type="checkbox"/> Tx Tagging
7	<input checked="" type="radio"/> Normal <input type="radio"/> Fixed <input type="radio"/> Forbidden	<input checked="" type="checkbox"/> Tx Tagging
8	<input checked="" type="radio"/> Normal <input type="radio"/> Fixed <input type="radio"/> Forbidden	<input checked="" type="checkbox"/> Tx Tagging
9	<input checked="" type="radio"/> Normal <input type="radio"/> Fixed <input type="radio"/> Forbidden	<input checked="" type="checkbox"/> Tx Tagging

Add Cancel Clear

VID	Active	Name	Delete
1	Yes	LAN	<input type="button" value="v"/>
7	Yes	T-Home_WAN	<input type="button" value="v"/>

Delete Cancel

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9. Menu: Advanced Application / VLAN / Static VLAN-1: Darstellung des VLAN-ID 1

The screenshot shows the ZyXEL Web Configurator interface in a Windows Internet Explorer browser window. The browser address bar shows 'http://192.168.1.1/'. The page title is 'Web Configurator - Windows Internet Explorer'. The ZyXEL logo is visible in the top left corner. The navigation menu on the left includes 'Basic Setting', 'Advanced Application', 'IP Application', and 'Management'. Under 'Management', 'VLAN' is selected, and 'Static VLAN' is highlighted. The main content area is titled 'Static VLAN' and 'VLAN Status'. It shows a form for configuring a static VLAN with the following fields:

- ACTIVE:
- Name:
- VLAN Group ID:

Below the form is a table showing the configuration for each port:

Port	Control	Tagging
*	Normal	<input checked="" type="checkbox"/> Tx Tagging
1	<input type="radio"/> Normal <input checked="" type="radio"/> Fixed <input type="radio"/> Forbidden	<input checked="" type="checkbox"/> Tx Tagging
2	<input type="radio"/> Normal <input checked="" type="radio"/> Fixed <input type="radio"/> Forbidden	<input checked="" type="checkbox"/> Tx Tagging
3	<input type="radio"/> Normal <input checked="" type="radio"/> Fixed <input type="radio"/> Forbidden	<input checked="" type="checkbox"/> Tx Tagging
4	<input type="radio"/> Normal <input checked="" type="radio"/> Fixed <input type="radio"/> Forbidden	<input checked="" type="checkbox"/> Tx Tagging
5	<input type="radio"/> Normal <input checked="" type="radio"/> Fixed <input type="radio"/> Forbidden	<input checked="" type="checkbox"/> Tx Tagging
6	<input type="radio"/> Normal <input checked="" type="radio"/> Fixed <input type="radio"/> Forbidden	<input checked="" type="checkbox"/> Tx Tagging
7	<input type="radio"/> Normal <input type="radio"/> Fixed <input checked="" type="radio"/> Forbidden	<input checked="" type="checkbox"/> Tx Tagging
8	<input type="radio"/> Normal <input type="radio"/> Fixed <input checked="" type="radio"/> Forbidden	<input checked="" type="checkbox"/> Tx Tagging
9	<input type="radio"/> Normal <input checked="" type="radio"/> Fixed <input type="radio"/> Forbidden	<input checked="" type="checkbox"/> Tx Tagging

Buttons: Add, Cancel, Clear

Below the table is a summary table of existing VLANs:

VID	Active	Name	Delete
1	Yes	LAN	<input type="checkbox"/>
7	Yes	T-Home_WAN	<input type="checkbox"/>

Buttons: Delete, Cancel

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10. Menu: Advanced Application / VLAN / Static VLAN-7: Darstellung des VLAN-ID 7

Web Configurator - Windows Internet Explorer  
 http://192.168.1.1/ Google

**ZyXEL** Save Status Logout Help

**MENU**  
 Basic Setting  
 Advanced Application  
 IP Application  
 Management

**VLAN**  
 Static MAC Forwarding  
 Filtering  
 Spanning Tree Protocol  
 Bandwidth Control  
 Broadcast Storm Control  
 Mirroring  
 Link Aggregation  
 Port Authentication  
 Port Security  
 Queuing Method  
 Multicast  
 Auth and Acct  
 IP Source Guard  
 Loop Guard

**Static VLAN** VLAN Status

ACTIVE

Name T-Home\_WAN

VLAN Group ID 7

Port	Control	Tagging
*	Normal	✓ Tx Tagging
1	Normal Fixed Forbidden	✓ Tx Tagging
2	Normal Fixed Forbidden	✓ Tx Tagging
3	Normal Fixed Forbidden	✓ Tx Tagging
4	Normal Fixed Forbidden	✓ Tx Tagging
5	Normal Fixed Forbidden	✓ Tx Tagging
6	Normal Fixed Forbidden	✓ Tx Tagging
7	Normal Fixed Forbidden	✓ Tx Tagging
8	Normal Fixed Forbidden	✓ Tx Tagging
9	Normal Fixed Forbidden	✓ Tx Tagging

Add Cancel Clear

VID	Active	Name	Delete
1	Yes	LAN	✓
7	Yes	T-Home_WAN	✓

Delete Cancel

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