

SER 321 B Session

SI Session

Thursday, October 24th 2024

7:00 pm - 8:00 pm MST

Agenda



Gradle Review

OSI Model

HTTP Codes

JSON

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


CORRECTION

Sockets/JavaSimpleSock2

SER 321

Gradle Review Which if statement will execute with gradle SocketClient ?


```
} else {  
    args("localhost", "Hello!", 99)  
}
```



```
if (project.hasProperty("host") && project.hasProperty("message") && project.hasProperty("number")) {  
A.    args(project.getProperty('host'), project.getProperty('message'), project.getProperty('number'));  
}  
else if (project.hasProperty("host") && project.hasProperty("message")) {  
B.    args(project.getProperty('host'), project.getProperty('message'));  
}  
else if (project.hasProperty("number")) {  
C.    args(project.getProperty('number'), project.getProperty('message'), project.getProperty('host'));  
    "See: https://gph.is/2y76sj4", project.getProperty('number'));  
}  
else if (project.hasProperty("host")) {  
D.    args(project.getProperty('host'));  
}
```

Let's run as is...

NONE! 

How could we change that? 

CORRECTION

Sockets/JavaSimpleSock2

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Gradle Review

Step 1:

```
PS C:\ASU\SER321\examples_repo\ser321examples\Sockets\JavaSimpleSock2> gradle  
SocketServer
```

```
> Task :SocketServer  
Server ready for 3 connections  
Server waiting for a connection  
<=====--> 75% EXECUTING [16s]  
> :SocketServer
```

Step 2:

```
PS C:\ASU\SER321\examples_repo\ser321examples\Sockets\JavaSimpleSock2> gradle  
SocketClient
```

CORRECTION

Sockets/JavaSimpleSock2

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Gradle Review

```
PS C:\ASU\SER321\examples_repo\ser321examples\Sockets\JavaSimpleSock2> gradle  
SocketClient
```

```
> Task :SocketServer
```

```
Server ready for 3 connections
```

```
Server waiting for a connection
```

```
Received the String HI
```

```
Received the Integer 100
```

```
Server waiting for a connection
```

```
<=====----> 75% EXECUTING [1m 18s]
```

```
> :SocketServer
```

emon could not be reused, use --status for



d in this build, making it incompatible wit

show the individual deprecation warnings a
own scripts or plugins.

https://docs.gradle.org/8.10/userguide/command_line_interface.html#sec:command_line_warnings in the Gradle documentation.

Step 2:

```
PS C:\ASU\SER321\examples_repo\ser321examples\Sockets\JavaSimpleSock2> gradle  
SocketClient  
BUILD SUCCESSFUL in 12s  
2 actionable tasks: 1 executed, 1 up-to-date
```



CORRECTION

Sockets/JavaSimpleSock2

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Gradle Review

```
class SockClient {
    public static void main (String args[]) {
        Socket sock = null;
        String host = "localhost";
        String message = "HI";
        Integer number = 100;

        // works with no inputs or 1, 2 or 3
        // no error handling for wrong arguments
        if (args.length >= 1){ // host, if provided
            host=args[0];
        }
        if (args.length >= 2){
            message = args[1];
        }
        // user provided message and number, ignore 2 arguments
        if (args.length >= 3){
            number = Integer.valueOf(args[2]);
        }
    }
}
```



Also set in the
Client Code itself!

SER 321**Gradle Review**

Have we set a default host here?

```
if (project.hasProperty("host") && project.hasProperty("message") && project.hasProperty("number")) {  
    args(project.getProperty('host'), project.getProperty('message'), project.getProperty('number'));  
} else if (project.hasProperty("host") && project.hasProperty("message")) {  
    args(project.getProperty('host'), project.getProperty('message'));  
} else if (project.hasProperty("host") && project.hasProperty("number")) {  
    args(project.getProperty('host'),  
        "Set by Gradle, since nothing provided: https://gph.is/2y76sj4", project.getProperty('number'));  
} else if (project.hasProperty("host")) {  
    args(project.getProperty('host'));  
}
```

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Gradle Review

Have we set any defaults here?

Network/HTTP-JSON

Let's modify this code to have *both* defaults and command line properties!

```
task API(type: JavaExec) {  
    classpath = sourceSets.main.runtimeClasspath  
    main = 'API'  
    // default args  
    args 'kgary' // port  
}
```

First let's make the *if* statement:

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Gradle Review

Let's modify this code to have *both* defaults and command line properties!

```
task API(type: JavaExec) {  
    classpath = sourceSets.main.runtimeClasspath  
    main = 'API'  
  
    //OPTION 1  
  
    // default args  
    args 'kgary' // port  
  
    //OPTION 2  
  
}
```

First let's make the *if* statement:

Okay, now where do we put it?

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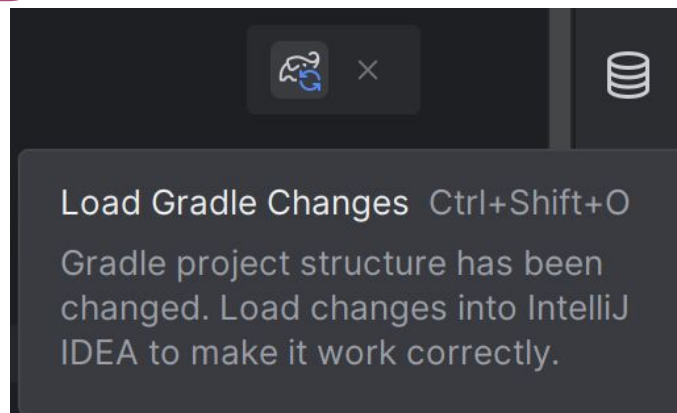
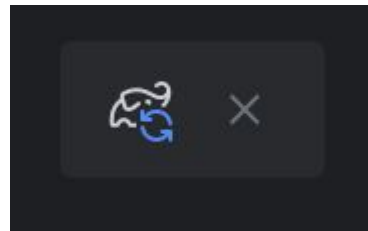
Gradle Review

IMPORTANT NOTE!

So you need to *refresh* the project in your IDE!

```
task API(type: JavaExec) {  
    classpath = sourceSets.main.runtimeClasspath  
    main = 'API'  
  
    //OPTION 1  
  
    // default args  
    args 'kgary' // port  
  
    //OPTION 2  
    if (project.hasProperty("port")) {  
        args(project.getProperty("port"));  
    }  
}
```

We changed the
content of
build.gradle



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OSI Model

Unit

Layer

What we are *really*
talking about

Data	Application	
Data	Presentation	
Data	Session	
Segment	Transport	
Packet	Network	
Frame	Data Link	
Bits	Physical	

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OSI Model

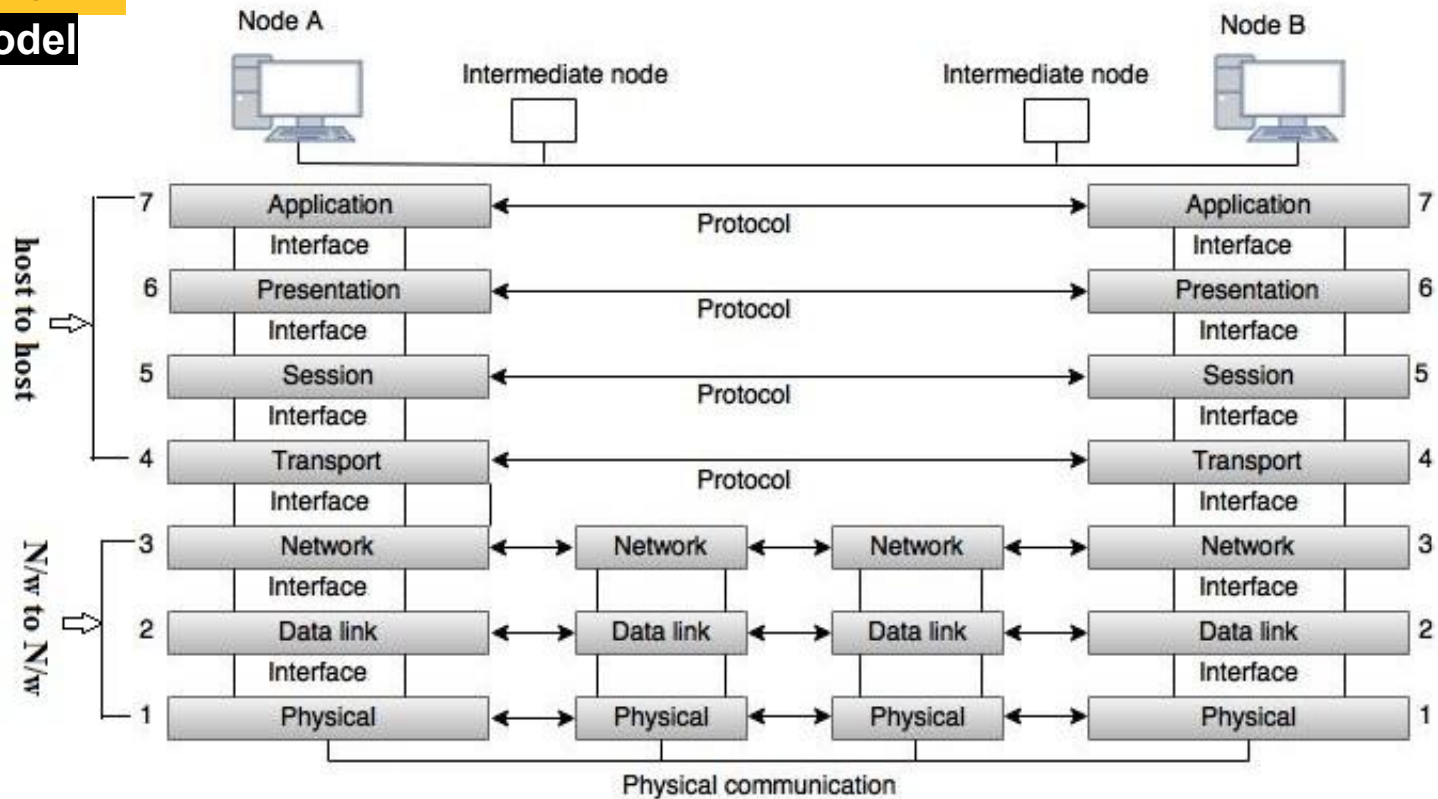


Fig: OSI Model

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OSI Model

Unit

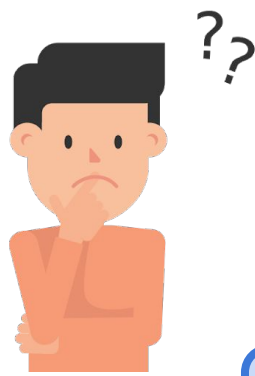
Layer

What we are *really*
talking about

Data	Application	
Data	Presentation	
Data	Session	
Segment	Transport	TCP/UDP
Packet	Network	IP address, routing and delivery
Frame	Data Link	LLC, MAC, data transmission in LAN
Bits	Physical	Signal, Binary transmission

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HTTP(S)



Stateful

OR

Stateless

Synchronous

OR

Asynchronous

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URLS

Given the following URL, identify the...

Query

<https://www.google.com/search?q=asu>

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URLS

Given the following URL, identify the...

Protocol

https://www.google.com/search?q=asu

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URLS

Given the following URL, identify the...

Path

<https://www.google.com/search?q=asu>

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URLS

Given the following URL, identify the...

Host

<https://www.google.com/search?q=asu>

We will focus on ***FOUR*** request types

1.

2.

3.

4.

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HTTP Requests

What's the difference?

1. GET

2. POST

3. PUT

4. DELETE

Idempotent

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HTTP Responses

Status Codes →

1XX

2XX

3XX

4XX

5XX

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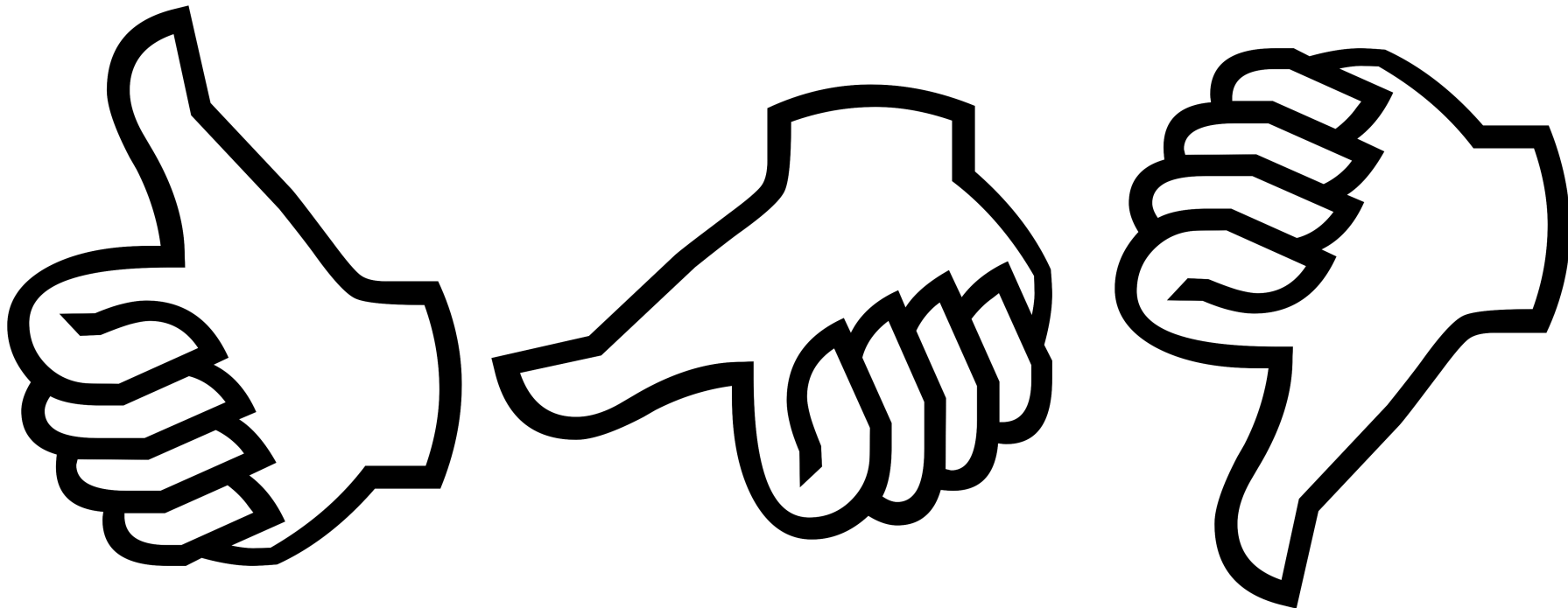
HTTP Responses

1XX	Information	Rare			
2XX	Success	200	201	204	
3XX	Redirect	301			
4XX	User Error	400	403	404	405
5XX	Server Error	501	503		

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JSON

How comfortable are we with JSON?



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JSON

Object

Array

Member

{ }

[]

“name” : value

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JSON

What do we see?

```
{
  "name" : "katie",
  "role" : "student",
  "course" : "ser321"
}
```

```
[
  {"name" : "katie"}
]
```

```
{
  "name" : "katie",
  "pets" : {
    "dog" : "smokey"
  }
}
```

```
{
  "submissions" : [
    {"name" : "katie"},
    {"name" : "zac"}
  ]
}
```

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JSON

Do you see any errors?

```
1. {  
    "name" : "katie",  
    "role" : "student",  
    "course" : "ser321"  
}
```

```
2. [{  
    "name" : "katie",  
    "name" : "zac"  
}]
```

```
3. {  
    "name" : "katie",  
    "pets" : {  
        "dog" : "smokey",  
        "dog" : "samie"  
    }  
}
```

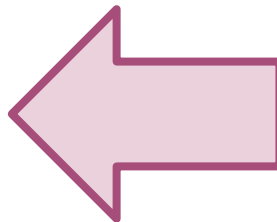
```
4. {  
    "submissions" : [  
        {"name" : "katie"},  
        {"name" : "zac"}  
    ]  
}
```

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JSON

Can we fix these?

```
[  
  {"name": "katie"},  
  {"name": "zac"}  
]
```



```
[{  
  "name": "katie",  
  "name": "zac"  
}]
```

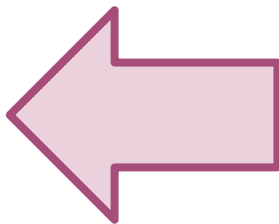
WRONG

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JSON

Can we fix these?

```
[  
  {"name": "katie"},  
  {"name": "zac"}  
]
```

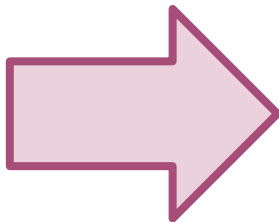


```
[{  
  "name": "katie",  
  "name": "zac"  
}]
```

WRONG

```
{  
  "name": "katie",  
  "pets": {  
    "dog": "smokey",  
    "dog": "samie"  
  }  
}
```

WRONG



```
{  
  "name": "katie",  
  "pets": {  
    {"dog": "smokey"},  
    {"dog": "samie"}  
  }  
}
```

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JSON Quiz

How many Objects?

How many Arrays?

How many Members?

```
{  
  "name": "lab3vue_act3_kgrinne3",  
  "version": "0.0.0",  
  "private": true,  
  "scripts": {  
    "dev": "vite",  
    "build": "vite build",  
    "preview": "vite preview"  
  },  
  "dependencies": {  
    "vue": "^3.3.4"  
  },  
  "devDependencies": {  
    "@vitejs/plugin-vue": "^4.3.1",  
    "vite": "^4.4.9"  
  }  
}
```

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Scratch Space

Upcoming Events

SI Sessions:

- Sunday, October 27th 2024 at 7:00 pm MST
- Tuesday, October 29th 2024 at 10:00 am MST
- Thursday, October 31st 2024 at 7:00 pm MST



Review Sessions:

- TBD

Questions?

Survey:

<https://asuasn.info/ASNSurvey>



More Questions?

Check out our other resources!

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Services



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Now supporting courses in Math, Science, Business, Engineering, and Writing.

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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?

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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.

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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

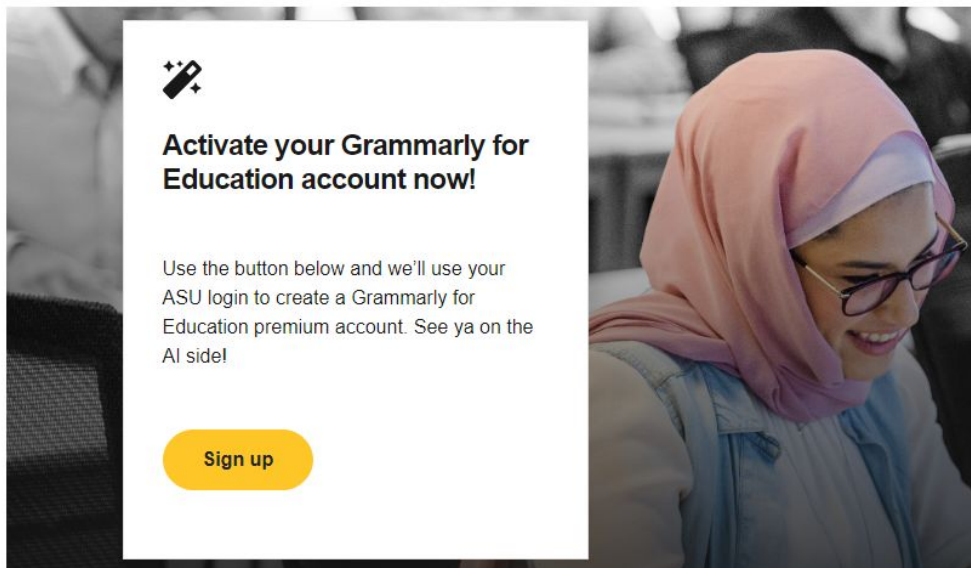
Computer Applications and Information Technology

 [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](#)