

The OSI Model



Ross Bagurdes

NETWORK ENGINEER

@bagurdes



Module Goals



Introduction to OSI Model

Modeling Telephone Call

Modeling Networking with OSI



The OSI Model

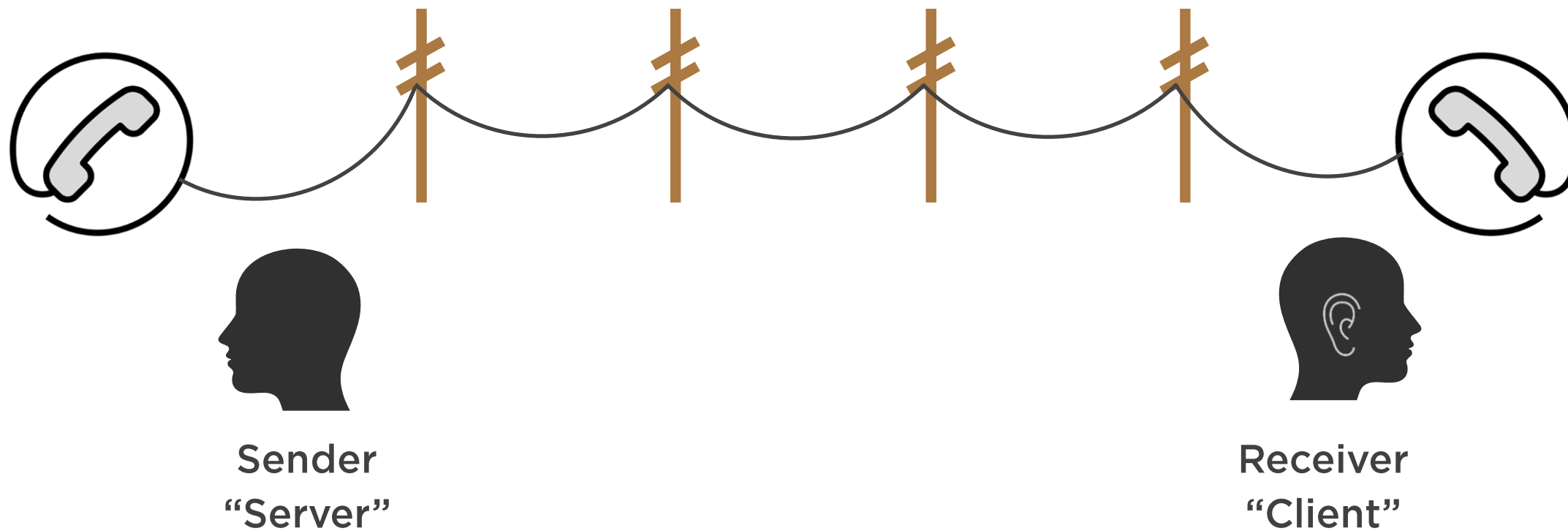


The OSI Model

Open Systems Interconnect



Moving Information Telephone



Modeling Systems

1.2

Message

Concept

English

Language

Vibration

Link

Air

Physical



Electric Pulse

Copper wire



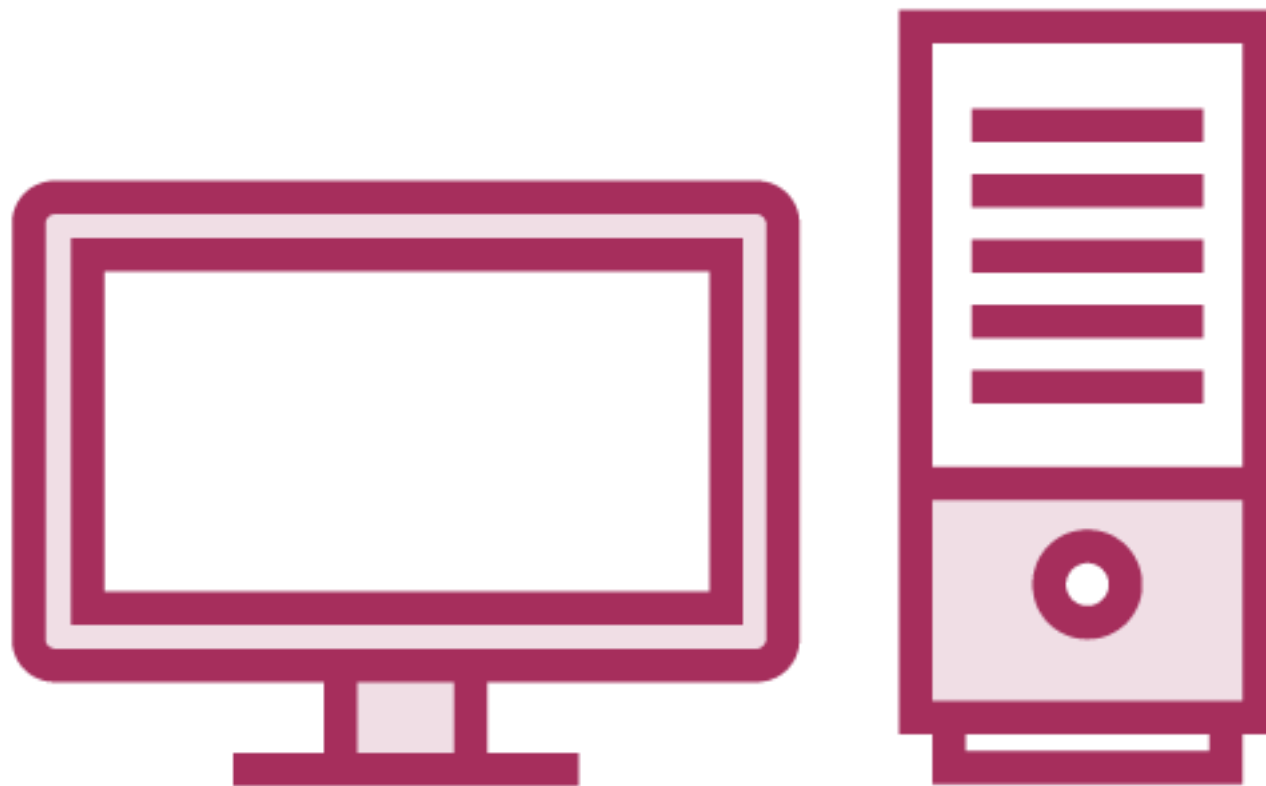
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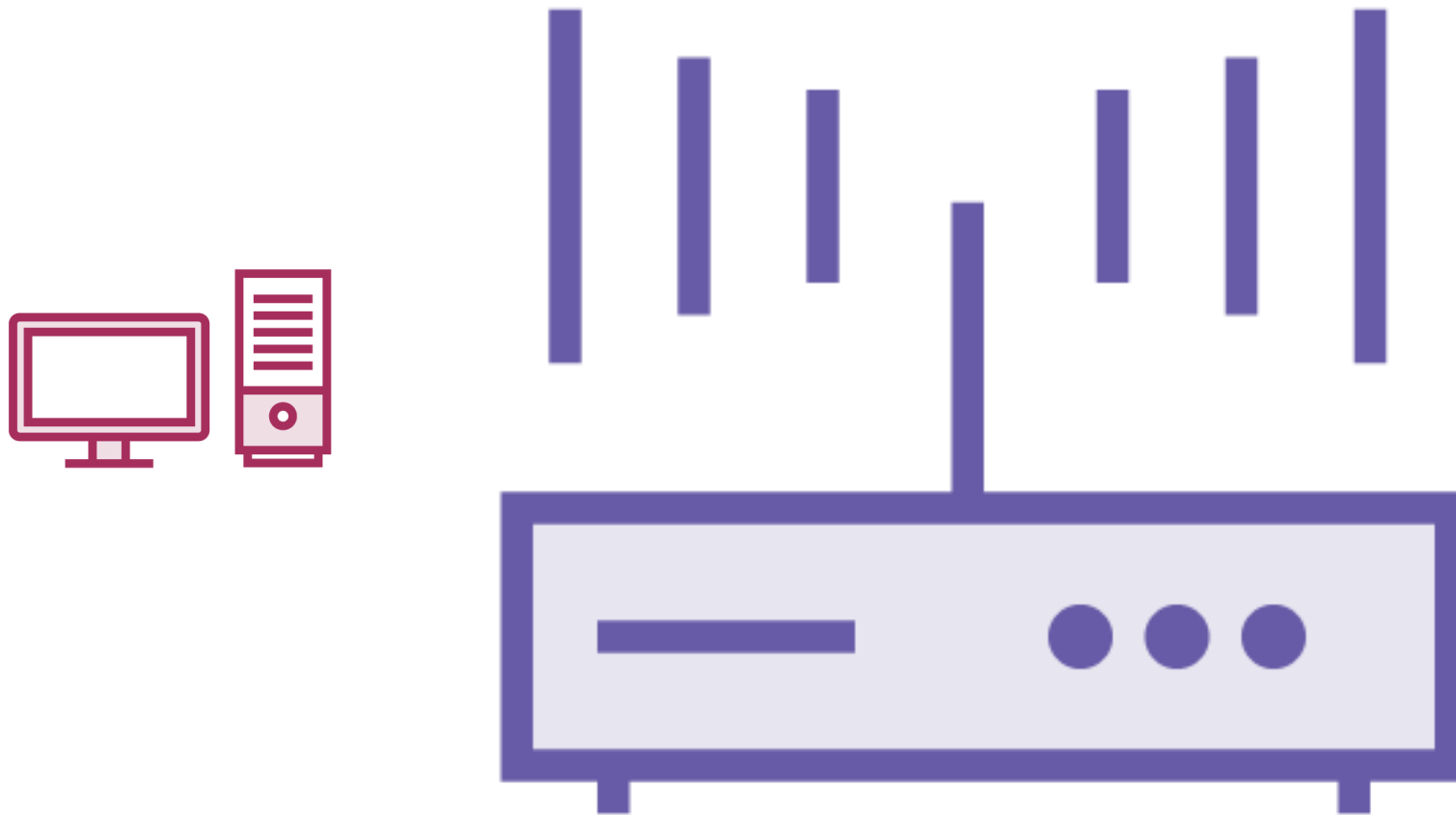
English

Vibration

Air







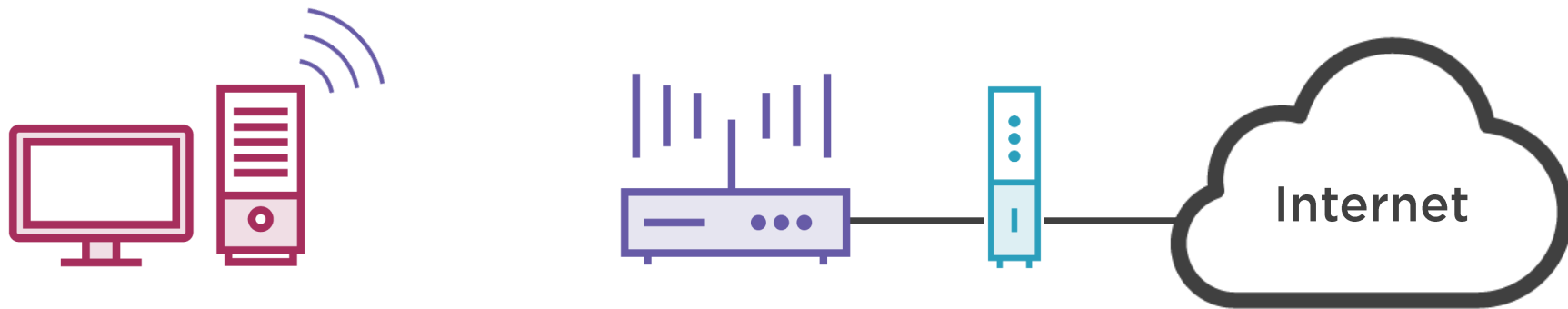


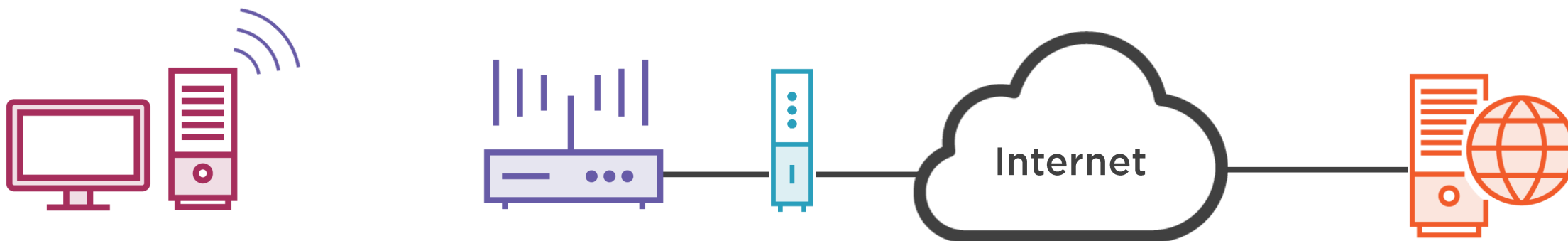


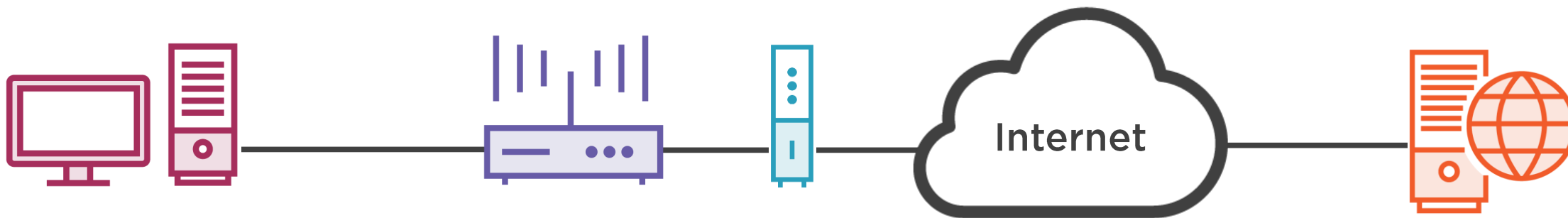




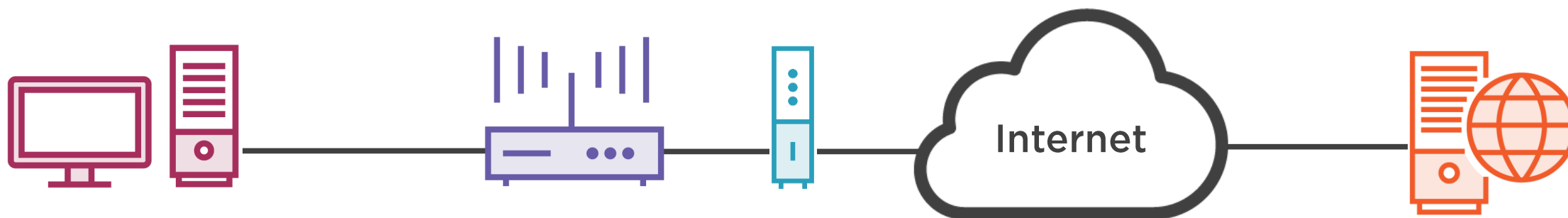




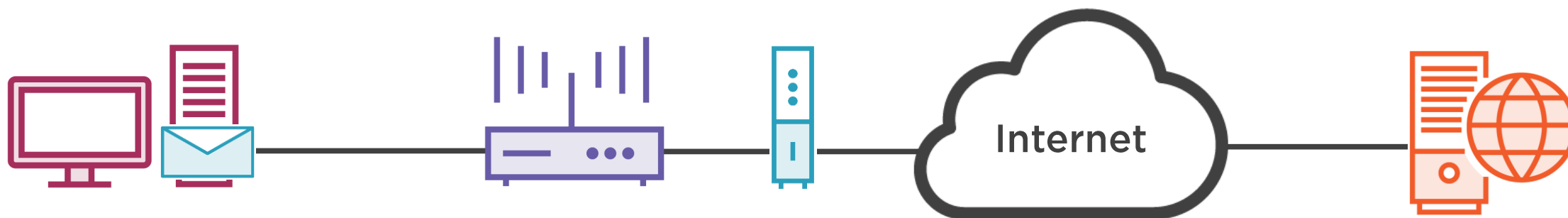




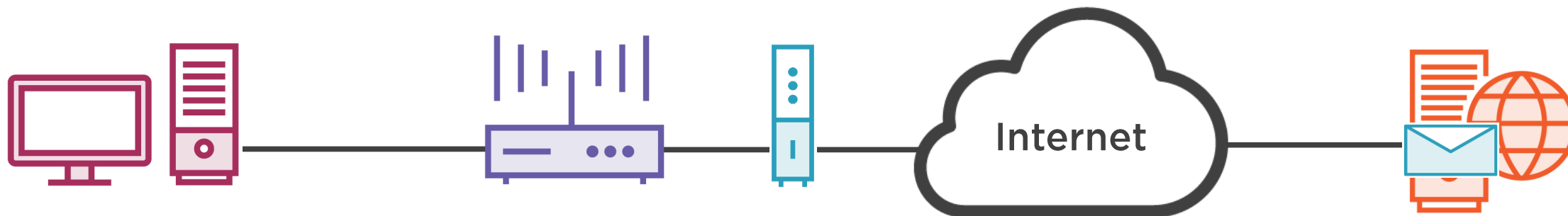
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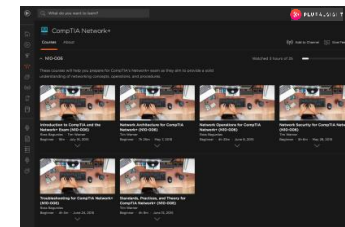
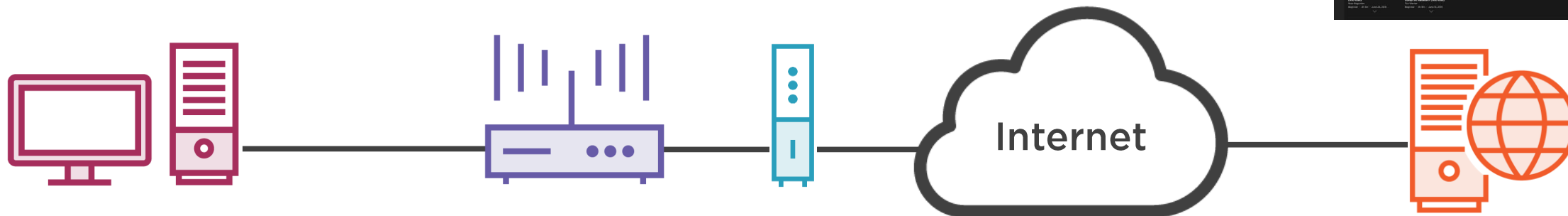
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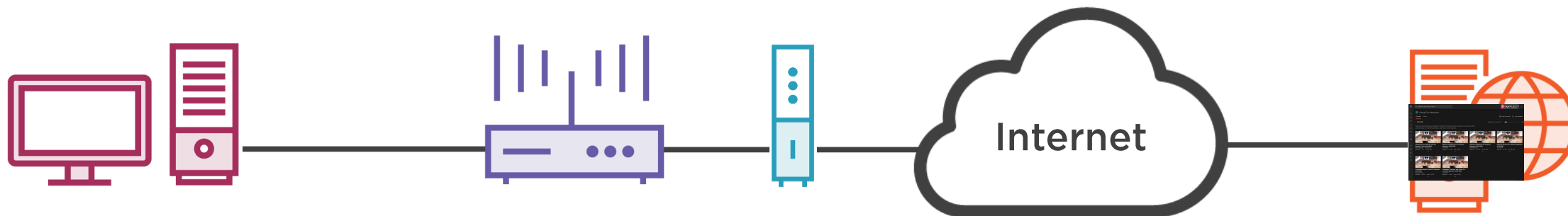
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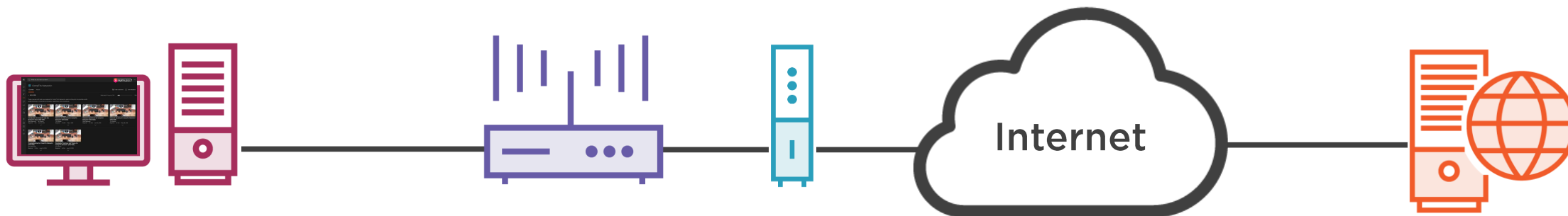
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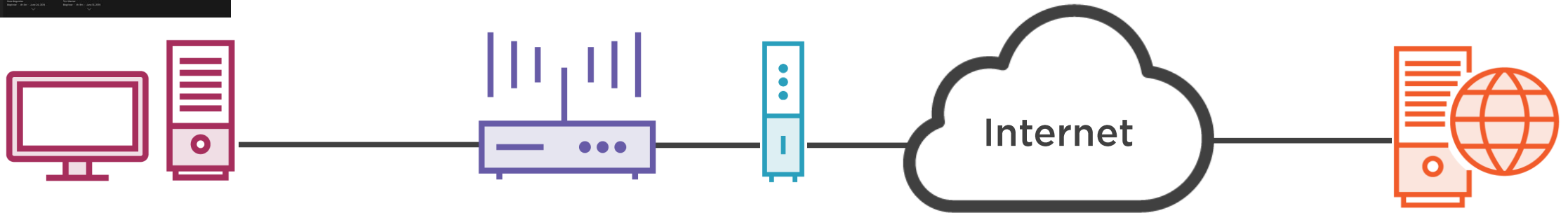
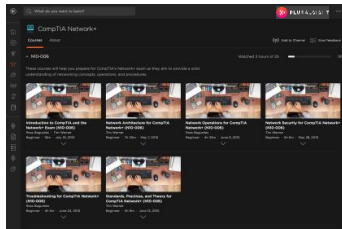
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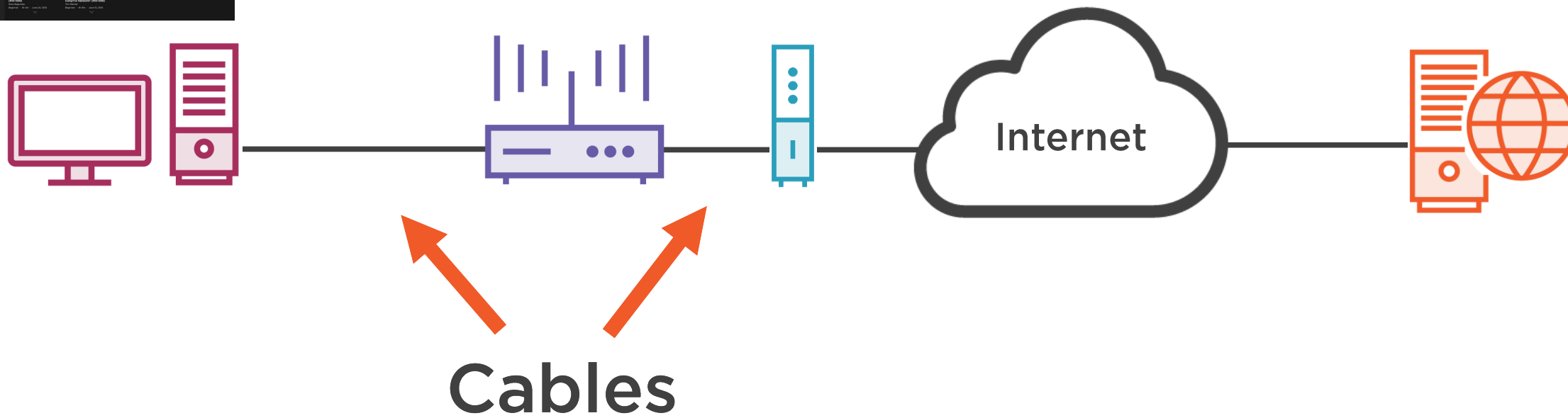
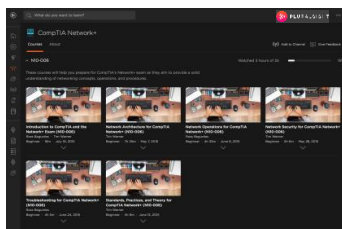
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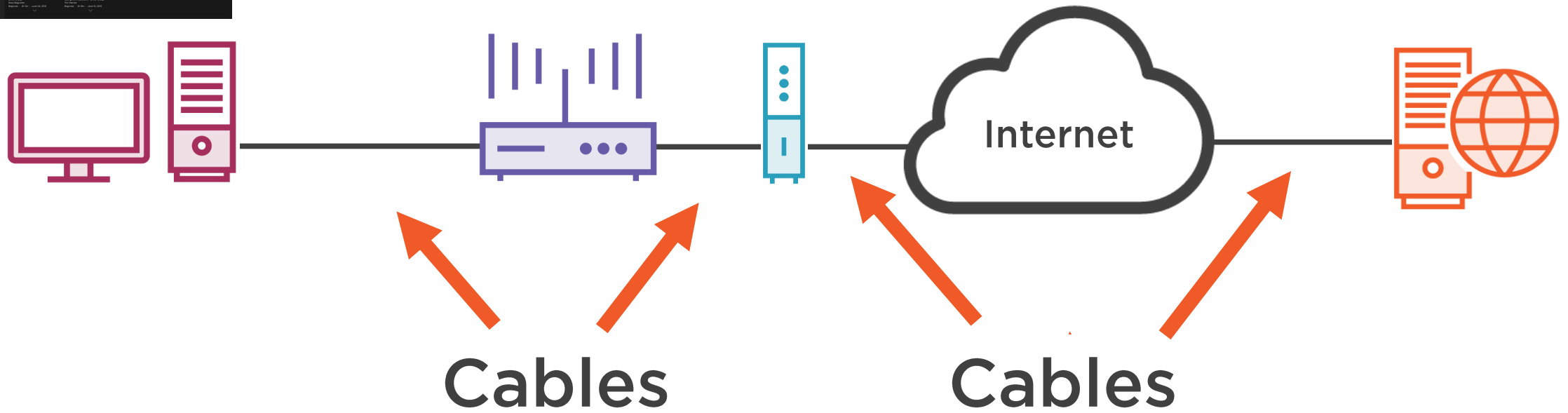
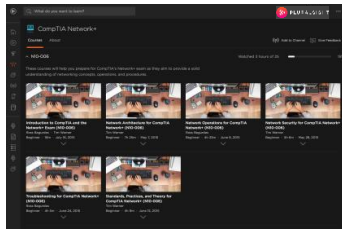
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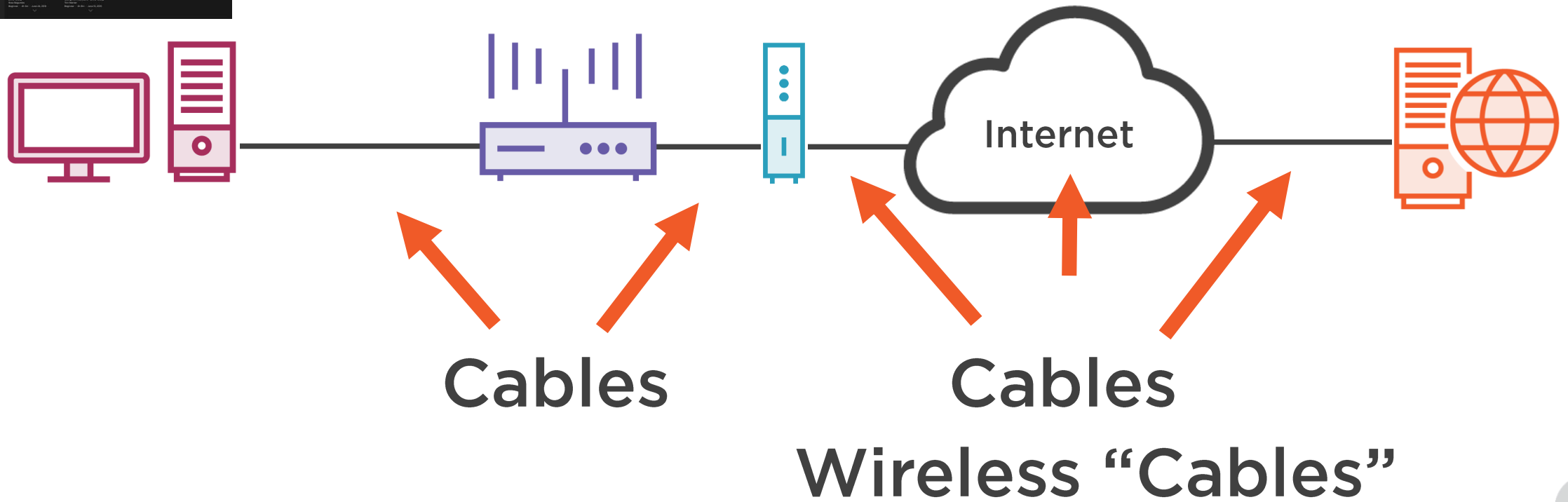
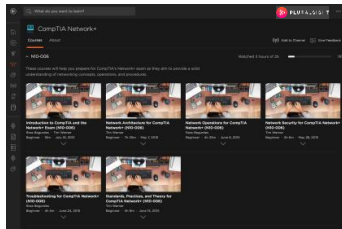
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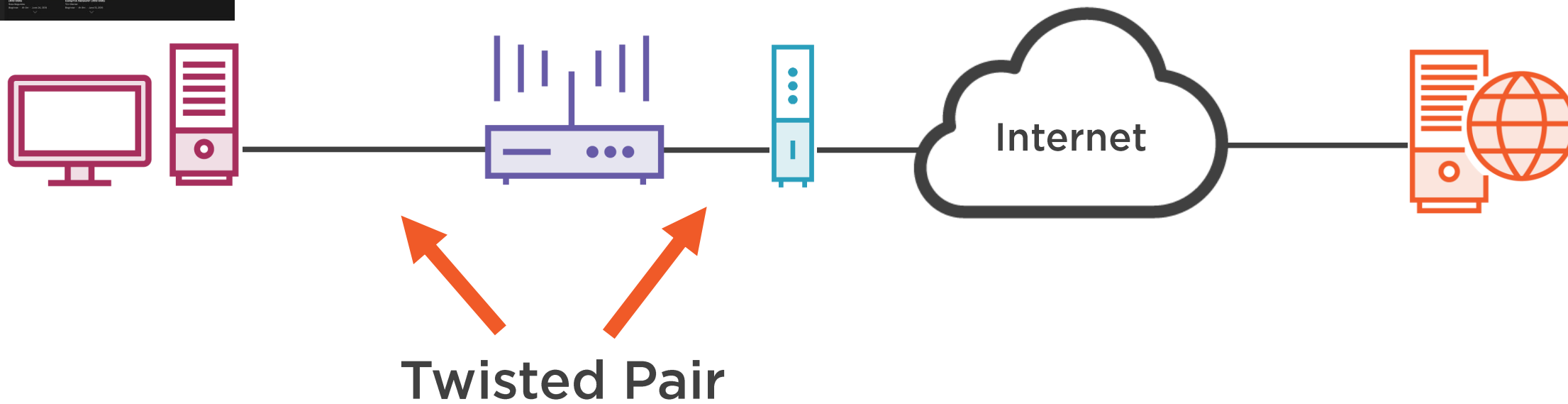
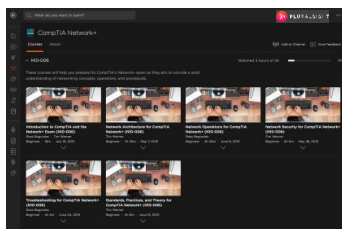
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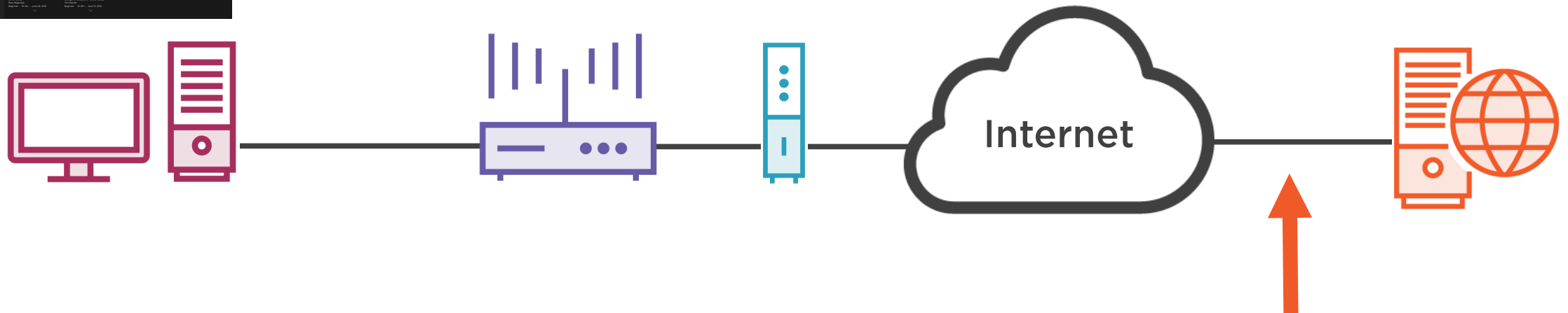
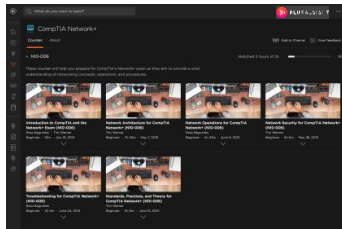
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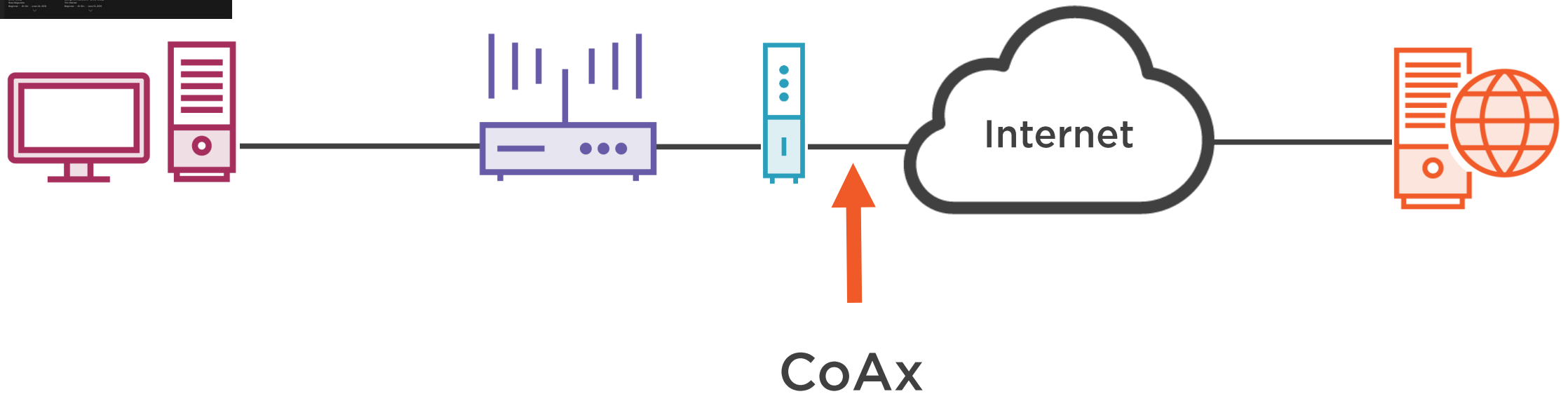
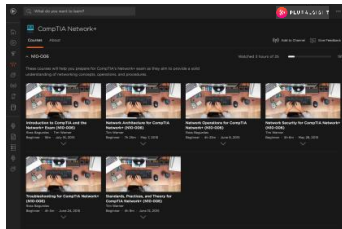
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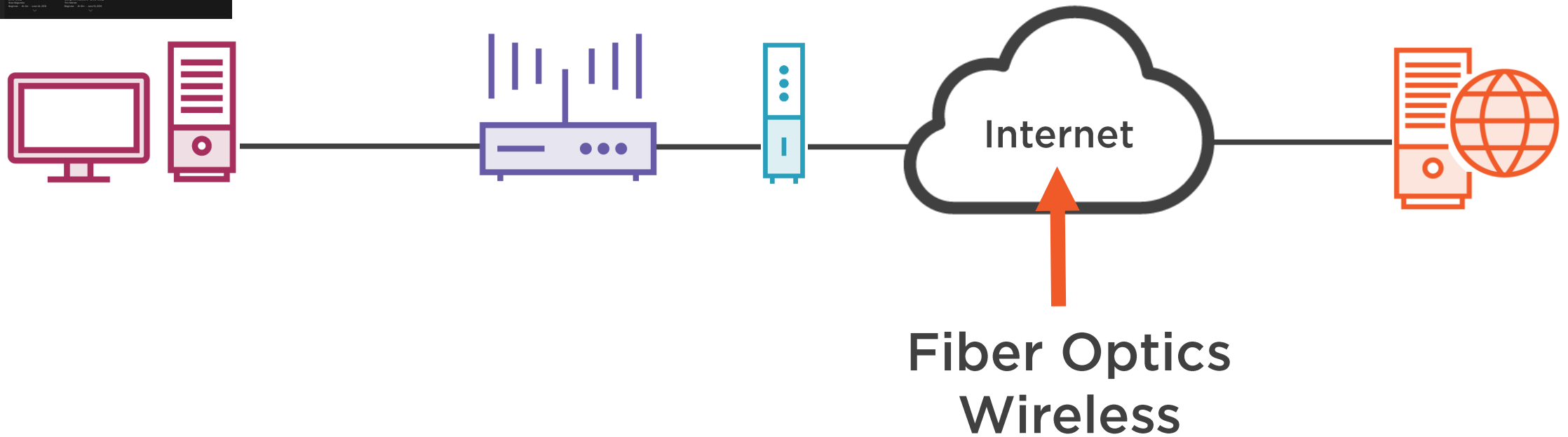
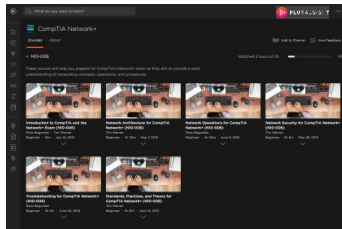
Twisted Pair



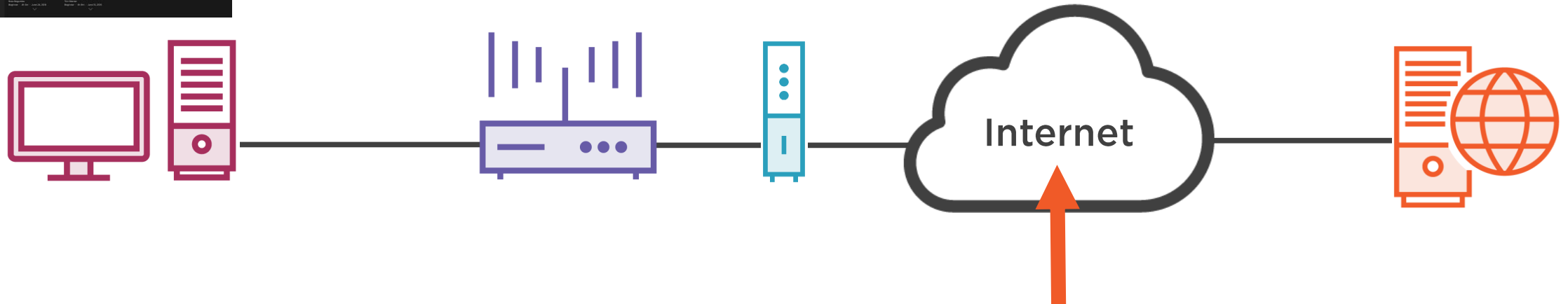
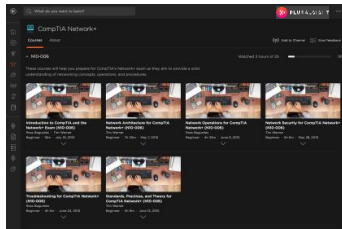
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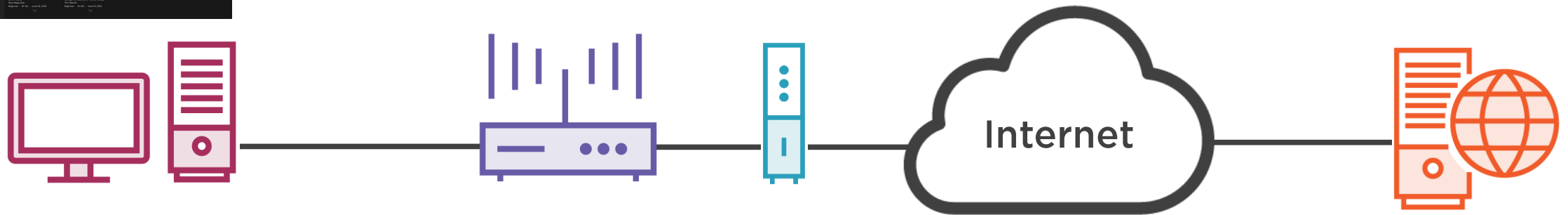
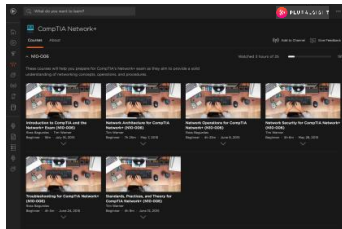
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Fiber Optics
Wireless
Copper



<https://www.pluralsight.com/>



Physical Layer

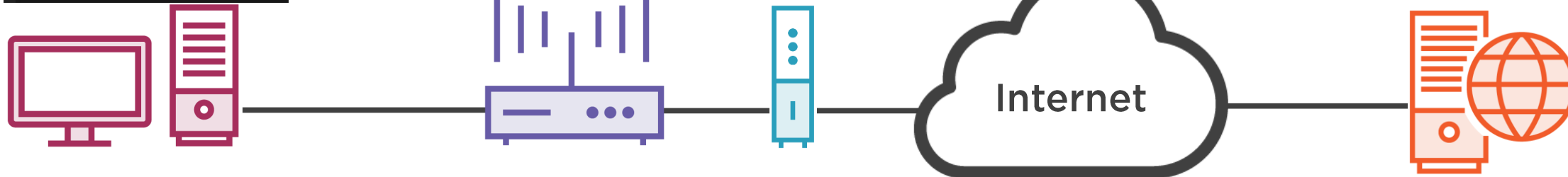
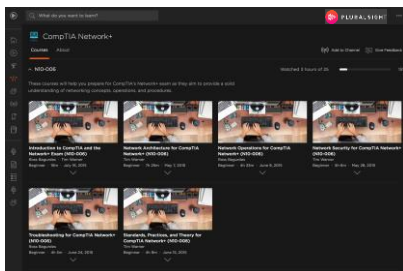


OSI Model

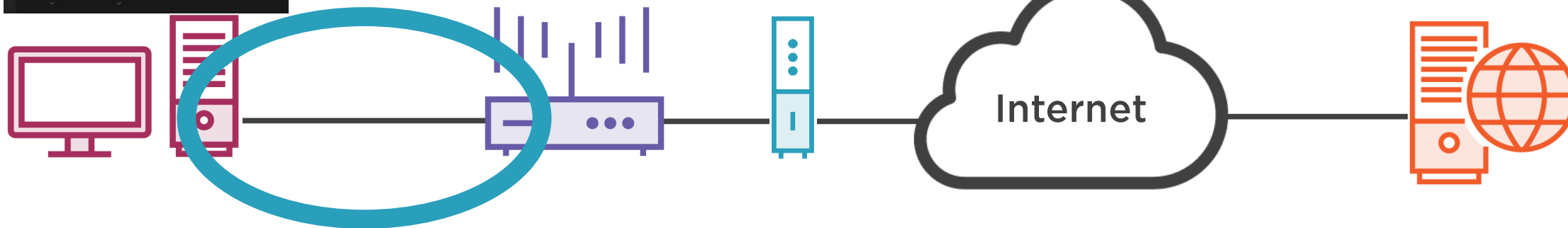
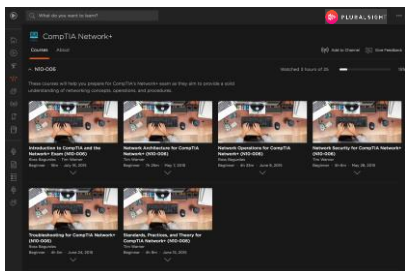
7	
6	
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2	
1	Physical Layer



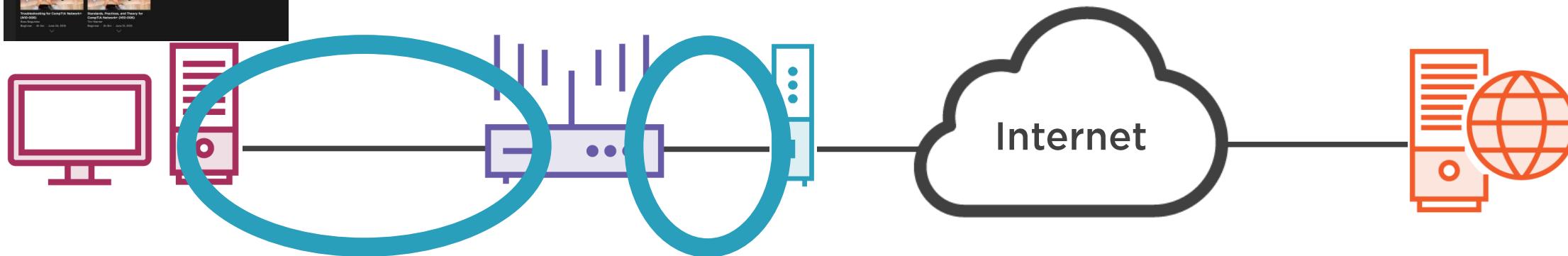
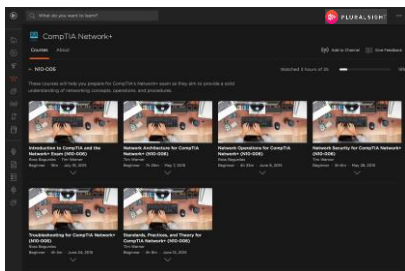
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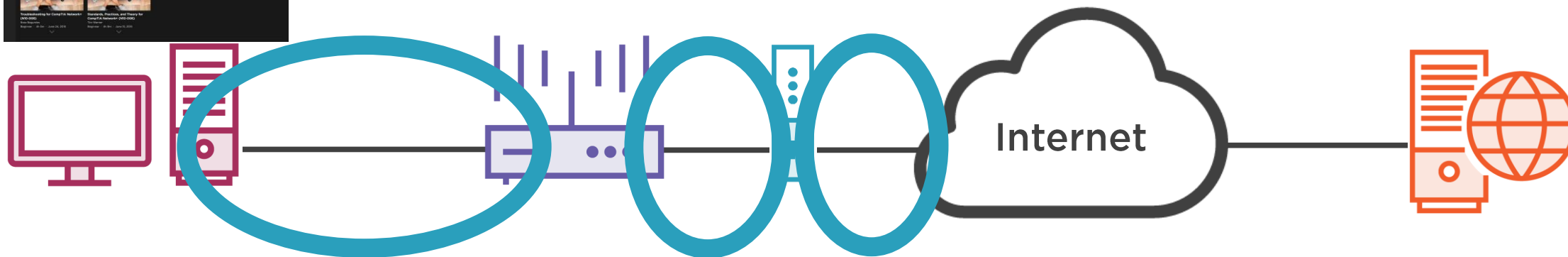
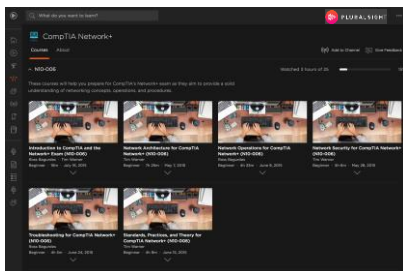
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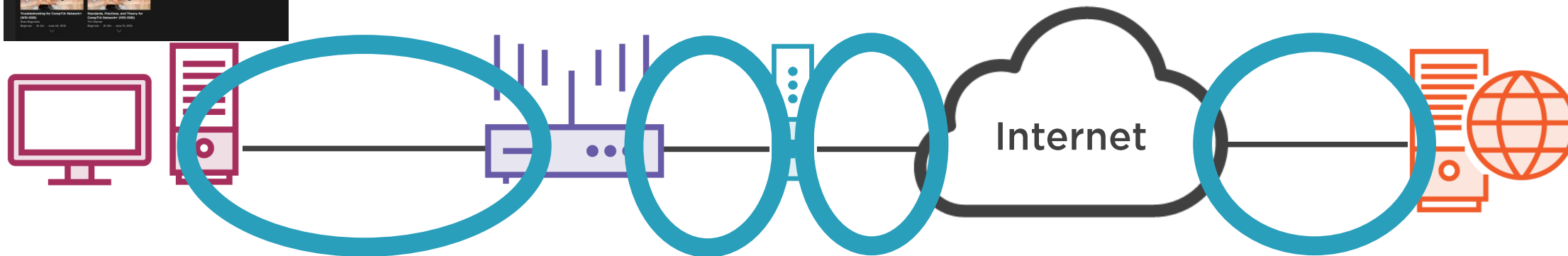
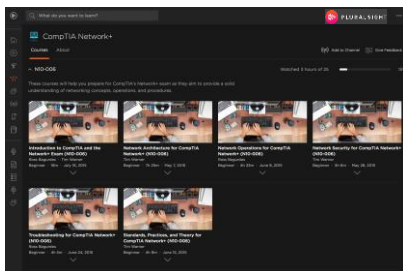
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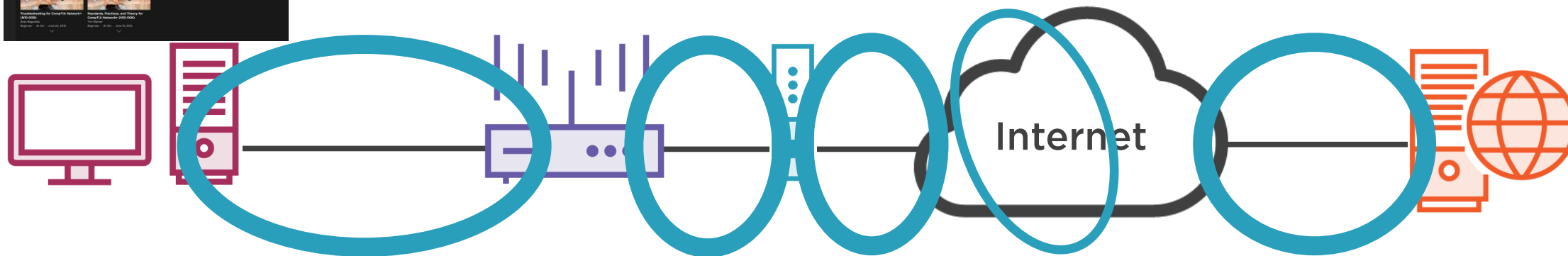
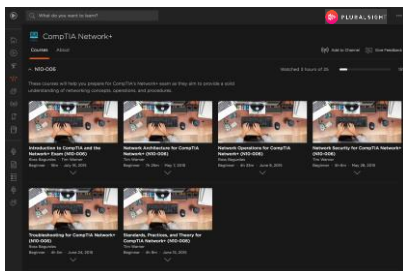
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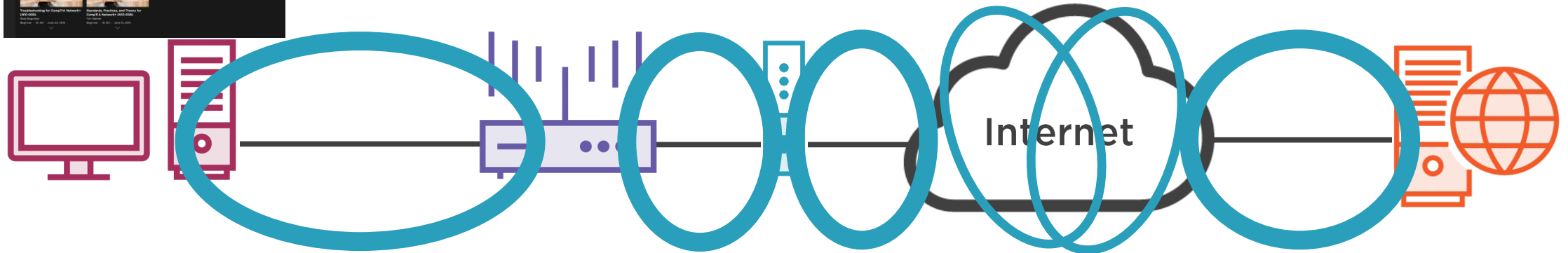
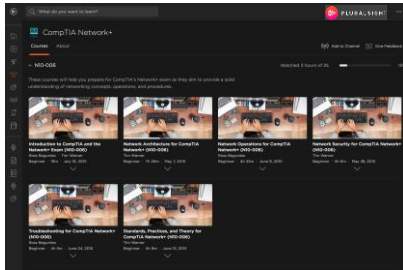
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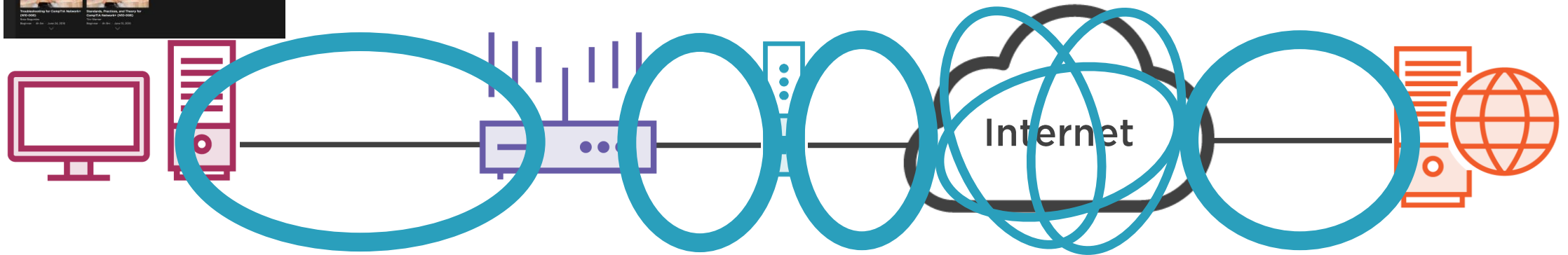
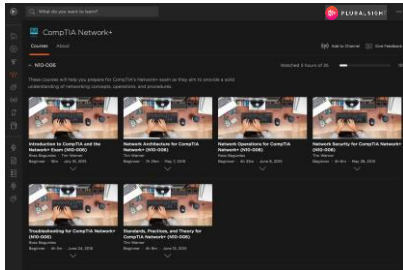
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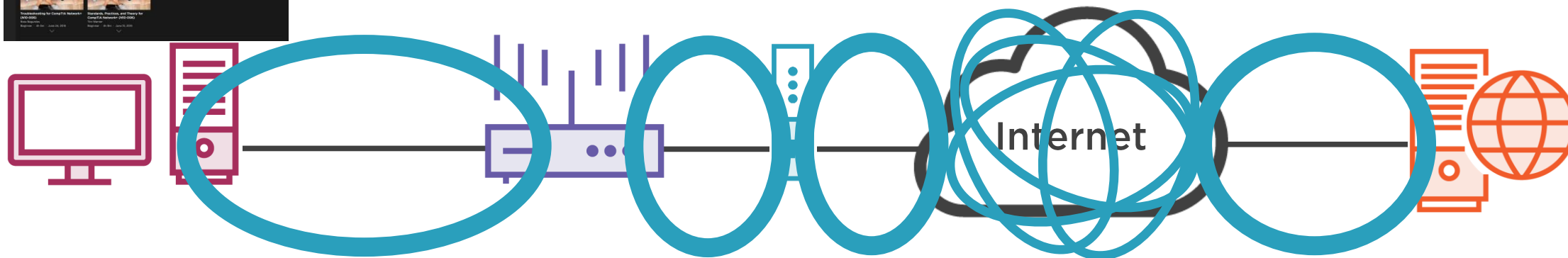
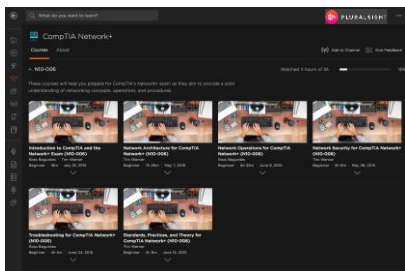
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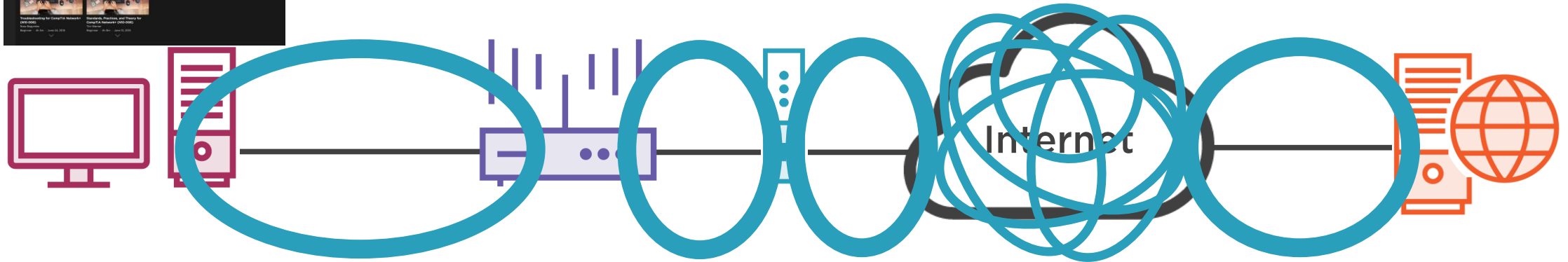
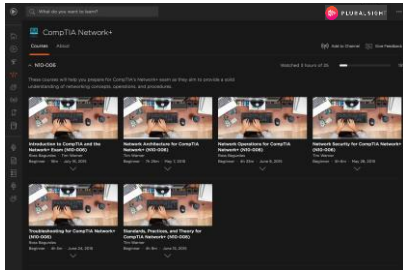
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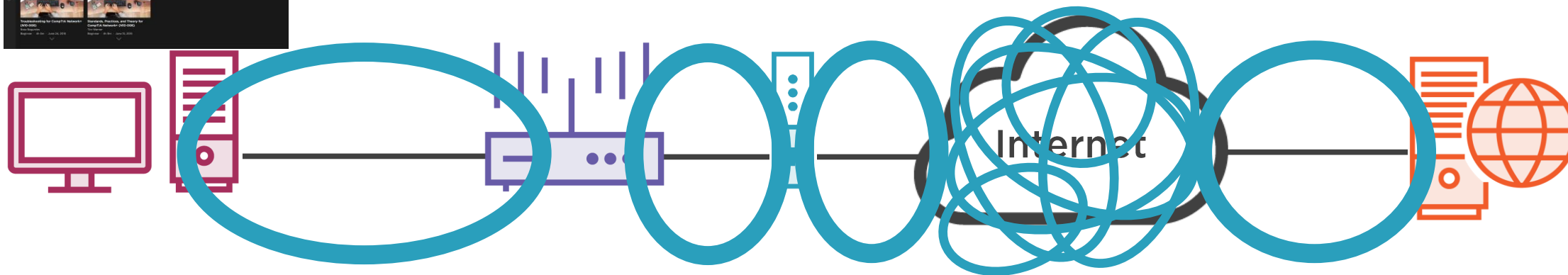
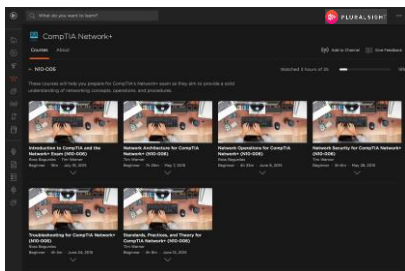
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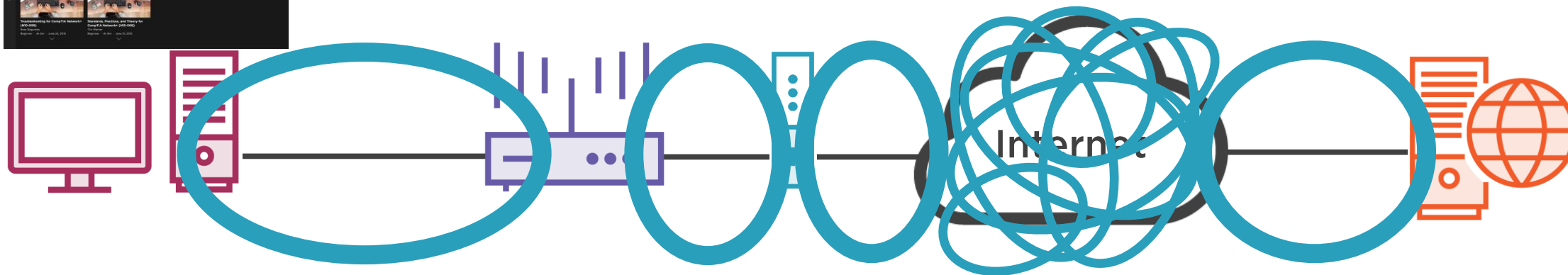
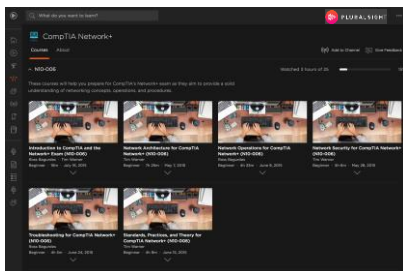
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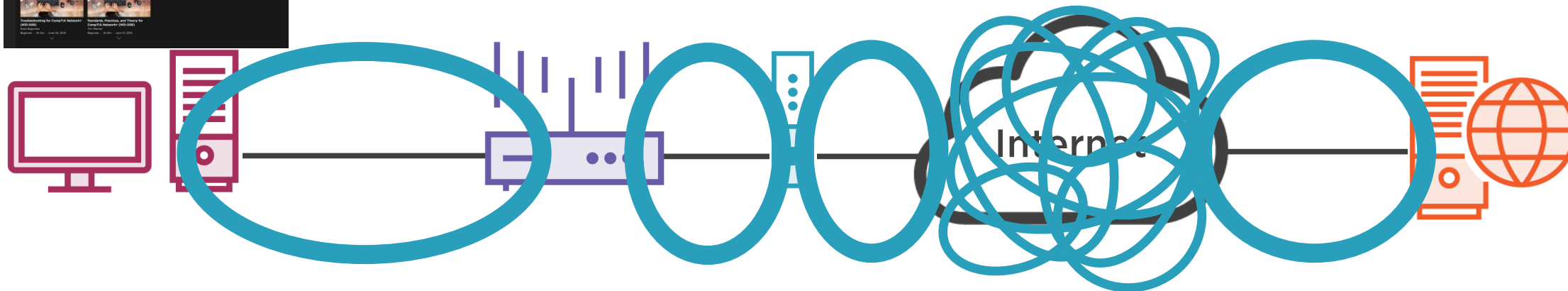
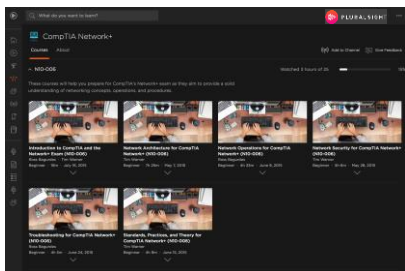
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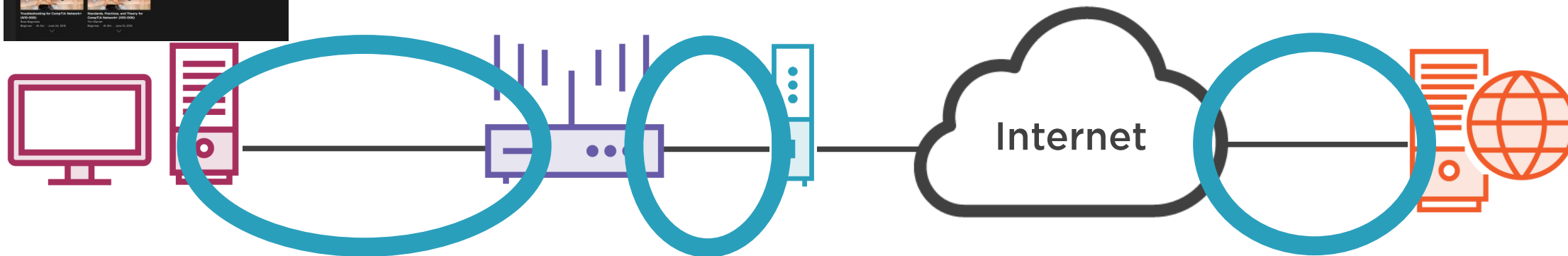
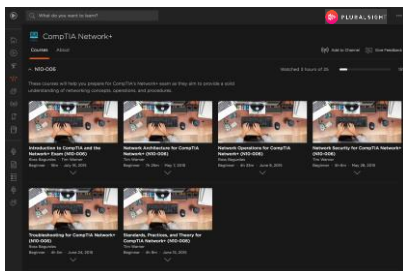
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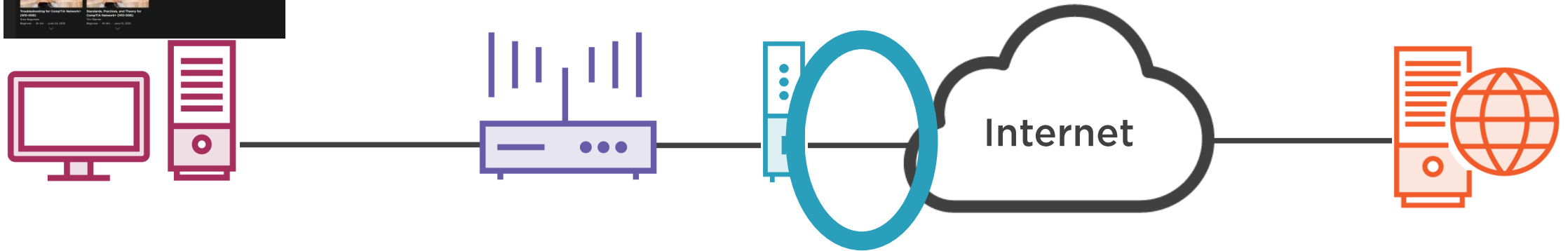
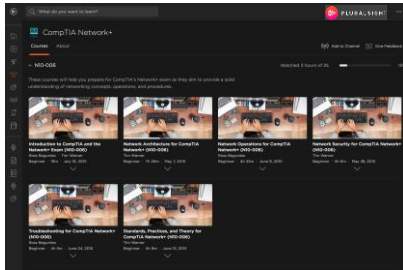
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Ethernet



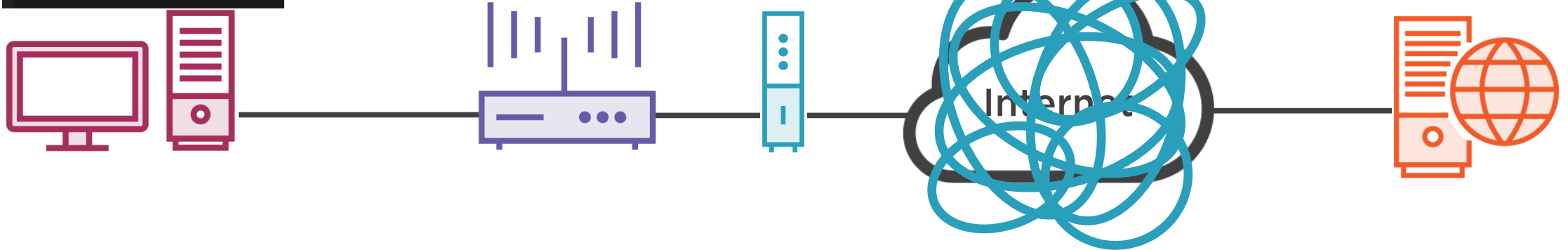
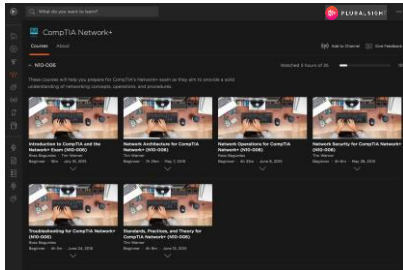
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DOCSIS-3



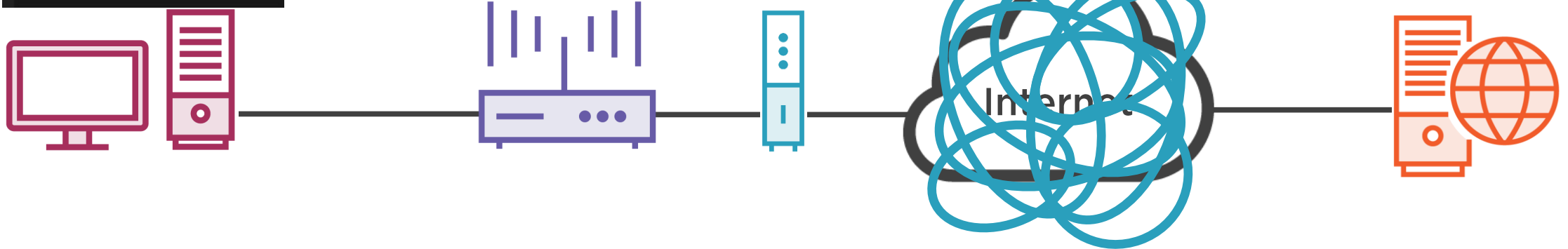
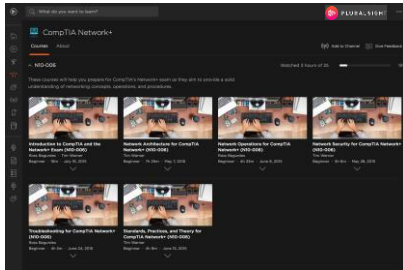
<https://www.pluralsight.com/>



Mainly
Ethernet



<https://www.pluralsight.com/>



Data Link Layer

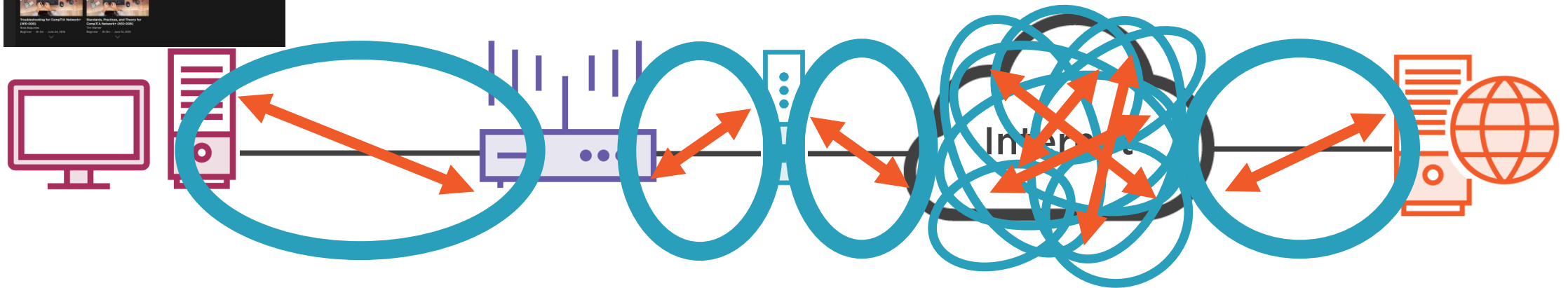
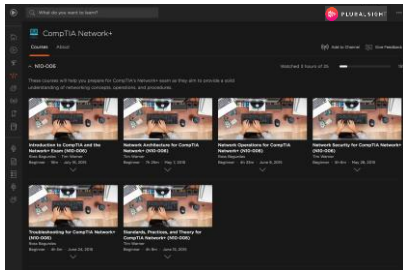


OSI Model

7	
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2	Data Link Layer
1	Physical Layer

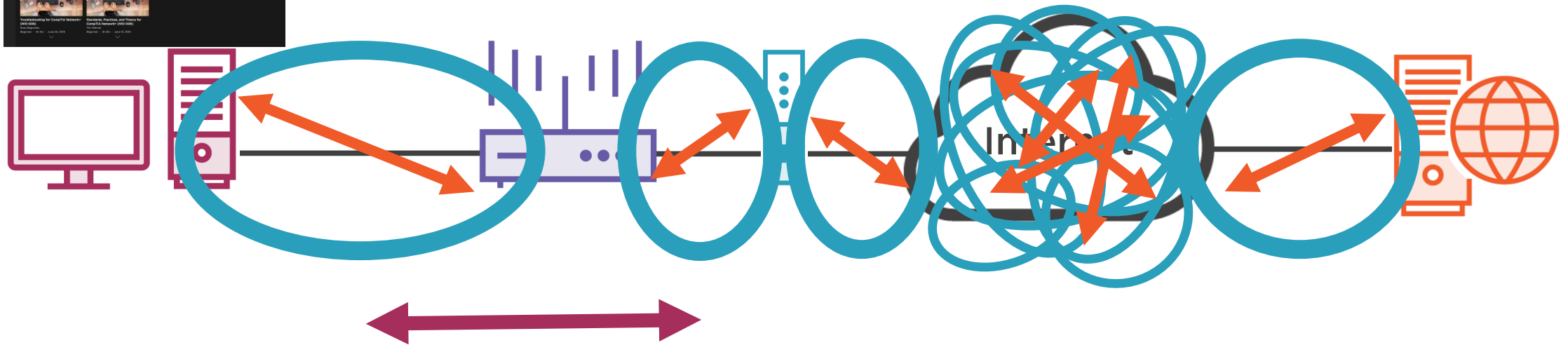
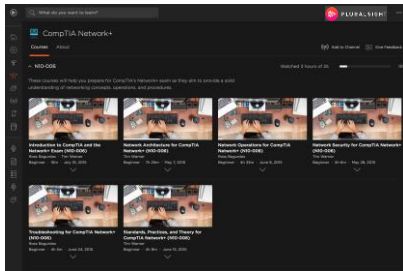


<https://www.pluralsight.com/>

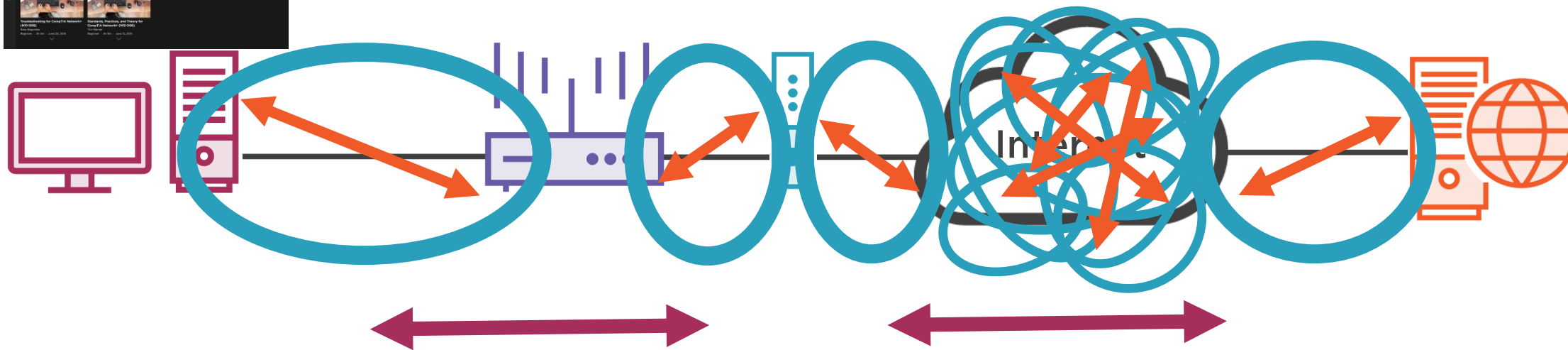
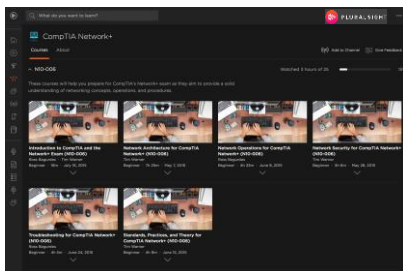


Data Link Layer

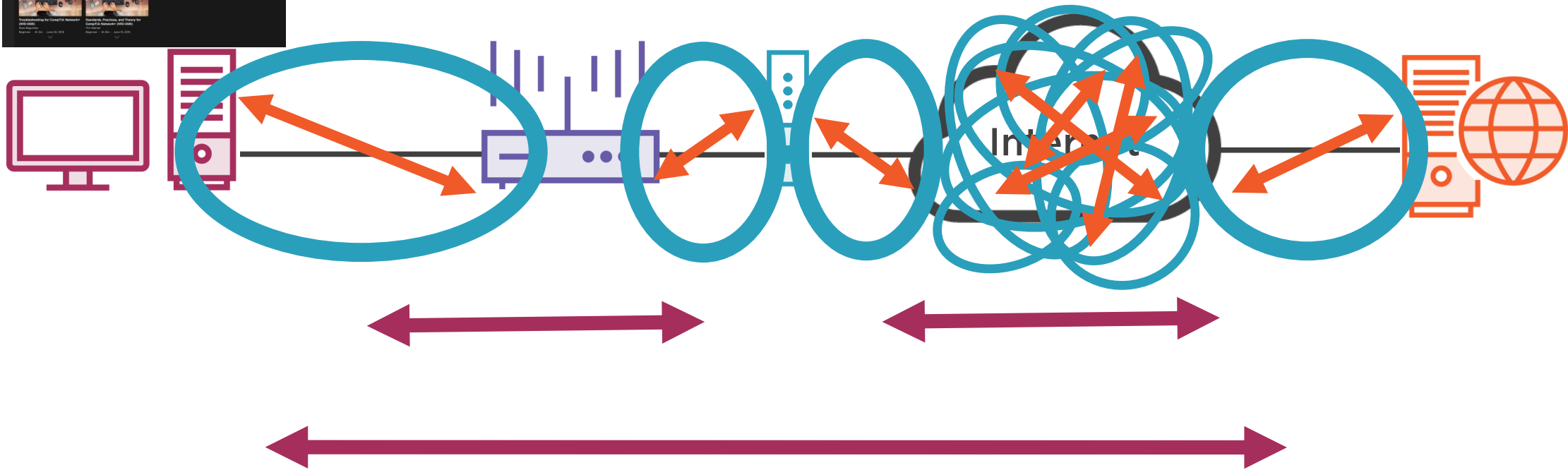
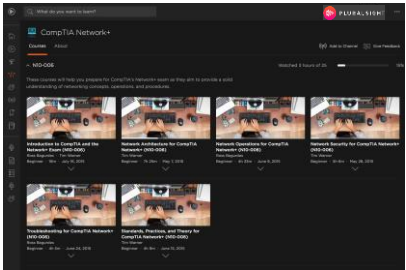
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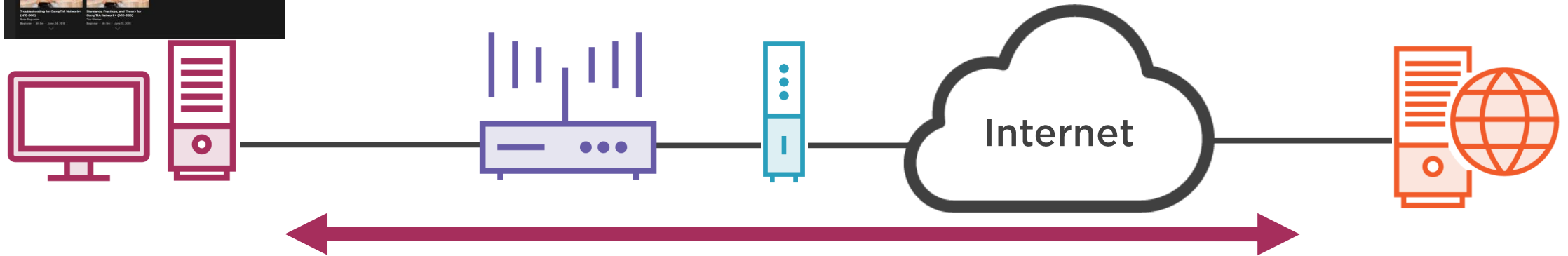
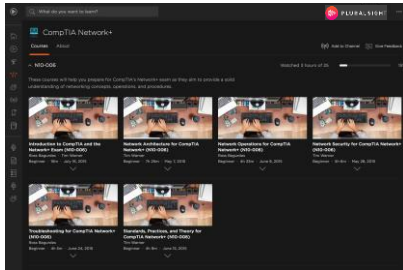
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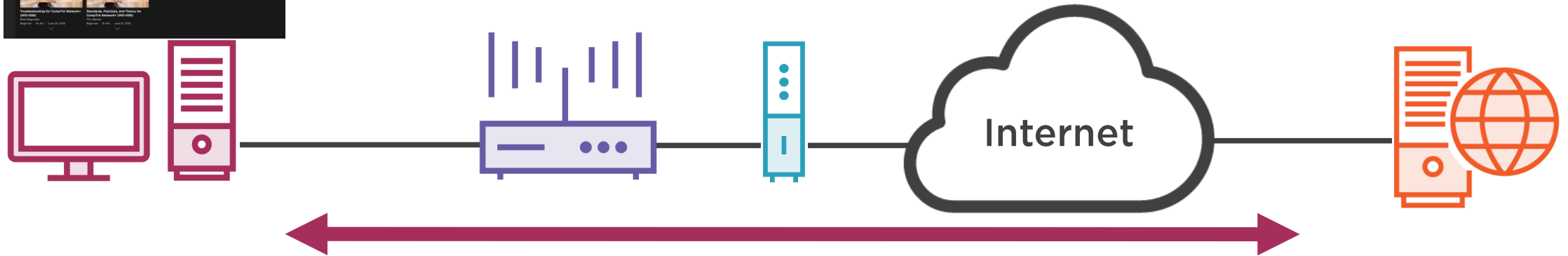
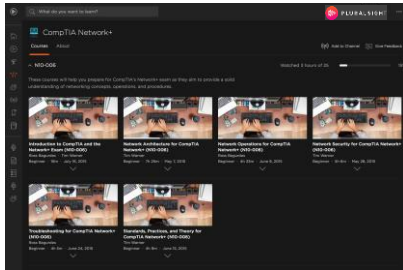
<https://www.pluralsight.com/>



IP Addressing



<https://www.pluralsight.com/>

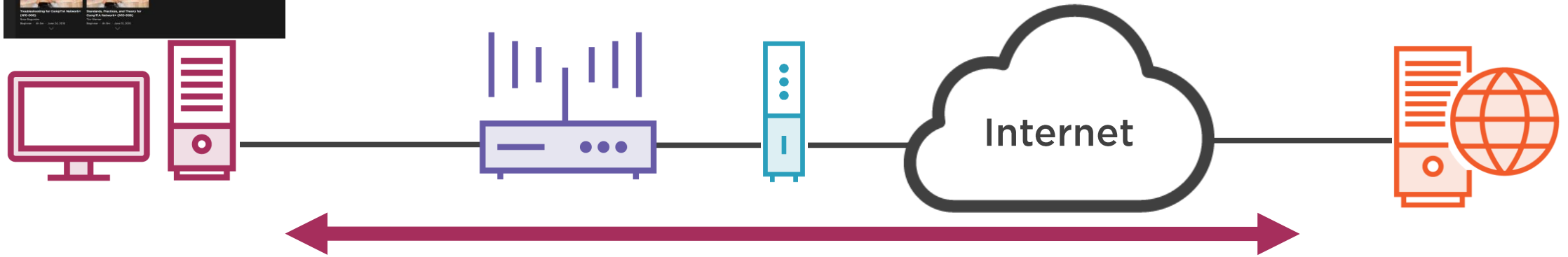
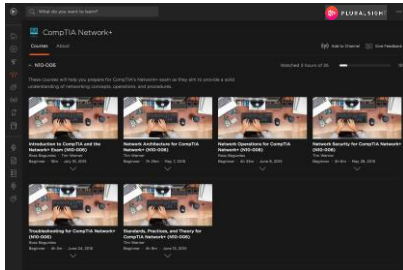


IP Addressing

IP Routing



<https://www.pluralsight.com/>



Network Layer

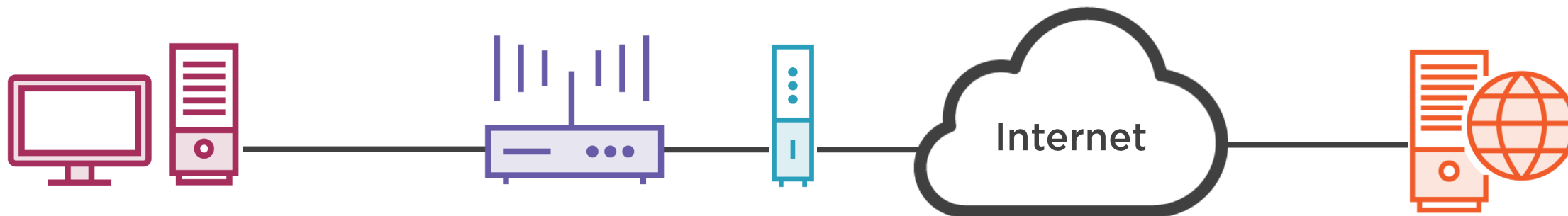


OSI Model

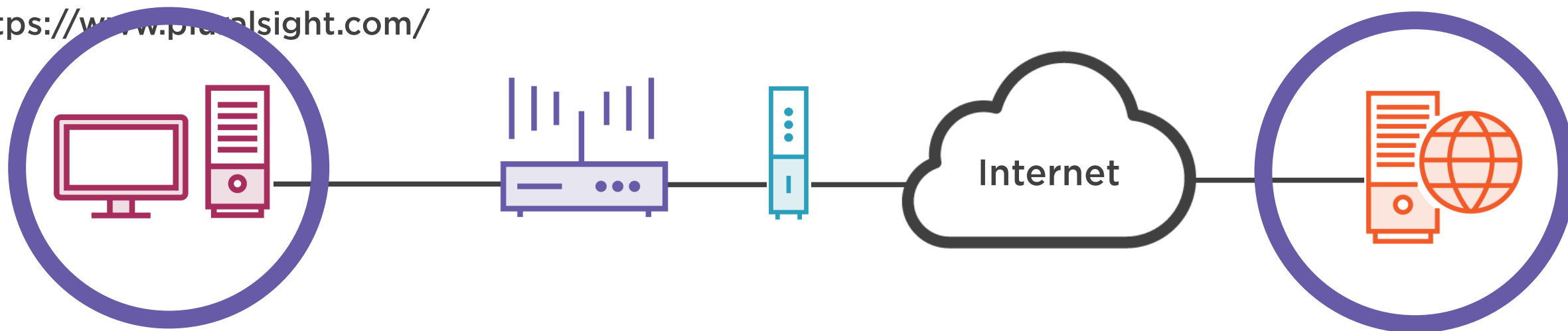
7	
6	
5	
4	
3	Network Layer
2	Data Link Layer
1	Physical Layer



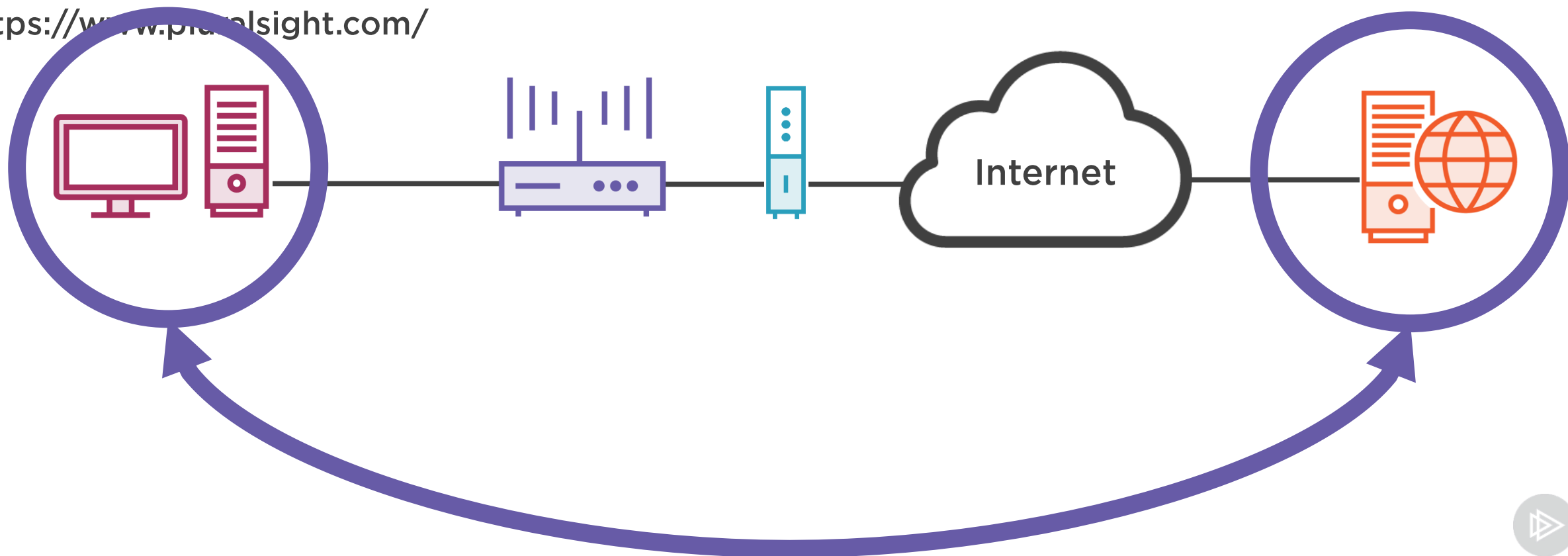
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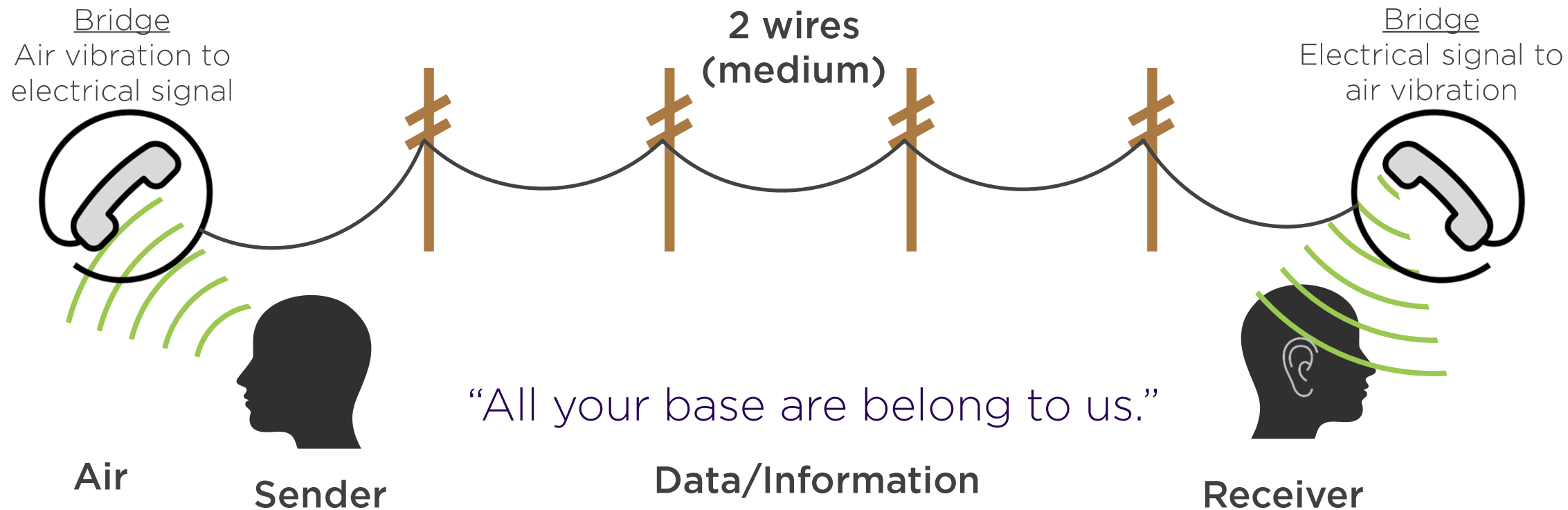
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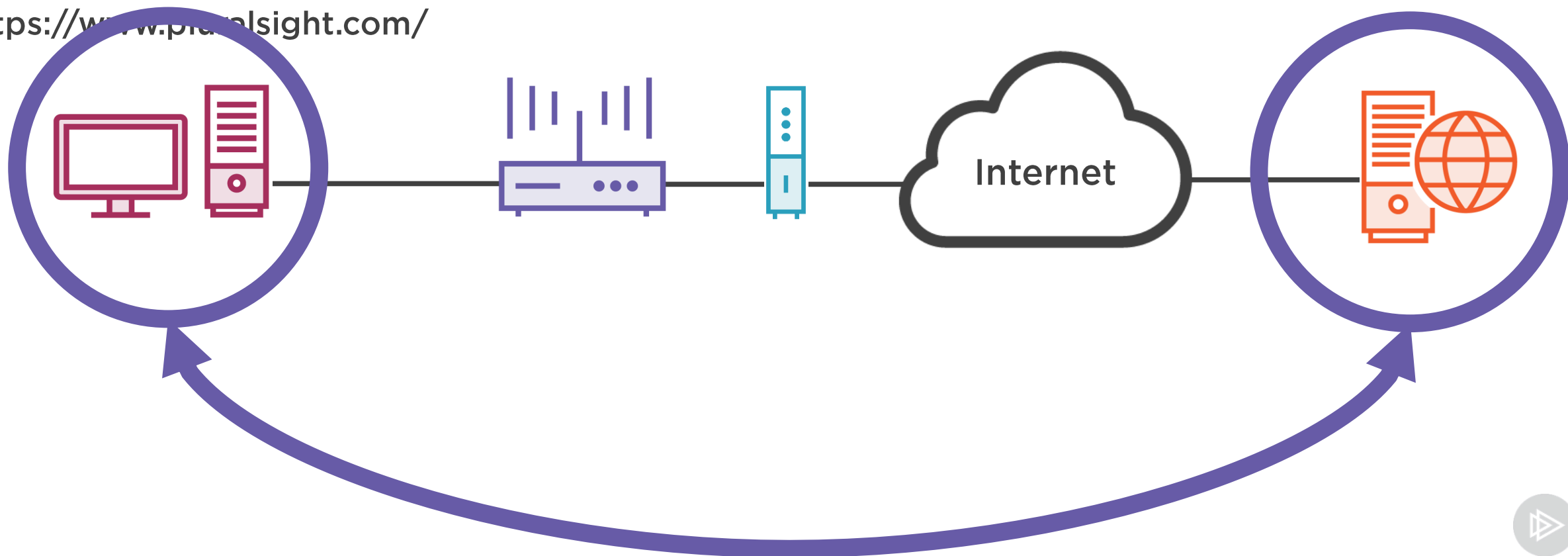
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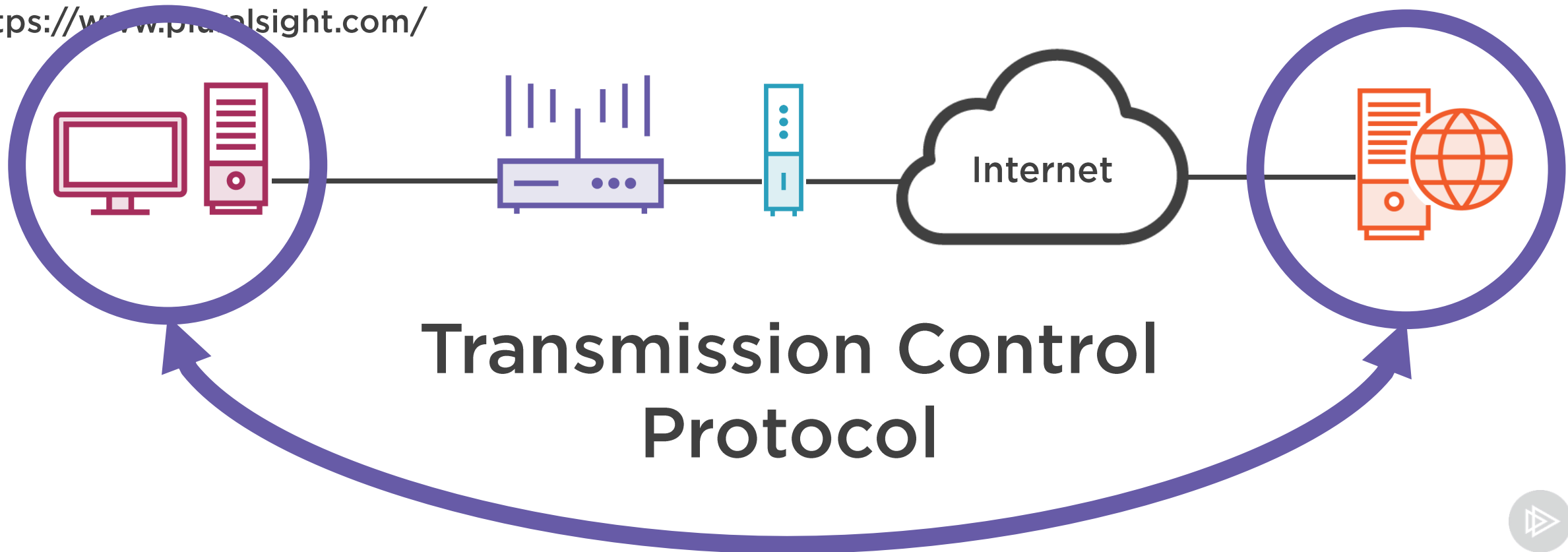
Moving Information Telephone



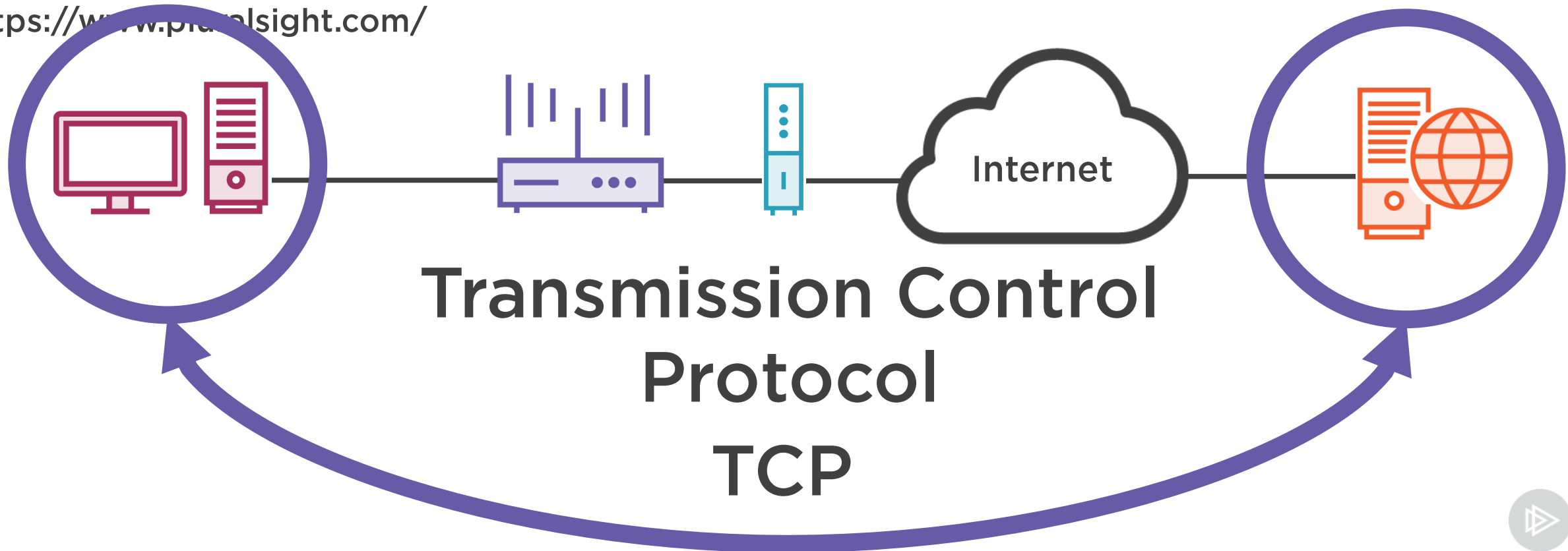
<https://www.prisightsight.com/>



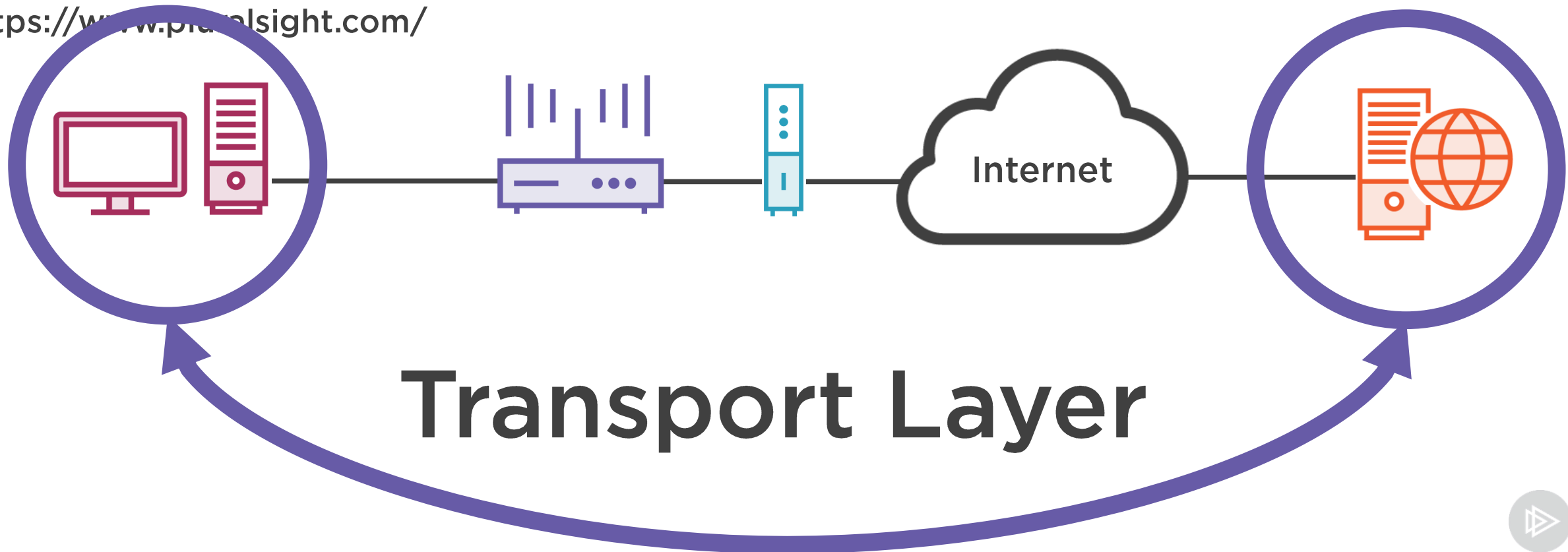
<https://www.prisightsight.com/>



<https://www.prisightsight.com/>



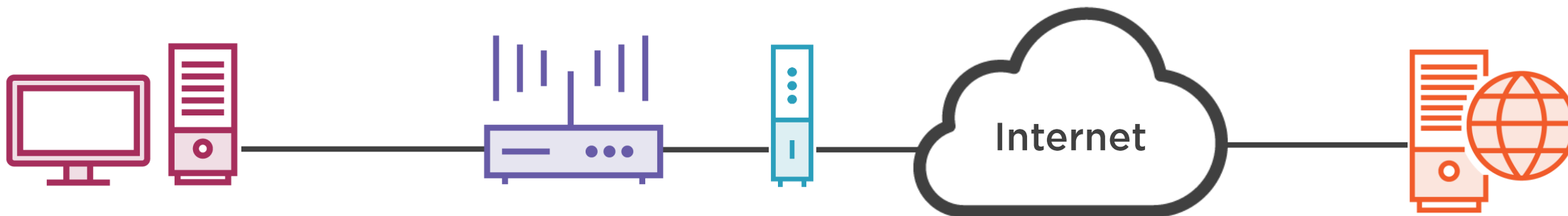
<https://www.prisightsight.com/>



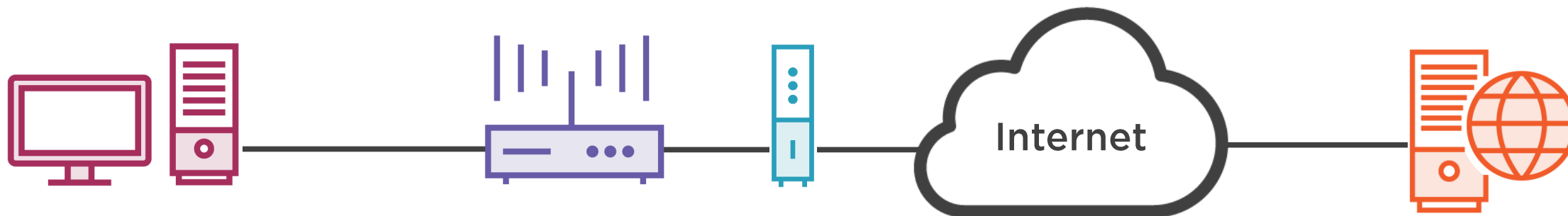
OSI Model

7	
6	
5	
4	Transport Layer
3	Network Layer
2	Data Link Layer
1	Physical Layer

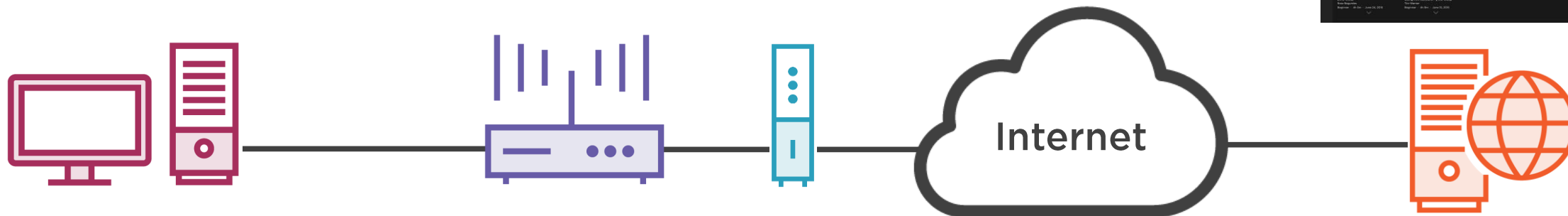
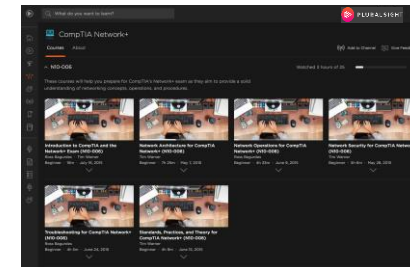




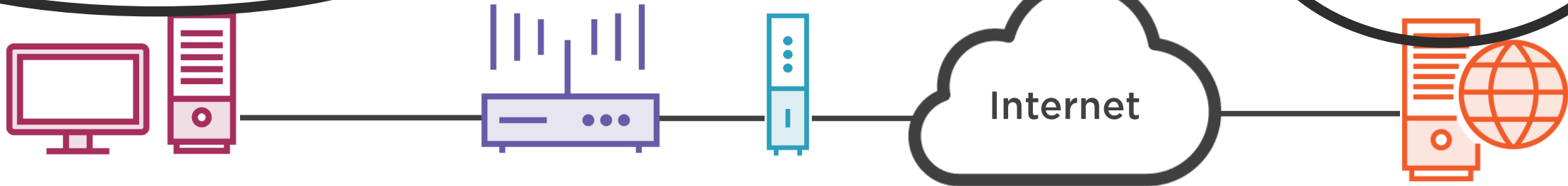
<https://www.pluralsight.com/>

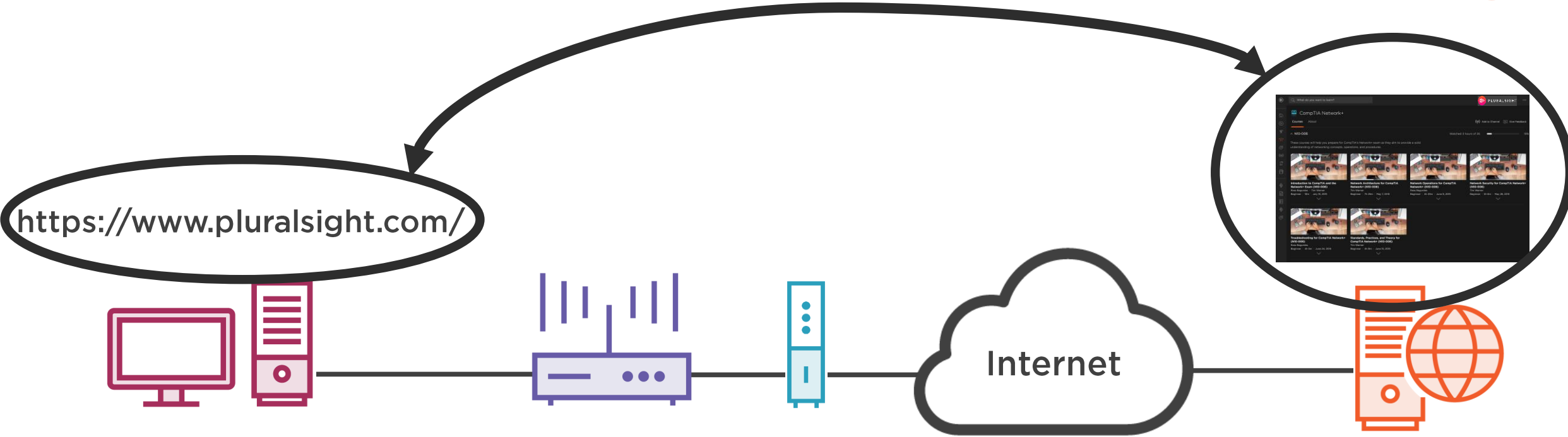


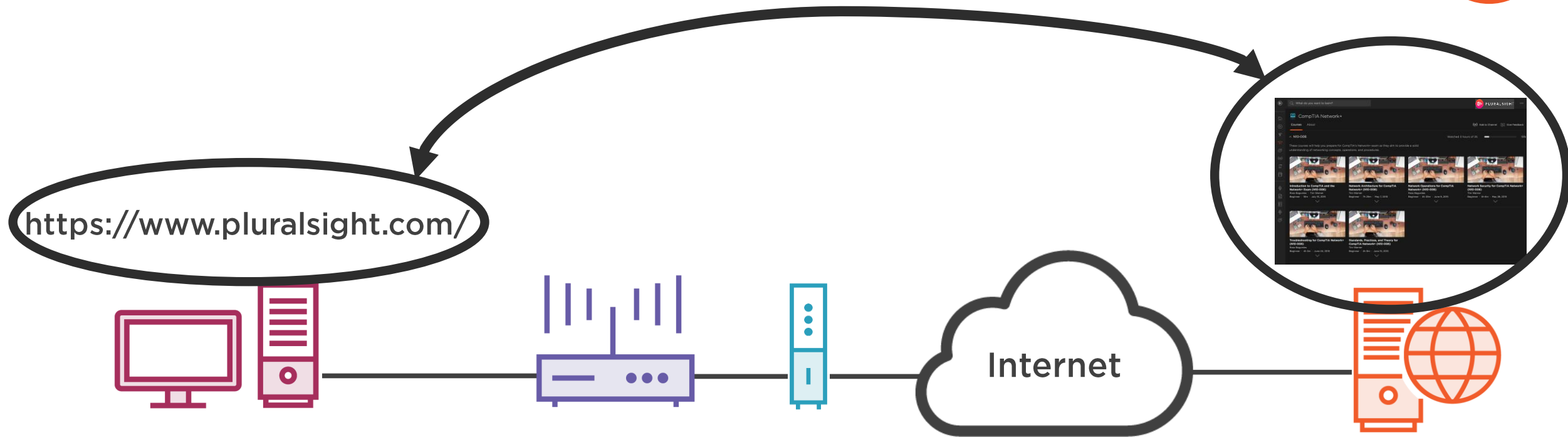
<https://www.pluralsight.com/>



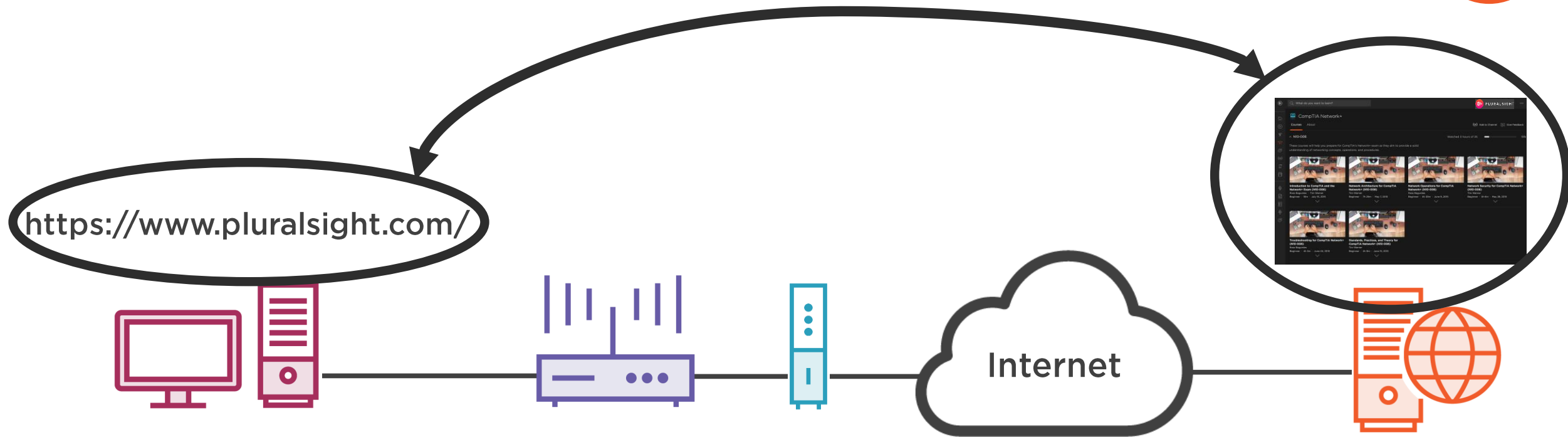
<https://www.pluralsight.com/>





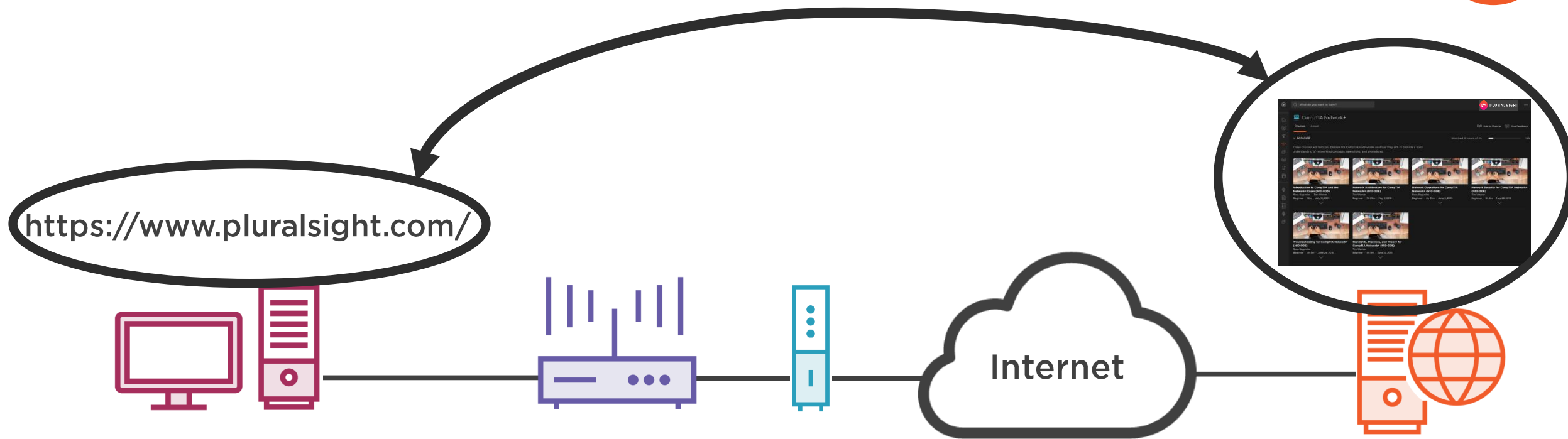


Hypertext Transfer Protocol



Hypertext Transfer Protocol

http

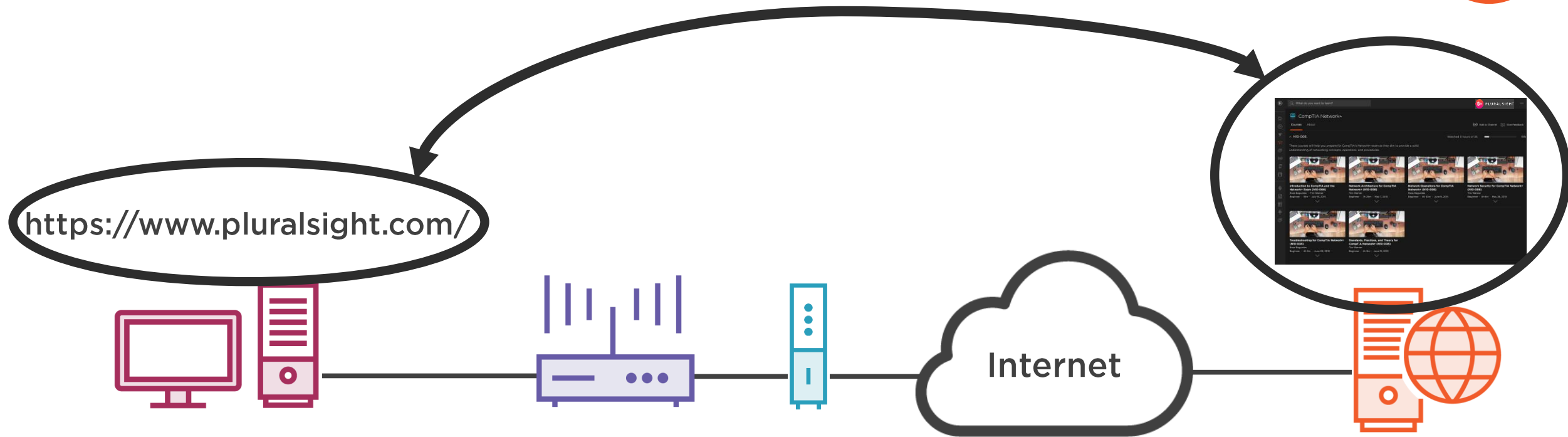


Hypertext Transfer Protocol

http

https





Application Layer

OSI Model

7	Application Layer
6	
5	
4	Transport Layer
3	Network Layer
2	Data Link Layer
1	Physical Layer



OSI Model

7	Application Layer
6	
5	
4	Transport Layer
3	Network Layer
2	Data Link Layer
1	Physical Layer



OSI Model

7	Application Layer
6	?
5	
4	Transport Layer
3	Network Layer
2	Data Link Layer
1	Physical Layer



OSI Model

7	Application Layer
6	
5	
4	Transport Layer
3	Network Layer
2	Data Link Layer
1	Physical Layer



OSI Model

7	Application Layer
6	Presentation Layer
5	
4	Transport Layer
3	Network Layer
2	Data Link Layer
1	Physical Layer



Presentation Layer

“All your base are belong to us”



Presentation Layer

“All your base are belong to us”

ASCII

A = 41



Presentation Layer

“All your base are belong to us”

ASCII

A = 41 I = 6C



Presentation Layer

“All your base are belong to us”

ASCII

A = 41 I = 6C 'space' = 20



Presentation Layer

“All your base are belong to us”

ASCII

A = 41 l = 6C 'space' = 20

y = 79



Presentation Layer

“All your base are belong to us”

ASCII

41	6c	6c	20	79	6f	75	72	20	62	61	73	65	20	61
72	65	20	62	65	6c	6f	6e	67	20	74	6f	20	75	73



Presentation Layer

“All your base are belong to us”

ASCII

41	6c	6c	20	79	6f	75	72	20	62	61	73	65	20	61
72	65	20	62	65	6c	6f	6e	67	20	74	6f	20	75	73

EBCDIC

C1	93	93	40	A8	96	A4	99	40	82	81	A2	85	40	81
99	85	40	82	85	93	96	95	87	40	A3	96	40	A4	A2



OSI Model

7	Application Layer
6	Presentation Layer
5	
4	Transport Layer
3	Network Layer
2	Data Link Layer
1	Physical Layer



OSI Model

7	Application Layer
6	Presentation Layer
5	Session Layer
4	Transport Layer
3	Network Layer
2	Data Link Layer
1	Physical Layer



Summary



Introduction to OSI Model

Modeling Telephone Call

Modeling Networking with OSI

