

Bridge Mode to Prevent DNS/ DHCP Conflict with 2 E-net Routers/ Switches - (See esp. p2-4)

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| Contents: p.1: Set up BT SmartHub + 2nd Router | p.4: BT Smart Hub and Bridge Mode |
| p.2: Set up BT Hubs 2-5; | p.5: Reset diff. Routers and u/date Firmware |
| p.2: NAT and Bridge Mode | p.6: MacBook & Win 8 WiFi diagnostics |
| p.3: ADSL Bridge Mode tutorial | p.7: Win CMD prompt and <i>netsh</i> command |

Setting up a 2nd router when connecting to the LAN - 23-1-2019, 1pm (various, from I-net)

A. Problems with a connection using a 2nd router (eg. OpenWRT, with a BT HH5) from a LAN port of a PlusNet etc. router 1 to the WAN port of the 2nd router? Can't get the configuration correct - unable to ping any device from HomeHub5 router 2, internally or externally. My HH5 has a 192.168.2.1 address (changed from the default 192.168.1.1) for use on the LAN n/w. **The BT HH5 can access the internet if I use a LAN port**, rather than its WAN port (i.e. setup as a dumb access point, extending the LAN/ network).

B. Using the BT Smarthub 6 with a Plusnet Account - 12-11-2018

Setting up **Business or Domestic BT Hub**: I've just set up a spare Business Smarthub 6 noting the steps here. I have noted where the setup differs from the standard Residential version.

1 Connect BT Smarthub 6 (or BT Domestic hub) and switch on. Green light should show. Leave until this changes to a Purple flashing light, **then steady blue**.

2 Connect PC to a (Yellow) LAN socket on hub6, via E-net cable (or WiFi?).

Enter `http://192.168.1.254` into the browser address field & the router's 'Home' page will appear.

2 Reset BThub6 until green light re-appears. This can take 30 sec. Note Purple/**blue** flashing light, which can take several minutes as the router resets itself, then steady blue.

3 After a min or so log in to IPA `http://192.168.1.254` (NOT `https`), the router 'Home' page.

4 Select 'Smart Setup'. Enter the Admin pwd for the router. Set 'Smart Setup' to 'OFF' and 'Save'.

5 Select 'Home' then 'Advanced Settings'. Re-enter the 'Admin' password if prompted.

6 Select 'Broadband' then select 'Edit Broadband Username'. Insert the **Plusnet** username followed by **@plusdsl.net**, (or `?plus.com`), Enter the Plusnet Password & 'Save'; the 'Saving' msg. will appear

8. If it doesn't vanish soon as Save is completed, select 'Advanced Settings' & return to the 'Broadband' page to trigger the saving process. Some versions have no 'Save' field; just leaving it to go to the next step seems to do the trick and save the settings.

9 Connect the DSL (RJ11) phone cable to a BT master socket via the phone/bb filter.

10 Return to the 'Advanced Settings' & select 'Broadband'. Choose 'Connect' to set 'ON' state. There is a long routine before it comes to life - finally the light should turn Blue, showing Internet connection OK.

11 Be prepared for more lengthy f/ware updates over the next 15 mins or so. It took three goes to settle on the latest update. nb: while updating the Blue light will stay on but you still cannot access the Internet.

12. Go to 'Advanced Wireless' in 'Advanced settings'. In the field above the 5GHz band column labelled 'Separate Bands' set this to 'ON'. Note that this should automatically add '-5' to the 'Network Name'. If not add it manually. You will now have two independent channels; use the best.

Business Hub Only

12 Go to Home/ Status page. Set 'Public Wi-fi' to 'BT Wi-Fi' and 'Public Wi-fi active' to 'NO'.

13 If you want to select your own DNS server(s) go to 'Advanced Settings'/'My Network'. Select the 'IPv4 Configuration' tab. Input your preferred servers. Select 'Save'. If you go back to the 'Home' page 'Status', it will show the Prim & Sec DNS servers to still be the Plusnet ones. With a Win PC, enter '**ipconfig /all**' into CMD prompt you will see the ones in use are those you chose.

After planning to move back to BT I stayed with Plusnet; in the meantime I was sent a Smarthub (084316) by BT. The Plusnet Hub has been running fine; I don't use Wifi - all devices are via ethernet. Following the guides on using a SmartHub 6 on Plusnet, all went easily with Wifi definitely better using the BT hub. (& the light can be turned off completely in a bedroom).

Connecting at only 38mb via my 40/10 VDSL line normal surfing and email is significantly slower with the SmartHub 8 than BTHub One. On return to Hub One all is back to normal speed; I would like to be able to use the SmartHub 6 to remove the light problem but its slow speed makes this not an option. Any helpful ideas? - don't want to be constantly disconnecting as it'll screw my connection speed for a while.

BT Hub 2, 3, 4 or 5 on a Plusnet connection - 14-01-2015

ADSL Connections

- 1) Use an RJ11 cable from the hub's DSL port to the microfilter; 2) Turn on; await boot up. *Your hub will have a flashing 'B' light either red/purple or orange (depending on version of hub)*
- 3) Insert an ethernet cable from one of the yellow ports on hub to your computer.
- 4) Use - <http://bthomehub.home/> OR 192.168.1.254/ to link to the hub's configuration pages.
- 5) Open 'Settings' ; you'll be prompted for pwd; create new one using dft. admin one if you reset the hub.
- 6) Click on 'Enter your Broadband username and password', the last option on the list.
ie. member centre username @plusdsl.net as the username on the BT Hub. Your password will be the one you use to log into the member centre. For more info visit https://portal.plus.net/my.html?s=0&action=refresh_browser (login required) Then press connect.

Fibre Connection - Hub 5 includes a Fibre modem

To use with a Fibre/VDSL line Hubs 2, 3, 4 need an Openreach fibre modem; you'll need Hub2 type B for this, as Hub 2 type A does not have the red WAN port, only the ADSL RJ11 one.

- 1) To use on a Fibre connection, use an ethernet cable from Openreach modem to the red WAN port on all hubs before hub 5. For Hub 5, plug an RJ11 cable from the master socket (for a pre-filtered socket) or into a microfilter for a std. Master skt) to the Hub 5's DSL port.
- 2) Turn on the hub, Wait for it to boot up. *The red/purple or orange (depends on hub) will change to blue.*
- 3) Use browser to link to:- <http://bthomehub.home/> (or 192.168.1.254/) for the hub's config pages.
- 4) Open 'Settings' /Create a new password if you reset the hub. Dft admin pwd is underneath hub.
- 5) Click 'Enter your b/b u-name & pwd' (member centre u-name - eg. plusnet2015@plusdsl.net). For more info:- https://portal.plus.net/my.html?s=0&action=refresh_browser (login required). Connect.

NAT with 2 Routers in series/ Bridge Mode - When to put a modem*/ router into bridge mode

With two NAT devices in series (eg. a **modem*** with built-in NAT capabilities is connected to a **router** - which is also a NAT device), it is advisable to configure your modem in bridge mode to avoid conflicts.

What is NAT?

In computer networking, **Network Address Translation** involves re-assigning the source and/or destn. address of IP packets as they pass through a router. NAT allows each host on a private network to access the internet using a single public IP address.

What is Bridge Mode?

This confign. disables the router's NAT & allows it to function as a DHCP server without an IPA conflict.

The router must be bridged **before connecting** to a 2nd router; applications like VPN, P2P, and remote management require a public IPA on the router WAN port for a successful connection.

Note: You will need to see manual, or **call your ISP/Router provider for the bridge mode settings.**

How to identify a NAT mode router/ modem*:

1. Connect a PC to a/ the modem's Ethernet (LAN) port.
 2. Click **Start** > **Run** > Type **cmd** and press **Enter**. Type **ipconfig** and Enter.
 3. To view the IPA on Mac PCs or Win 8, see [What is the IP address of my NETGEAR router?](#)
 4. If the IPA under Ethernet Adapter LAN is 192.168.x.x or 10.0.x.x, the modem should be bridged.
 5. You can also try changing the LAN IPA of the router:-
 6. Log in to the router user interface and change IP address to **192.168.2.1** or **10.0.0.1** under LAN Setup (**ADVANCED** > **Setup** > **LAN Setup**).
 7. see [How do I log in to my NETGEAR home router?](#)
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ADSL Modem / router full bridge mode tutorial (Bridge Mode and NAT)

Almost every device referred to as an "ADSL **modem***" is actually both a modem and a router combined; thus we already have a router in our LAN. Issues arise when you connect another router to the LAN, & end up having 2 DHCP servers & 2 NATs (creating problems for port forwarding and the like). Esp. where the same brands are used, the IPAs (Dft Gateways) will conflict & the devices will not connect to the internet.

STEP 1:- Enable **full bridge mode** on the modem/ router directly connected to the internet, and let your 2nd/ new router control all function within your LAN **and** the connection to the internet (Enter into the 2nd router all details normally provided in the ISP's router, including ISP username, password, etc.).

Refer to the user manual of router 1 to see how to **set it into full bridge mode**. Usually this is found under the authentication section, along with PPPoE, PPPoA, etc.

Note: Some routers **won't let you change** encapsulation type **AFTER** changing to Bridge Mode. Ensure encapsulation is LLC, (not VC-Mux) before setting bridge mode; if not PPPoE authentication will not work.

STEP 2: Once set, Save the config, and restart: **You will lose connectivity with the router.**

This is normal and is necessary to proceed to the next step.

Testing the modem: An important test to ensure the modem is correctly set to bridge mode is given in annex A. Please ensure you have tested for correct bridging before continuing.

STEP 3: Connecting the router to the modem

After confirmation that it is correctly set to Full Bridge Mode, plug the LAN1 port of router 1 into the WAN input port of the WiFi router/ access point (router 2) & power it off/on. Connect PC to one of the router's Ethernet ports (configuration can only be done via a wired connection, not WiFi).

STEP 4: Confirming the connection

The PC can now access the router using its <http://192.168.x.x> IPA &/ or the default gateway IPA.

To check/ discover the above IPAs click Start, Run; type cmd to open the CMD window. Type "ipconfig" / <Ent> for the router IPA, its subnet mask and Default Gateway ie. the access path to the internet.

WiFi router **user manuals** are found at http://whirlpool.net.au/bc/hardware/?action=h_models.

Use the default gateway or router IPA to open the router's GUI, by typing it into the address bar of Internet Explorer (you may have to use IExp if Firefox etc. will not work ??). You will need dft u-name & pword for the router interface, as well as authentication details etc for your ISP (eg. PPPoe mode), and to set Wifi encryption (**WPA – PSK is recommended**). More on security can be found at [WLANhome FAQ](#).

You should now be able to connect PCs etc. by WiFi, or wirelessly via the router, as well as to the internet.

ANNEX A: Testing the Router is in bridge mode requires you set up a ppp session in Win, as below

Go to CP, Click Network Connections; Under the Wizard heading – click “New Connection Wizard”

At N/w Connection Type screen, click “Connect to the Internet”; Select “Setup my connection manually”
Select “ Connect using a broadband connection that requires a user name and password”

At Connection Name Screen, type " ISP name" where asked; at Availability screen select “Anyones Use”

At Internet Account Information screen, enter u-name etc.; ensure both of the check boxes, are ticked”, and “make this the default internet connection”.

At the Completion of New Connection Wizard, tick “add a shortcut to this connection to my desktop”.

To go online, double click the "your isp's name" icon, enter u-name and password; click “connect”.

After thus confirming the modem is in bridge mode you may delete above settings & return to step 3 above

Re: BT Smart Hub & Bridge Mode - many ADSL routers don't have a bridge mode.

NHR7500, is a router only. AC2600-Nighthawk X4S. would allow use on both ADSL and VDSL (FTTC). Getting double-NAT & DDNS clash, VPNs are being blocked by BT firewall, printer/scanner not fully working. IPv6 no longer working. Need to put the SmartHub in bridge mode and connect up existing router. BT site refers to Advanced Settings > Broadband > Routing - Lo and behold there's a Bridge Mode setting here! .. which says "Enabling Bridge mode means Routing, NAT, DHCP Server and Local DNS will be disabled - the BT Business Smart Hub will only act as a modem". When I try to Save, it won't!

It seems like the software supports Bridge Mode but it's disabled or maybe one needs to be authenticated to the router as a sort of 'super admin' in order to set this mode? Anyone know?

(Wiki) The **BT Smart Hub** (formerly **BT Home Hub**) is a family of [WiFi residential gateway router modems](#) for use by BT & wholesale resellers (i.e. [LLUs](#)) but not with other Internet services. v 5 Home /Smart Hubs support the faster [Wi-Fi](#) 802.11ac as well as 802.11b/g/n stds. All prior to Home Hub 3 support [VoIP](#) Internet telephony via BT's B/b Talk service, and are compatible with [DECT](#) telephone handsets. Since the Home Hub 4, all models have been dual band (i.e. both 2.4 GHz and 5 GHz).

BT Home Hub 1.0, 1.5 and 2.0 devices use a standard [ADSL](#) connection. The 2 versions of Hub 2.0: A (by Thomson), & B (by [Gigaset Comms](#) - now [Sagem](#)). While looks and functionality appear identical, A has been plagued with poorly tested firmware upgrades which, amongst others, cause the A to restart when uploading via WiFi. Hub and DECT phones are no longer compatible with Hubs after v.2.

BT Home Hubs 3 and 4 support [PPPoA](#) for [ADSL](#) and [PPPoE](#) for [VDSL2](#), in conjunction with an Openreach-provided VDSL2 modem to support BT's [FTTC](#) network ([BT Infinity](#)) & FTTP. There are two variants of several hubs, inc. Hub 4, A and B.

Home Hub5, from Aug 2013, includes a VDSL2 modem for fibre-optic connections. BT automatically pushes out new firmware to Internet connected Home Hubs.

From June 2016 BT supplied Home Hub 6, with better WiFi, more antennae, supporting 802.11ac, and a USB 3.0 rather than USB 2.0 port. It has intelligent power management technology to monitor the hub functions, and puts them individually into power-save mode when not in use.

The security of the BT Home Hub has been questioned^[25] by GNUCITIZEN. In Oct 2007 Adrian Pastor warned the community regarding critical vulnerabilities in the Home Hub, with details released in Nov. He demonstrated how to get root privileges on the BT Home Hub by getting a user to call a web page crafted by the attacker. In May 2017, it was reported that many BT Smart Hub customers suffered from problems with the router constantly rebooting and unable to maintain a reliable internet connection.

The Home Hub 5, released in mid-Oct 201, is an upgrade to Hub 4, with Gigabit Ethernet connections, 802.11ac Wi-Fi and an integrated VDSL modem. 2 variants of the Hub, A with a Lantiq chipset (ECI), and B with Broadcom. You can replace the firmware of Hub 5A (& the identical 'Plusnet Hub One' and 'BT Business Hub 5A') with [OpenWRT](#), unlocking it from BT and providing the features of OpenWRT.

The BT Home Hub confign. software is compatible with both [Mac](#) and [Win](#) OS, although use of this s/w is optional and PCs without it will still be able to connect to the Hub and browse the Internet normally.

The BT Home Hub4 appeared in May 2013. It uses smart dual band technology; unique amongst UK-based ISP routers.

BT Hub Phones

The BT Hub Phone is an optional [handset](#) that can be bought to work in conjunction with the BT Home Hub 2.0. It calls using the BT Broadband Talk service, and may sit in a [dock](#) in the front of the Home Hub or be used on its own stand. It uses Hi-def sound technology when calls between Hub Phones are made. A DECT telephone may be used instead.

With each BT Home Hub released up to 2.0, a new phone model was made to accompany it:

- BT Home Hub 1.0: was supplied with the BT Hub Phone 1010
- BT Home Hub 1.5: was supplied with the BT Hub Phone 1020 (The only difference between the 1010 and the 1020 was the lack of the colour screen and supporting features on the 1020.)
- BT Home Hub 2.0: was supplied with the BT Hub Phone 2.1
- The BT Home Hub 3 and 4 do not work with the BT Broadband Talk service or DECT telephones.^[14] After 29 January 2011, BT Broadband Talk was no longer provided as part of BT's broadband packages.

Reset your router & update firmware

VPNFilter malware can infect network routers. Updating the firmware can help against infection as well as removing it by resetting the router

Step 1: Physically unplug your router and modem

Don't use *Reset* or *Restart*; instead, simply unplug your from everything (inc. each other and power). Leave for at least a minute, to fully cool it off and so that devices have all registered that Wi-Fi is down. Plug in & wait a min. or so again to warm up and be ready to pass along its internet connection. Redo all necessary (E-net) connections & wait a couple of mins. for the router to shake hands and re-establish WiFi.

Step 2: Update your firmware

Login to your router. Check for firmware updates and download You can link to: [Linksys setup](#), [TP-Link](#), and [Netgear](#), or refer to a more in-depth [guide for common router brand logins](#)

IP address of your router - Posted on January 16, 2019

Linksys: IPA is "<http://192.168.1.1>". For Smart router, enter "<http://myrouter.local>".
admin is dft. for both the username and password.

D-Link: <http://mydlinkrouter.local>, or <http://192.168.0.1>, or try: 192.168.1.1.
Dft. username is *admin* with the password field **blank**.

Belkin: <http://192.168.2.1>, though <http://router> may also work for you. You likely won't have to enter anything in the username and password fields to access the admin panel - the username field should be left blank; you may have to enter "*admin*".

Netgear: Some Netgear routers feature the login credentials on the bottom or back of the device. enter <http://www.routerlogin.net>, or 192.168.0.1 for the login screen.

The username is almost always *admin*; the password will be either *password*, or *1234* for an older device.
The text URLs make things easier to remember, but it makes the settings skightly more vulnerable.

Other routers:

To find any router's IPA, even if it isn't on the default settings. enter *cmd* in the search field and click to access the Command Prompt; type *ipconfig* to bring up the info on your network's connection.

The **Default Gateway** shows the IPA of the router you're connected to for Internet access. For almost all routers this IPA will access your router's login page.

On **MacOS**, this info. is found in **System Preferences**. Under **Network**, select the tab corresponding to your current connection (wired or wireless), and click **Advanced**. Select the TCP/IP tab, and the IPA of the router will appear either as **Router or Default Gateway**, depending on the MacOS version.

- [RouterPasswords](#) has compiled a large database of default usernames and passwords. If you can't log in to the admin panel with these, you'll need to perform a factory reset.
- [How to extend Wi-Fi range with another router](#)
- [Hacker infects 100K routers in latest botnet attack aimed at sending email spam](#)
- [Apple discontinues AirPort Extreme, Time Capsule as it exits Wi-Fi router business](#)

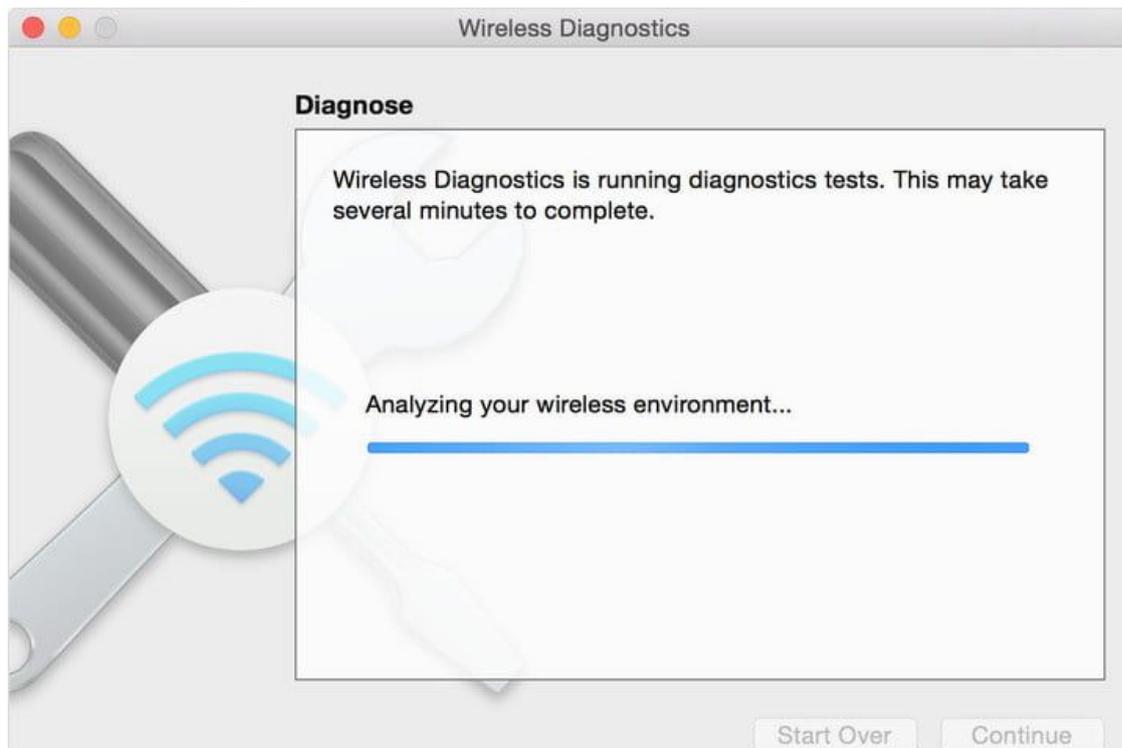
[Gmail's unsend email feature is one of its best. Here's how to use it](#)

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How to fix problems with your MacBook's Wi-Fi December 23, 2018

Run wireless diagnostics



Modern versions of MacOS (since Mt Lion) have [a diagnostic tool](#) to check the WiFi network. Hold down the “Option” key and select the Wi-Fi icon in the upper-right corner of screen. Select the “Open Wireless Diagnostics” option, Enter your login password if necessary, and wait for the diagnostics to complete.

Check the summary of diagnostics. If diagnostics finds a major problem, it may stop

Check your Wi-Fi connection and restart

If Wi-Fi is [acting poorly](#) for other devices it's a good sign that the network itself is at fault. Start with a router inspection & check cables.

Try [router](#) reset. Remember to unplug router from the modem and wait before turning your router back on.

[network adapter in Windows 8](#) - 16. September 2012

Is your network connection running slow? Or maybe your Internet browser isn't allowing you to go to specific websites? Installing / uninstalling applications or viruses / malware / spyware can add unwanted entries into the network protocol. If so, it may be time to reset your network adapter inside of **Windows 8**.



Command Prompt with administrator privileges in Windows 8

Windows 8 has a built-in administrator tool, **Network Shell** (*Netsh*), that allows you to configure and monitor network adapters on your **Windows 8** computer. **Netsh** can completely reset your network adapter back to it's default state. It can also reset the **Windows Firewall** in **Windows 8** too. All you need is a **Command Prompt** with administrator privileges.

Opening a Command Prompt with admin privileges in Win 8

To use **Netsh**, you will need to open a **Command Prompt** with administrator privileges. There are a few of ways to do this: See below for range of Netsh commands.

Using a mouse

1. Go to the Start menu.
2. Right click the Start menu background to bring up the app commands.
3. Select 'All apps'.
4. Right click 'Command Prompt' tile to bring up the app commands.
5. Select 'Run as administrator'. If you're prompted for an administrator password or confirmation, type the password or provide confirmation.

Using a keyboard

1. Go to the Start menu
2. Press the Windows logo key + Z to open the app commands.
3. Press Enter to select 'All apps'.
4. Use the arrow keys to navigate to the 'Command Prompt' tile.
5. Press the Application key  to bring up the app commands.
6. Use the arrow keys to navigate to 'Run as administrator' and press Enter. If you're prompted for an administrator password or confirmation, type the password or provide confirmation.

Using touch

1. Go to the Start menu.
2. Swipe up from the bottom of the Start menu to bring up the app commands.
3. Select 'All apps'.
4. Scroll to the 'Command Prompt' tile and press and hold it to bring up the app commands.
5. Select 'Run as administrator'. If you're prompted for an administrator password or confirmation, type the password or provide confirmation.

Netsh commands for resetting your network adapter in Win 8

At **CMD Prompt** with administrator privileges you can reset a n/w adapter in **Win8** via **Netsh** commands:

netsh advfirewall reset *restores the Windows Firewall with Advanced Security policy to the default. The current active policy can be exported to a specified file. In a Group Policy object, this command returns all settings to not configured and deletes all connection security and firewall rules.*

netsh branchcache reset *resets the BranchCache service & flushes local cache. All parameters set to dft.*

netsh int ip reset *resets TCP/IP and related components to a clean state.*

netsh int ipv6 reset *resets IPv6 configuration state.*

netsh winsock reset *resets Winsock Catalog to a clean state. All Winsock Layered Service Providers must be reinstalled. This command does not affect Winsock Name Space Provider entries.*