

SER 321 A Session

SI Session

Tuesday, January 28th 2025

11:00 am - 12:00 pm MST

Agenda



OSI Review

TCP vs. UDP Matching

Sockets!

Requirements & Steps

Port Examination

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

Check out the recording for the solution and discussion!

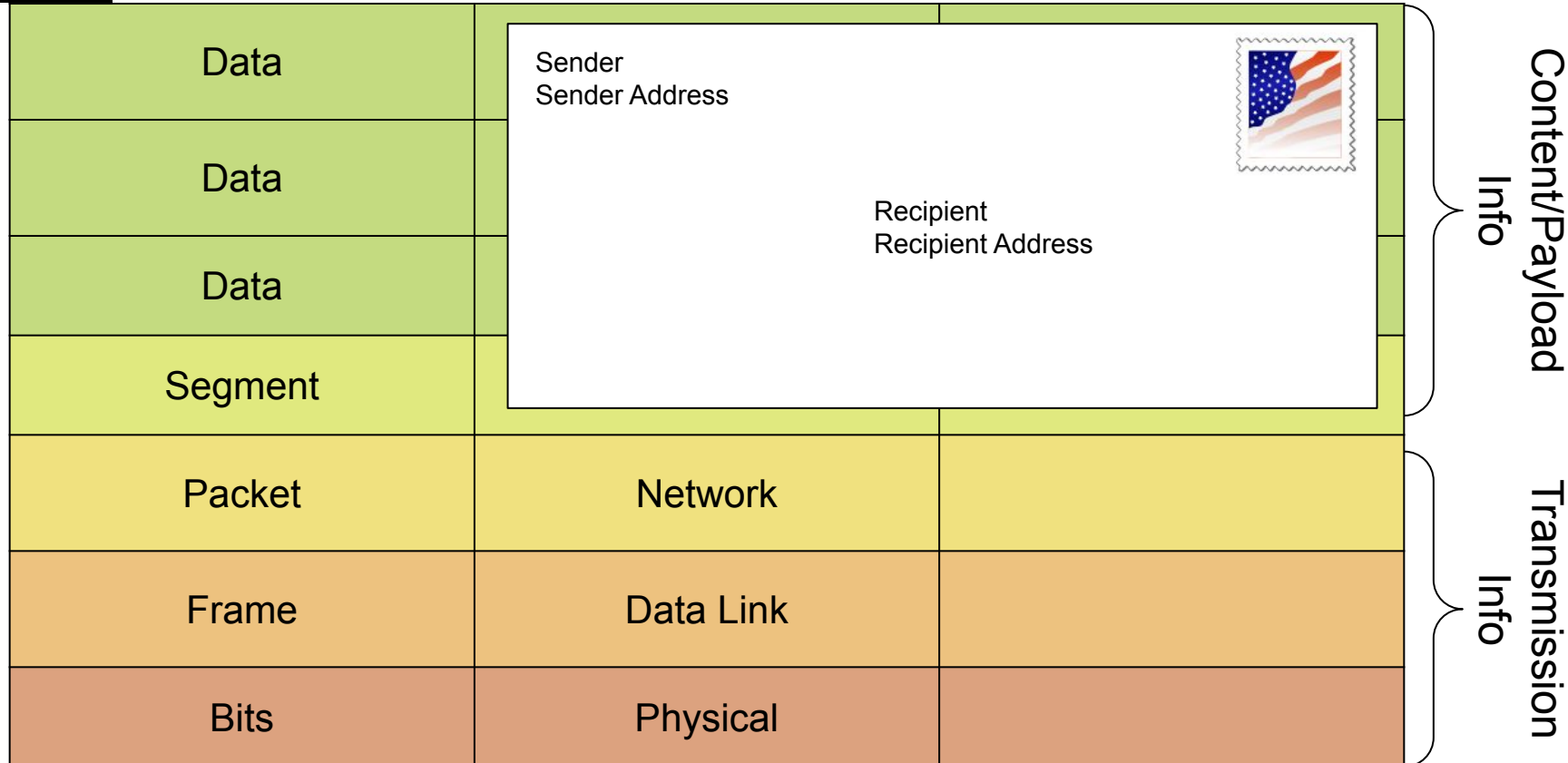
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OSI Model

Unit

Layer

What we are *really*
talking about



Check out the recording for the solution and discussion!

SER 321

OSI Model

Unit

Layer

What we are *really*
talking about

Data	Application		Content/Payload Info
Data	Presentation		
Data	Session		
Segment	Transport		
Packet	Network		Transmission Info
Frame	Data Link		
Bits	Physical		

Check out the recording for the solution and discussion!

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OSI Model

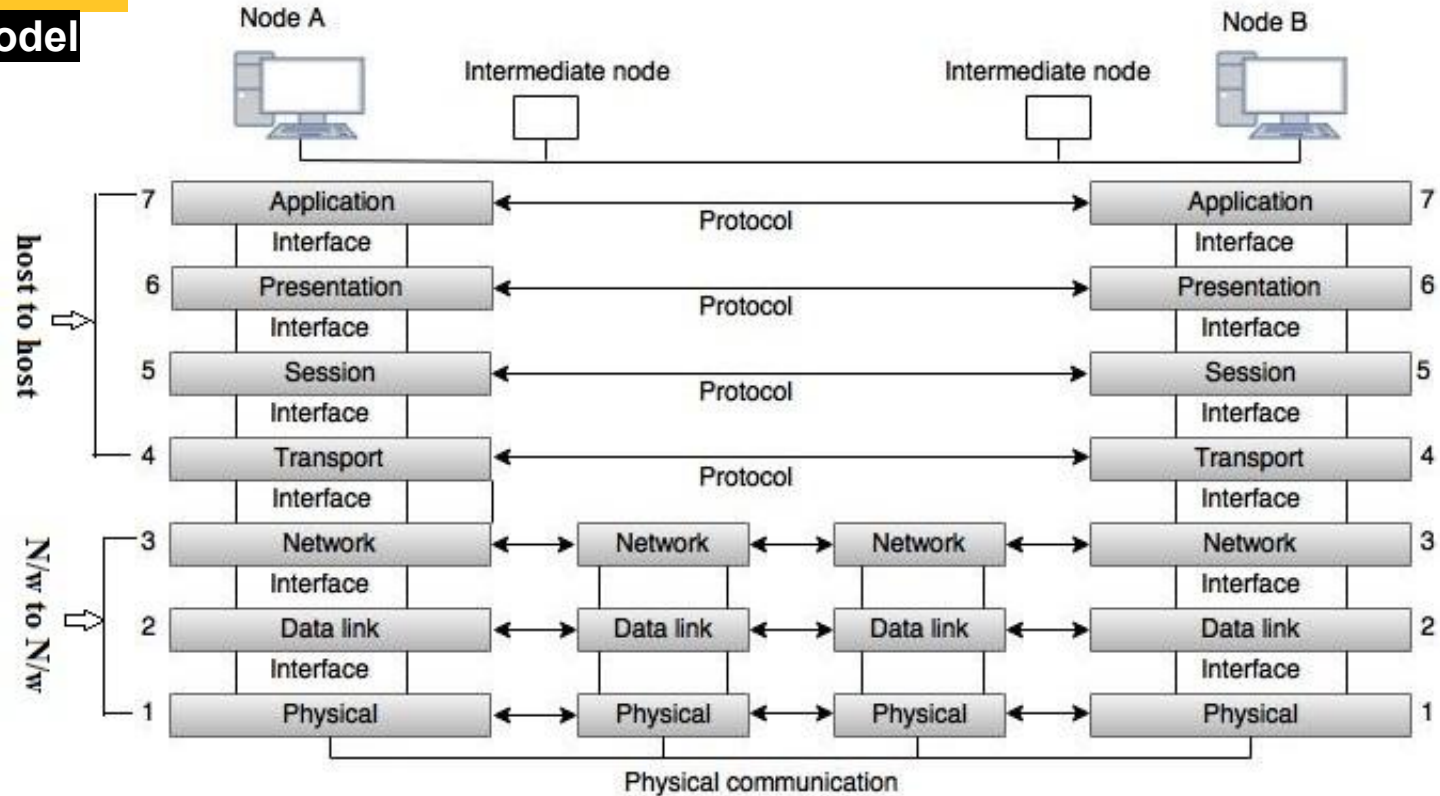


Fig: OSI Model

Check out the recording for the solution and discussion!

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TCP vs. UDP Matching

Unreliable

TCP

OR

UDP

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TCP vs. UDP Matching

Connection-Oriented

TCP

OR

UDP

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TCP vs. UDP Matching

Uses Streams

TCP

OR

UDP

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TCP vs. UDP Matching

Has Less Overhead

TCP

OR

UDP

Check out the recording for the solution and discussion!

SER 321

TCP vs. UDP Matching

Has Less Overhead

TCP

OR

UDP

Check out the recording for the solution and discussion!

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Sockets!

What do we need for a client/server connection?



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Sockets!

Sockets allow our client and server to communicate!

Location

Connection
Semantics

Message Format

Need to define **3 properties** before usage

IP or DNS

142.251.46.206

www.google.com

TCP or UDP

Connection
Oriented

Connectionless

Protocol Specs

Synchronous

Asynchronous

Stateless

Stateful

Binary

Text

Headers

No Headers



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Sockets!

Sockets allow our client and server to communicate!

Person

Conversation
Flow

Conversation
Content

to define **3 properties** before usage

IP or DNS

142.251.46.206

www.google.com

TCP or UDP

Connection
Oriented

Connectionless

Protocol Specs

Synchronous

Asynchronous

Stateless

Stateful

Binary

Text

Headers

No Headers

Hello!

Welcome!



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Client Socket

Steps for the **Client Socket**

1.

2.

3.

4.

5.

6.

7.

8.

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recording for
the solution
and
discussion!*

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Server Socket

Steps
for the
**Server
Socket**

1.

2.

3.

4.

5.

6.

7.

8.

9.

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and
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Server Socket

Java
handles
a few
steps for
us...

1. Define Params
2. Create Socket
3. **C ONLY** Create a struct for the address
- 3-5. Mark Socket to Listen
5. Mark Socket to Listen for Connections
6. Wait for Connection
7. Handle Client Connection
8. Close Client Connection
9. Continue Listening for Connections

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discussion!***

Assign 3-1 Starter Code

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Server Socket

1. Define Params

2. Create Socket

3-5. Mark Socket to Listen

6. Wait for Connection

7. Handle Client Connection

8. Close Client Connection

9. Continue Listening

1

2 & 3-5

9

6

```
public static void main (String args[]) {
```

```
    if (args.length != 1) {
```

```
        System.out.println("Expected arguments: <port(int)>");
```

```
        System.exit( status: 1);
```

```
    }
```

```
    try {
```

```
        port = Integer.parseInt(args[0]);
```

```
    } catch (NumberFormatException nfe) {
```

```
        System.out.println("[Port|sleepDelay] must be an integer");
```

```
        System.exit( status: 2);
```

```
    }
```

```
    try {
```

```
        //open socket
```

```
        ServerSocket serv = new ServerSocket(port);
```

```
        System.out.println("Server ready for connections");
```

```
        /** Simple loop accepting one client and calling handling one request. */
```

```
        while (true){
```

```
            System.out.println("Server waiting for a connection");
```

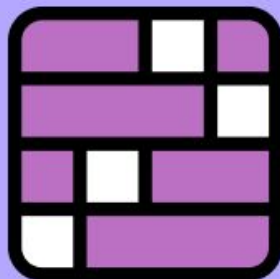
```
            sock = serv.accept(); // blocking wait
```

```
            System.out.println("Client connected");
```

**Check out the
recording for
the solution
and
discussion!**

Connections!

The New York Times **Games**



Connections

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Scratch Space

Upcoming Events

SI Sessions:

- Thursday, January 30th at 7:00 pm MST
- Sunday, February 2nd at 7:00 pm MST
- Tuesday, February 4th at 11:00 am MST

Review Sessions:

- Tuesday, February 25th at 11:00 am MST - **Q&A Session**
- Thursday, February 27th at 7:00 pm MST - **Exam Review Session (2hrs)**

Questions?

Survey:

<https://asuasn.info/ASNSurvey>



More Questions?

Check out our other resources!

tutoring.asu.edu



Academic Support

Academic Support Network (ASN) provides a variety of free services in-person and online to help currently enrolled ASU students succeed academically.

Services



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[Access the drop-in queue](#)

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1-

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2-

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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

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[University College](#)

Online Study Hub

Online peer communities for students and tutors, YouTube channels, and Tutorbots.



What are online peer communities?

Individual courses have an online peer community that allows you to connect with your peers to post and answer questions and to develop study groups.



How can tutoring center videos help?

Videos can help supplement the learning you're doing in and outside of class and include step-by-step methods for how to understand concepts.



How does the Tutorbot work?

You can ask the Tutorbot questions about course concepts and the Tutorbot will recommend additional resources and examples to help address your questions.

Select a subject

- Any -

Apply



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Select a subject

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Business


ACC 231

Uses of Accounting Info I

 [Peer Community](#)

ACC 241

Uses of Accounting Info II

 [Peer Community](#)

CIS 105

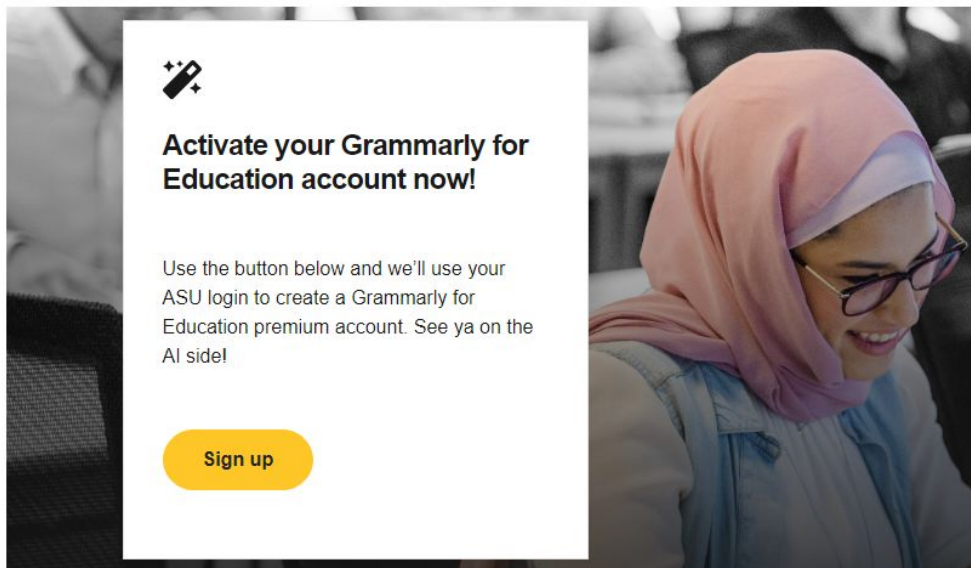
Computer Applications and Information Technology

 [Peer Community](#)

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

Expanded Writing Support Available

Including Grammarly for Education, at no cost!



tutoring.asu.edu/expanded-writing-support

*Available slots for this pilot are limited

Additional Resources

- [Course Repo](#)
- [Gradle Documentation](#)
- [GitHub SSH Help](#)
- [Linux Man Pages](#)
- [OSI Interactive](#)
- [MDN HTTP Docs](#)
 - [Requests](#)
 - [Responses](#)
- [JSON Guide](#)
- [org.json Docs](#)
- [javax.swing package API](#)
- [Swing Tutorials](#)