SER 321 B Session

SI Session

Sunday November 19th 2023

7:00 - 8:00 pm MST

Agenda

- Review Threaded Pitfalls
- Common Issues for Distribution
- Review OSI Model
- Middleware
- Review Consensus (RAFT)

SI Session Expectations

Thanks for coming to the **SER 321** SI session. We have a packed agenda and we are going to try to get through as many of our planned example problems as possible. This session will be recorded and shared with others.

- If after this you want to see additional examples, please visit the drop-in tutoring center.
- We will post the link in the chat now and at the end of the session.
  - tutoring.asu.edu
- Please keep in mind we are recording this session and it will be made available for you to review 24-48 hours after this session concludes.
- Finally, please be respectful to each other during the session.

Interact with us:

Zoom Features

Zoom Chat

- Use the chat feature to interact with the presenter and respond to presenter's questions.
- Annotations are encouraged

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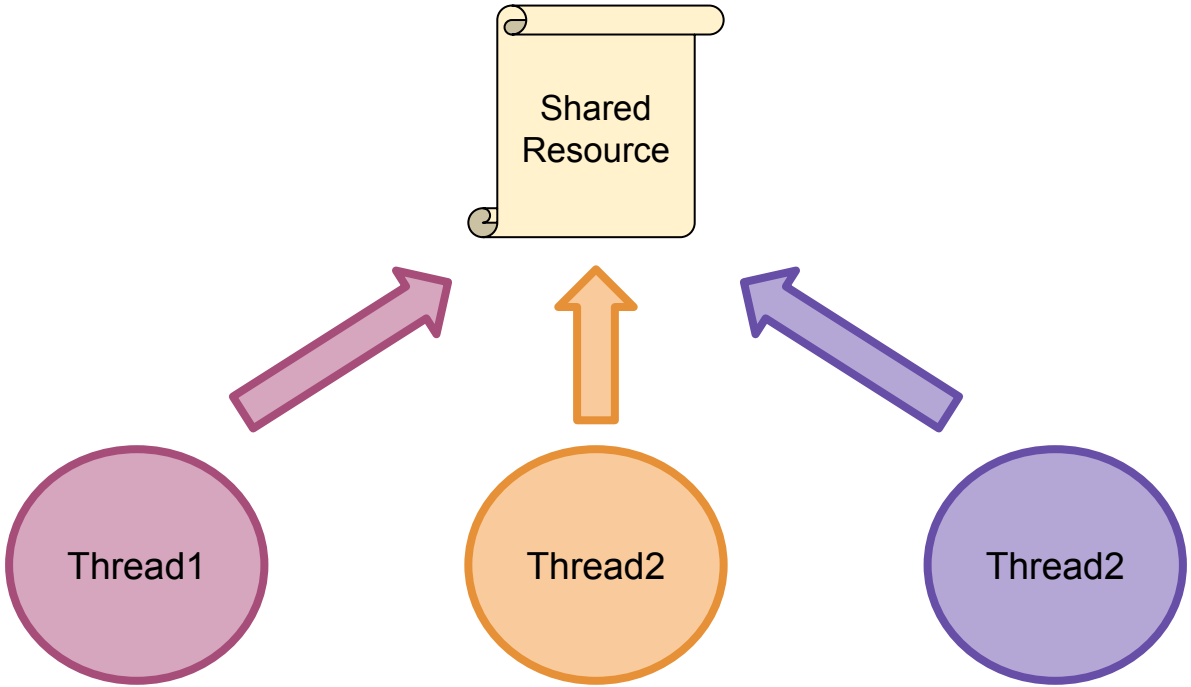
Threaded Pitfalls

Which threading pitfall is depicted below?

- Race Condition
- Starvation
- Deadlock



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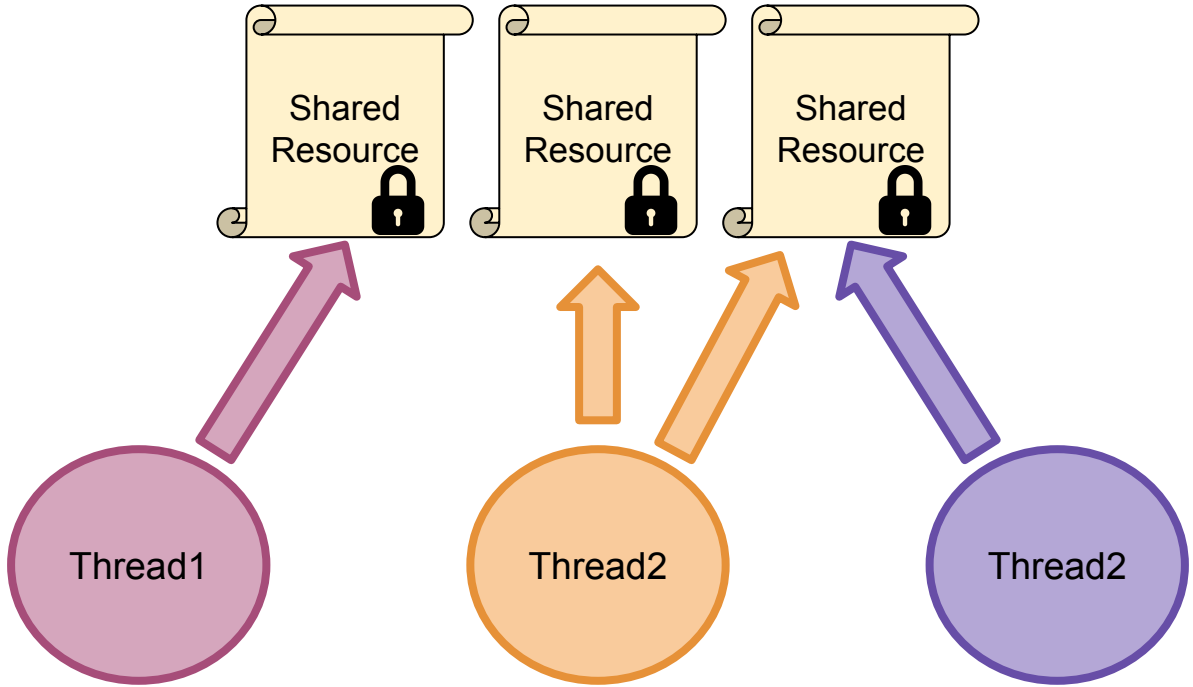

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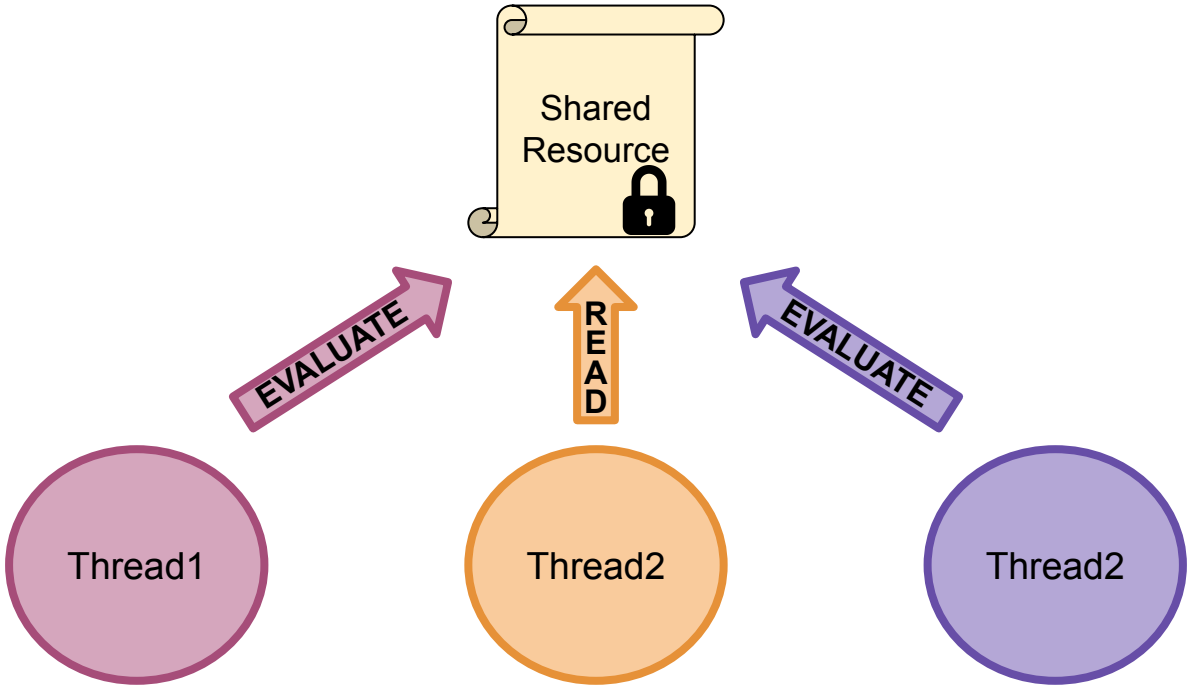

Do we remember the common Distribution issues?

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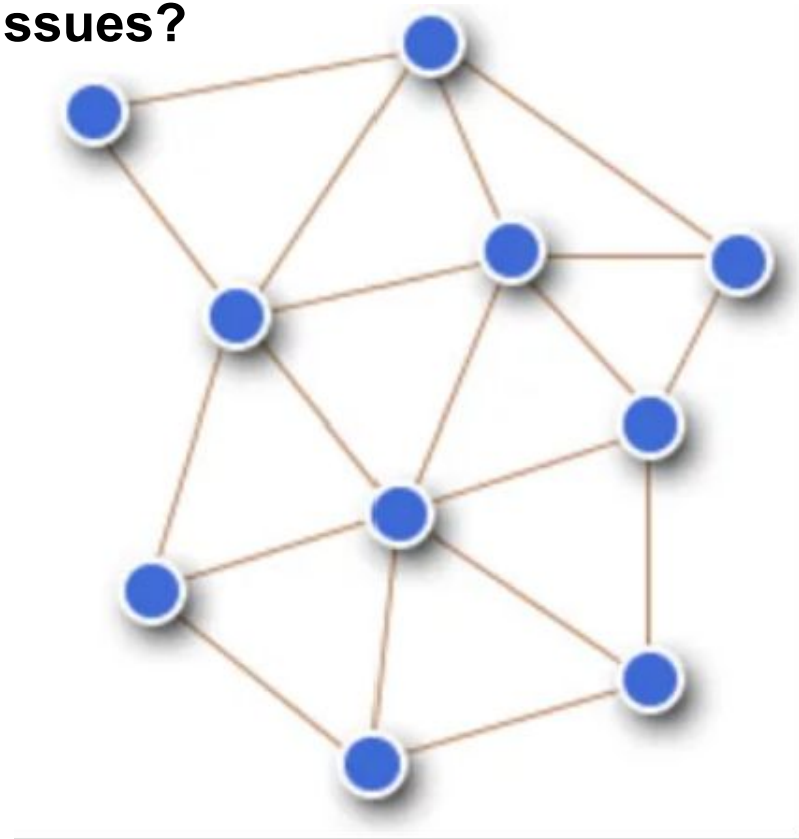
Distribution Issues

-
-
-
-
-
-
-



Check out the recording for the discussion!

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Big Picture Review

Check out the recording for the discussion!

Layer	Data Unit	What we mean
	Data	
	Data	
	Data	
	Segments	
	Packets	
	Frames	
	Bits	

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Big Picture Review

Check out the recording for the discussion!

Layer	Data Unit	What we mean
Application	Data	
Presentation	Data	
Session	Data	
Transport	Segments	
Network	Packets	
Data Link	Frames	
Physical	Bits	

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Middleware

Intro to Middleware video

We have been:

Constructing messages manually

Converting to bytes

Sending over stream

Handling the message

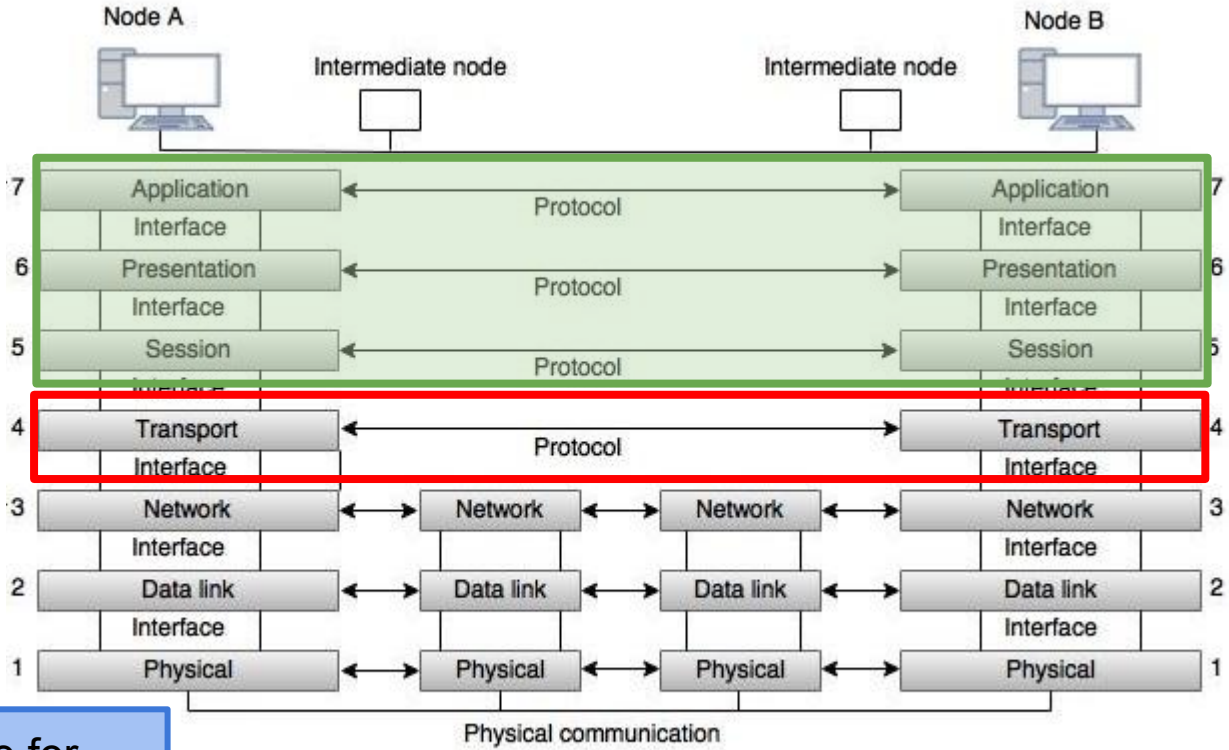

Fig: OSI Model

Application was responsible for verifying protocol and parsing data

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Middleware

Intro to Middleware video

Middleware

Middleware will handle the communication for us!

"Glue between low-level OS communications and programming language"

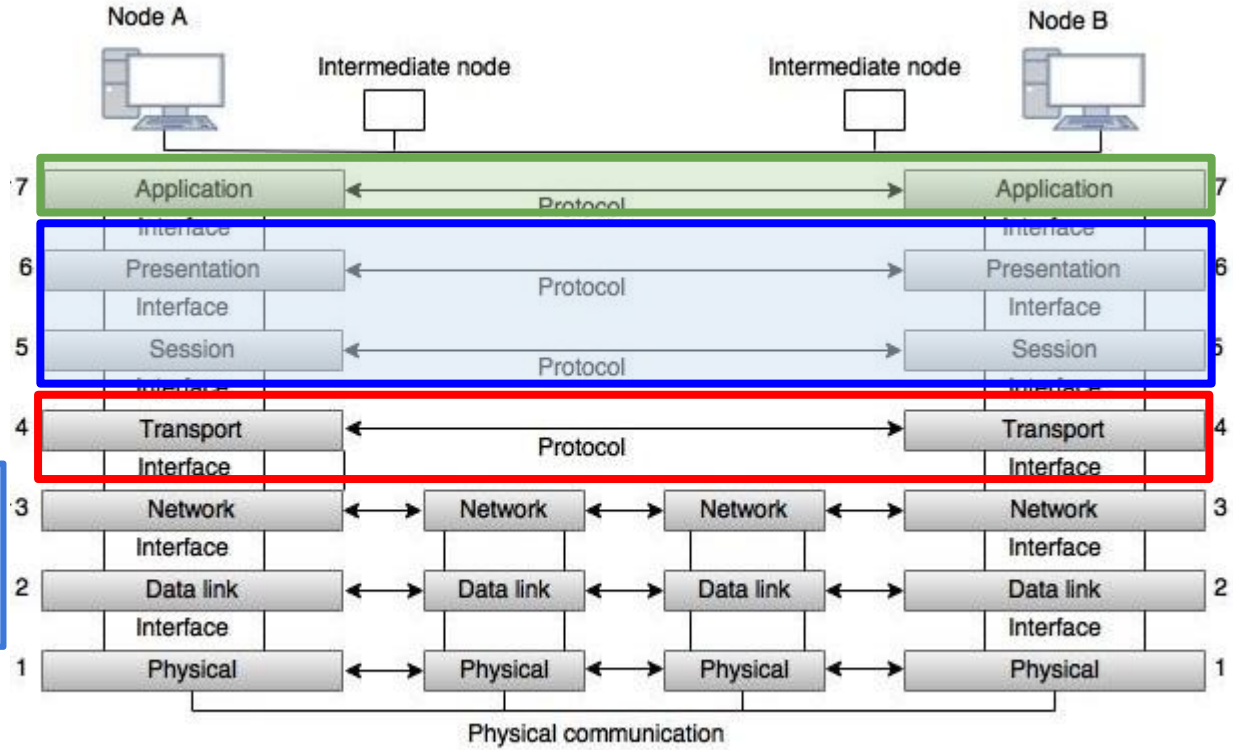

Fig: OSI Model

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Middleware

What is it?

- **Web Frameworks**

  Django, Express.js, Angular
  ASP.NET, jQuery, etc.

- **Remote Procedure Calls (RPC)**

  gRPC from the Assignment!

- **APIs**

Intro to Middleware video

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Middleware

Why do we care?

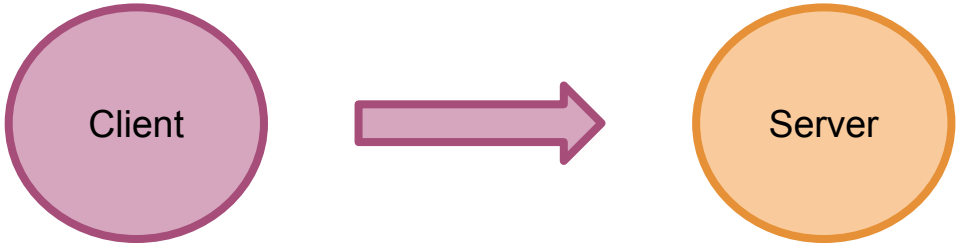
Agility

Portability

Efficiency

Cost Effectiveness

Makes our life easier



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Intro to Middleware video

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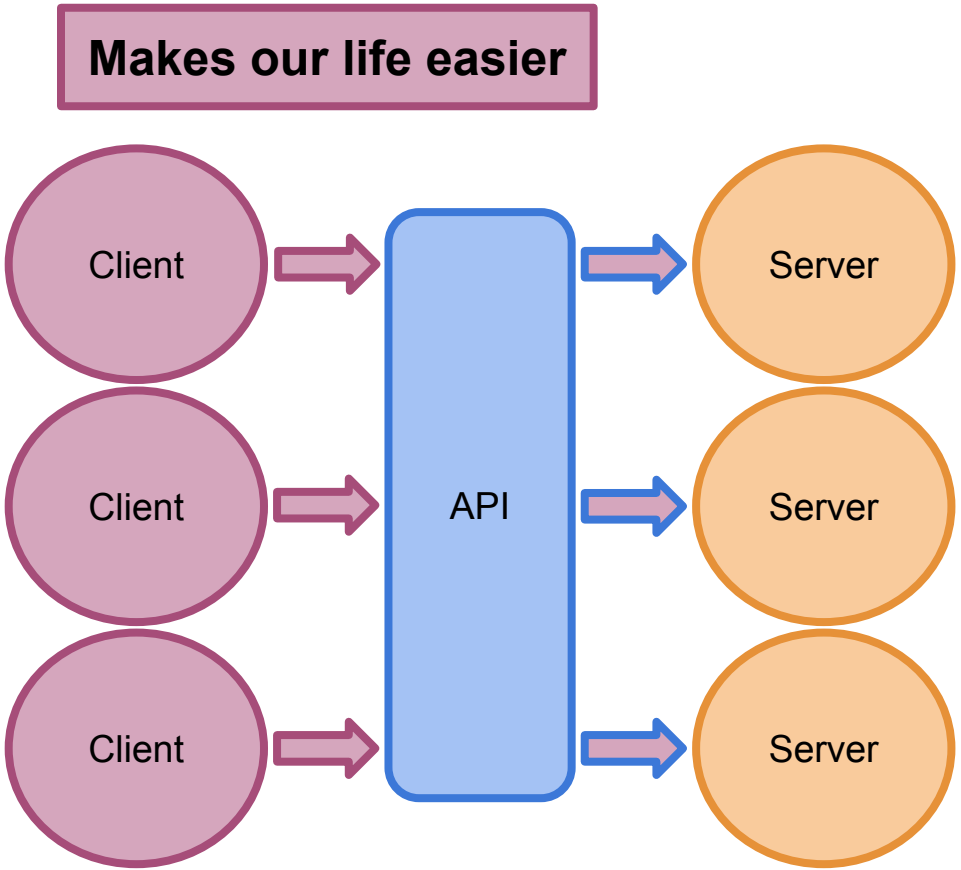

Intro to Middleware video

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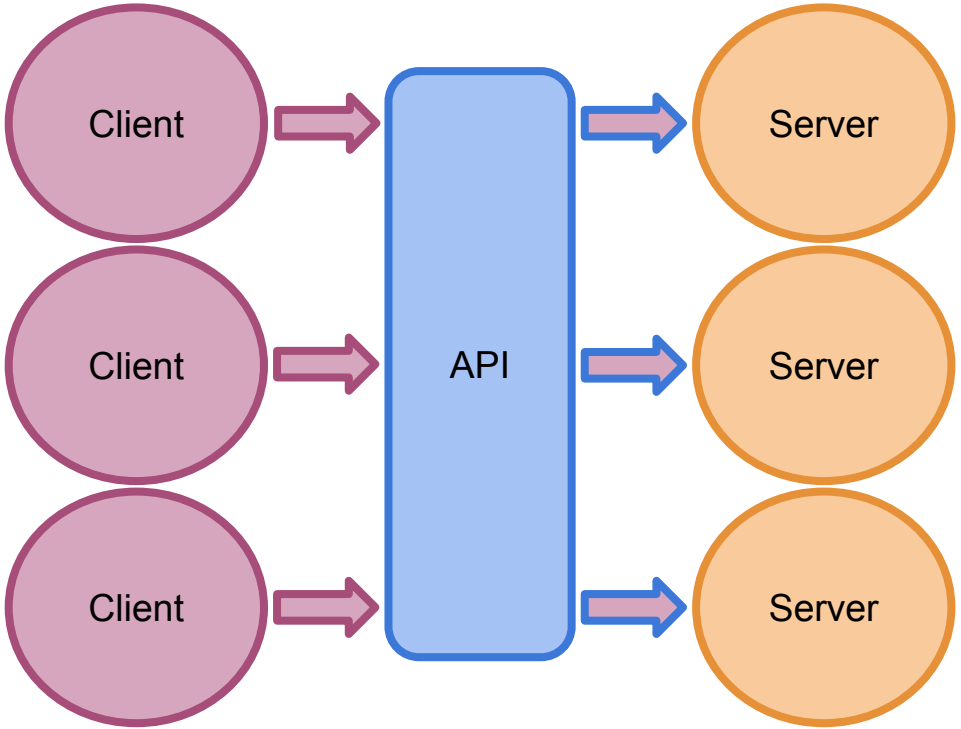
Middleware

Why do we care?

If you follow **this format**

I'll give a response

Makes our life easier



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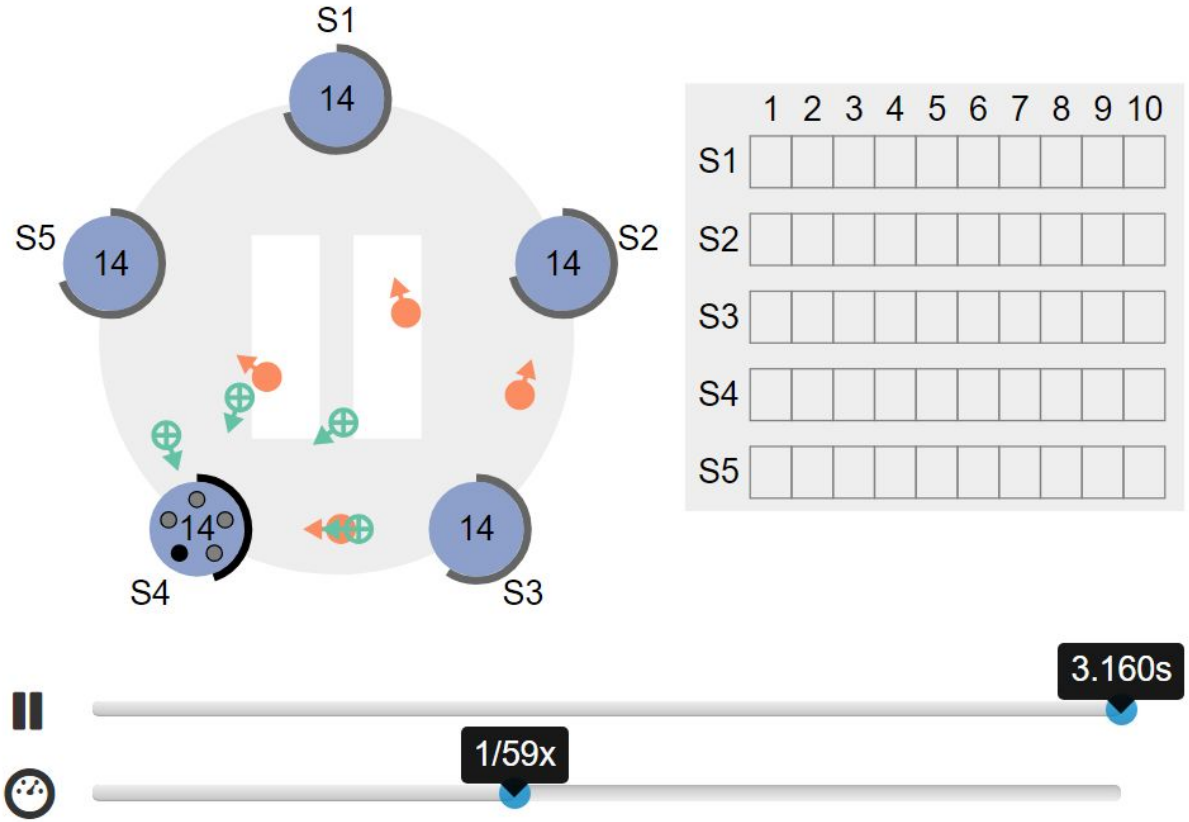
RAFT

RAFT



Questions?

Survey:

https://bit.ly/asn_survey

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Upcoming Events

SI Sessions:

- Monday, November 20th 2023 at 4:00 pm MST
- Sunday, November 26th 2023 at 7:00 pm MST

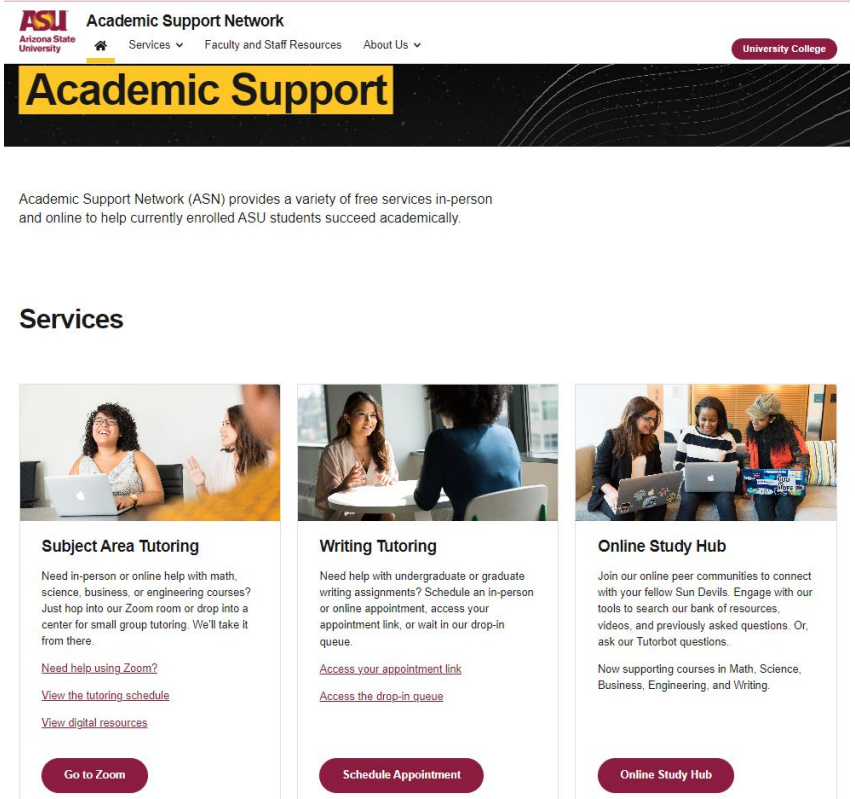
Review Sessions:

- **Monday, November 27th 2023**
- **5:00 - 7:00 pm MST**

More Questions?

Check out our other resources!

tutoring.asu.edu

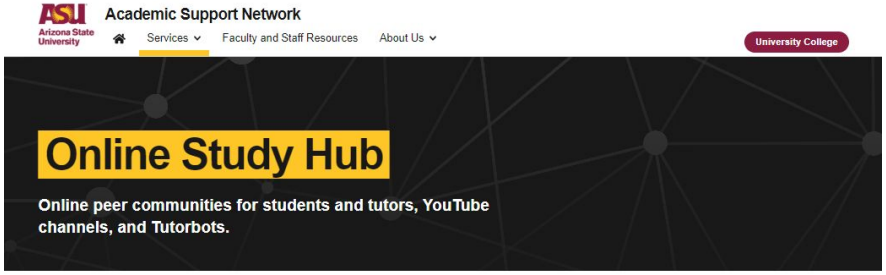


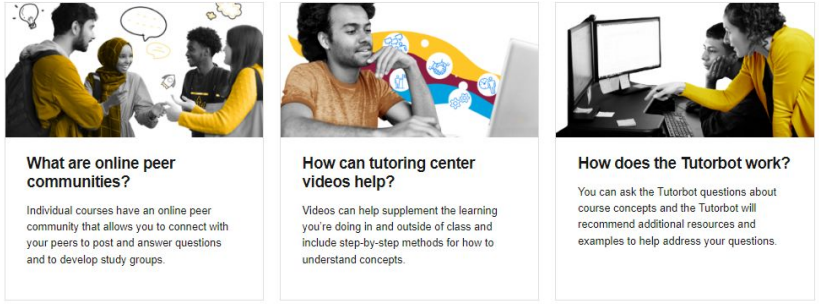
1. **Click on ‘Go to Zoom’ to log onto our Online Tutoring Center.**
2. **Click on ‘View the tutoring schedule’ to see when tutors are available for specific courses.**

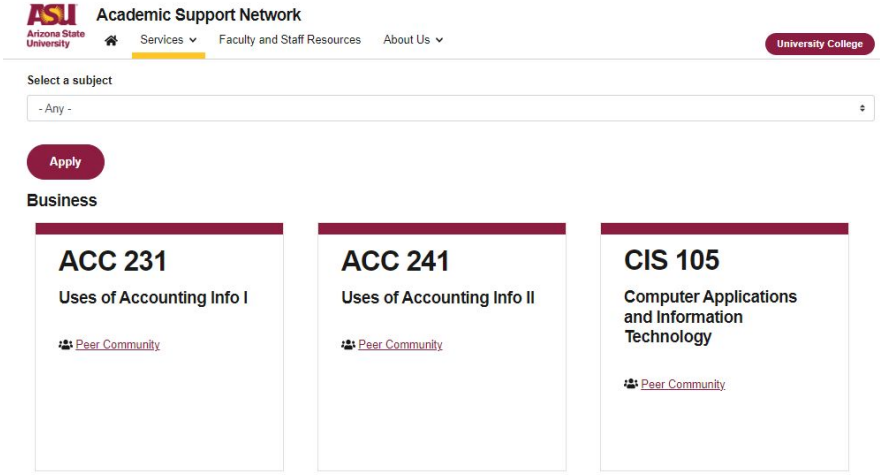
More Questions?

Check out our other resources!

tutoring.asu.edu/online-study-hub







Don't forget to check out the Online Study Hub for additional resources!

Additional Resources

CoureRepo

Dining Philosophers Interactive

Raft Interactive