Table of Contents

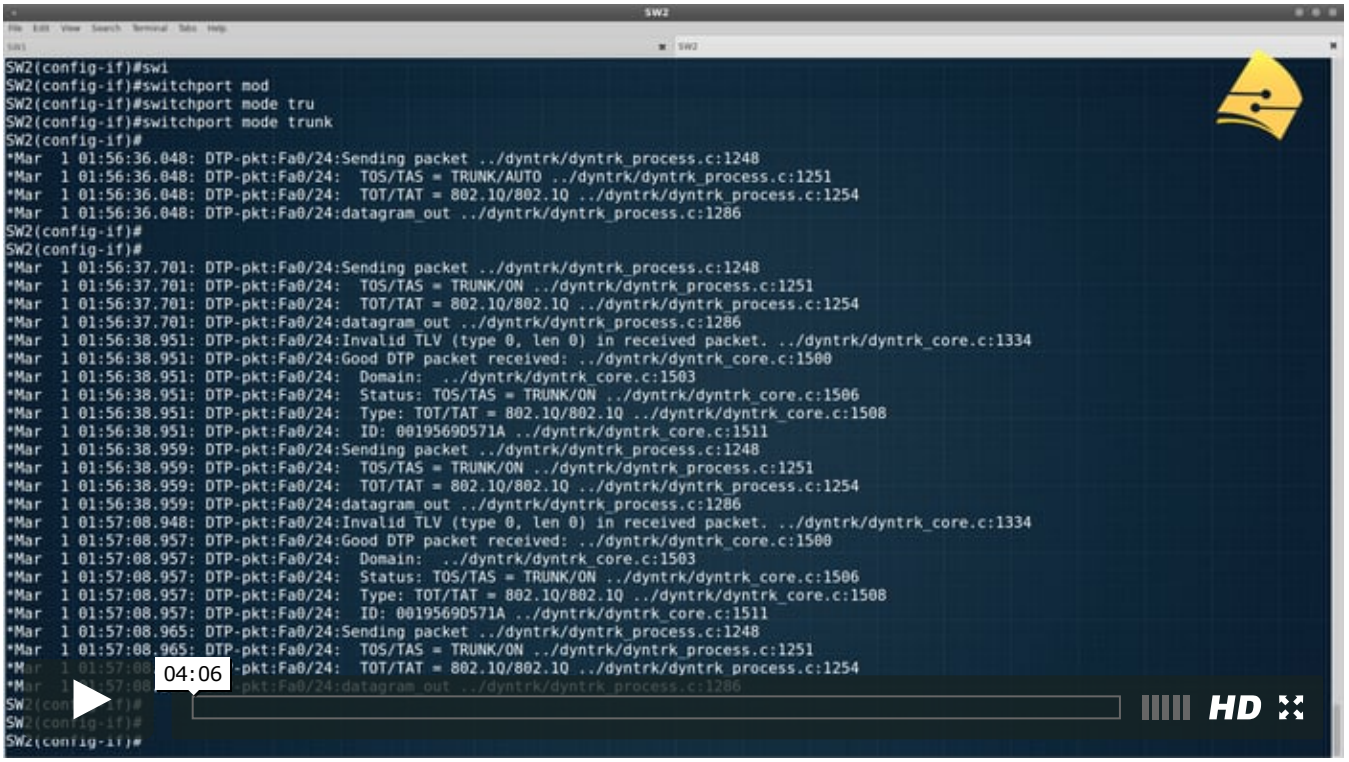
CCIE Routing & Switching

Cisco DTP (Dynamic Trunking Protocol) Negotiation

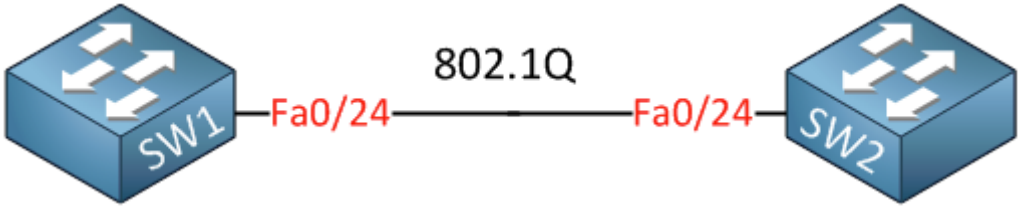
13 votes

In this tutorial we'll take a look at DTP (Dynamic Trunking Protocol) negotiation. DTP is normally used on Cisco IOS switches to negotiate if the interface should become an access port or trunk.

By default DTP is enabled and the interfaces of your switches will be in “dynamic auto” or “dynamic desirable” mode. This means that whenever you receive a DTP packet that requests to form a trunk, your interface will be in trunk mode. If you are unfamiliar with DTP and the different interface settings then you might want to read my “How to configure Trunk on Cisco Catalyst Switch” lesson before continuing.



Let’s take a look at DTP negotiation and how to disable it. I’ll be using two switches for this:



I didn’t configure anything on my switches, let’s see what the default settings are:

```
SW1#show interfaces fa0/24 switchport
Name: Fa0/24
Switchport: Enabled
Administrative Mode: dynamic auto
Operational Mode: static access
```

```
Administrative Trunking Encapsulation: negotiate
Operational Trunking Encapsulation: native
Negotiation of Trunking: On
```

```
SW2#show interfaces fastEthernet 0/24 switchport
Name: Fa0/24
Switchport: Enabled
Administrative Mode: dynamic auto
Operational Mode: static access
Administrative Trunking Encapsulation: negotiate
Operational Trunking Encapsulation: native
Negotiation of Trunking: On
```

Without configuring anything on the interfaces, we are using **dynamic auto** mode and as a result the interfaces are in **access** mode.

> Depending on the switch model and IOS version, the default might be “dynamic auto” or “dynamic desirable”. The switches in my example are Cisco Catalyst 3560 switches.

There are two ways to disable DTP negotiation:

- Configure the interface for access mode.
- Use the **switchport nonegotiate** command on the interface.

Configuring the interface for trunking does not disable DTP negotiation, let me give you an example. First we’ll configure the interfaces for access mode:

```
SW1(config)#interface fastEthernet 0/24
SW1(config-if)#switchport mode access
```

```
SW2(config)#interface fastEthernet 0/24
SW2(config-if)#switchport mode access
```

When we look again at the switchport settings we can see that DTP negotiation is now disabled:

```
SW1#show interfaces fastEthernet 0/24 switchport
```

```
Name: Fa0/24
Switchport: Enabled
Administrative Mode: static access
Operational Mode: static access
Administrative Trunking Encapsulation: negotiate
Operational Trunking Encapsulation: native
Negotiation of Trunking: Off
```

So configuring an interface yourself to use access mode disables DTP negotiation. How about creating a trunk ourselves?

```
SW1(config)#interface fastEthernet 0/24
SW1(config-if)#switchport trunk encapsulation dot1q
SW1(config-if)#switchport mode trunk
```

```
SW2(config)#interface fastEthernet 0/24
SW2(config-if)#switchport trunk encapsulation dot1q
SW2(config-if)#switchport mode trunk
```

Does this mean that DTP negotiation will also be disabled?

```
SW1#show interfaces fastEthernet 0/24 switchport | include Negotiation
Negotiation of Trunking: On
```

Unfortunately not. If you configure a trunk yourself, DTP negotiation is still enabled. We can disable it but there's another command we have to use:

```
SW1(config)#interface fastEthernet 0/24
SW1(config-if)#switchport nonegotiate
```

```
SW2(config)#interface fastEthernet 0/24
SW2(config-if)#switchport nonegotiate
```

This disables DTP for trunk interfaces. Let's verify it:

```
SW1#show interfaces fastEthernet 0/24 switchport | include Negotiation
Negotiation of Trunking: Off
```

Now it's disabled! You have now learned the two methods to disable DTP negotiation. If you have any questions, feel free to leave a comment.

Rate this Lesson:

« Previous Lesson
How to configure a trunk between switches

Next Lesson
802.1Q Tunneling (Q-in-Q) »

Home › Forums › Cisco DTP (Dynamic Trunking Protocol) Negotiation

This topic contains 7 replies, has 5 voices, and was last updated by Navdip N 2 months ago.

Viewing 7 posts - 1 through 7 (of 7 total)

- Author
  Posts | Subscribe
- March 11, 2014 at 22:06 #12022 Reply

zahir
Thanks Rene very useful

October 6, 2015 at 12:22 #17823 Reply

Prince

Participant
Dear René,

Is it to avoid a security issue that we disable DTP ? If someone bring a rogue switch and plug it et voilà we negociate a trunk ?

Thks,

Prince

October 6, 2015 at 20:53 #17863 Reply

Rene Molenaar
Keymaster
Hi Prince,

That's correct, this could be dangerous if your interface is configured for "dynamic auto" or "dynamic desirable".

If you configured the interface in static "access" or "trunk" then negotiatin can't change it anymore but you are still sending DTP packets which is a bit pointless, better to just disable them.

Rene

October 7, 2015 at 10:11 #17870 Reply

Prince
Participant
Thanks for the reply René,

Prince

December 4, 2015 at 17:38 #20056 Reply

Jesse G
Participant
Rene,

Watching you switching videos and I like the background of your terminal. Tale me, which terminal program and font are you using. I would like to use such a background.

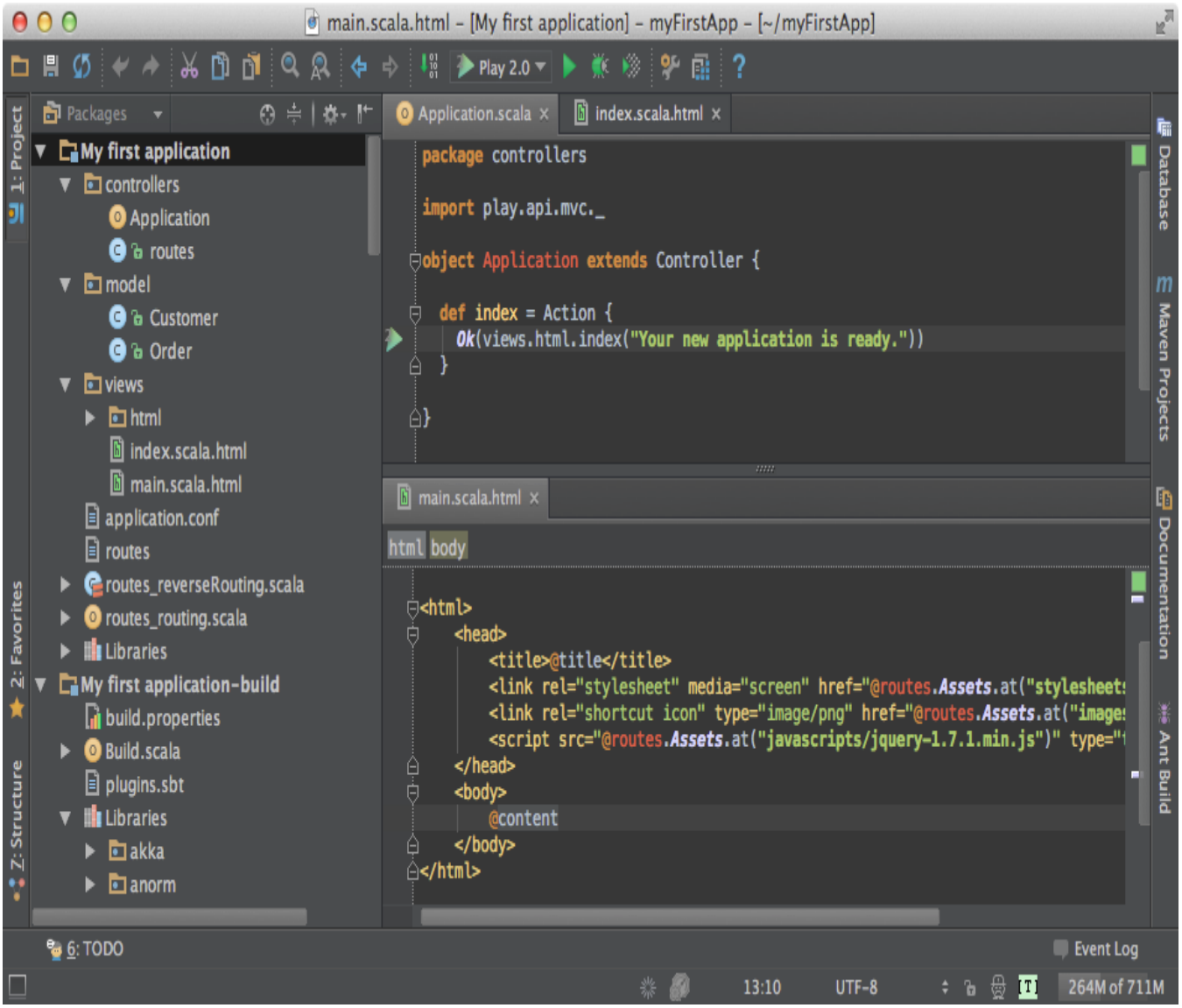
December 7, 2015 at 17:06 #20113 Reply

Rene Molenaar
Keymaster
Hi Jesse,

Which video did you see?

For a long time I used Linux Mint (Mate edition) with the mate-terminal to record these videos. It was the default font, not sure which one that was.

Nowadays I use secureCRT configured to use the same colors as Pycharm's darcula (I liked their colors):



Here's a screenshot of what my SecureCRT looks like:

```
                    [0, 1, 2, ..., 999]
            """,

            "whitespace normalization": r"""
                If the whitespace normalization flag is used, then
                differences in whitespace are ignored.
                    >>> print range(30) #doctest: +NORMALIZE_WHITESPACE
                    [0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14,
                     15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26,
                     27, 28, 29]
            """,
           }


def _test():
    testfiles = [arg for arg in sys.argv[1:] if arg and arg[0] != '-']
    if not testfiles:
        name = os.path.basename(sys.argv[0])
        if '__loader__' in globals():           # python -m
            name, _ = os.path.splitext(name)
        print("usage: {0} [-v] file ...".format(name))
        return 2
    for filename in testfiles:
        if filename.endswith(".py"):
            # It is a module -- insert its dir into sys.path and try to
            # import it. If it is part of a package, that possibly
            # won't work because of package imports.
            dirname, filename = os.path.split(filename)
            sys.path.insert(0, dirname)
            m = __import__(filename[:-3])
            del sys.path[0]
            failures, _ = testmod(m)
        else:
            failures, _ = testfile(filename, module_relative=False)
        if failures:
            return 1
    return 0


if __name__ == "__main__":
    sys.exit(_test())
```

I'm not sure if this is the best for videos but it's easy on the eyes, even after hours of hardcore Cisco console work 🙂

Rene

April 21, 2016 at 02:26 #23537 Reply

Navdip N
Participant
Very good information.

- Author
  Posts

Viewing 7 posts - 1 through 7 (of 7 total)
Reply To: Cisco DTP (Dynamic Trunking Protocol) Negotiation

b / link b-quote del img ul ol li code close tags

Please put code in between `backticks` or use the CODE button.
To place inline images, please use any image share service (such as TinyPic or Imgur) and use the IMG button!

Notify me of follow-up replies via email

Maximum file size allowed is 2048 KB.

Attachments:
Выберите файл Файл не выбран
Add another file

Submit

About NetworkLessons.com

Hello There! I'm René Molenaar (CCIE #41726), Your Personal Instructor of Networklessons.com. I'd like to teach you everything about Cisco, Wireless and Security. I am here to Help You Master Networking!

Read my story

Social Fans

14,267
FANS

7,929
FOLLOWERS

1,589
SUBSCRIBERS

Highest Rated Lessons

MPLS Layer 3 VPN Configuration
(25 votes)

VRF Lite Configuration on Cisco IOS
(23 votes)

Cisco Portfast Configuration
(20 votes)

IPv6 Address Types
(18 votes)

EIGRP Stub Explained
(17 votes)

New Lessons

Introduction to Cisco IOS XE
ERSPAN Configuration on Cisco IOS XE
IGMP Filter
IGMP Snooping without Router
Cisco Group Management Protocol (CGMP)

Disclaimer
Privacy Policy
Support

Cisco DTP (Dynamic Trunking Protocol) Negotiation written by Rene Molenaar average rating 4.5/5 - 13 user ratings