

CSE-322

Software Engineering Laboratory

XAMPP & ngrok

Required Software

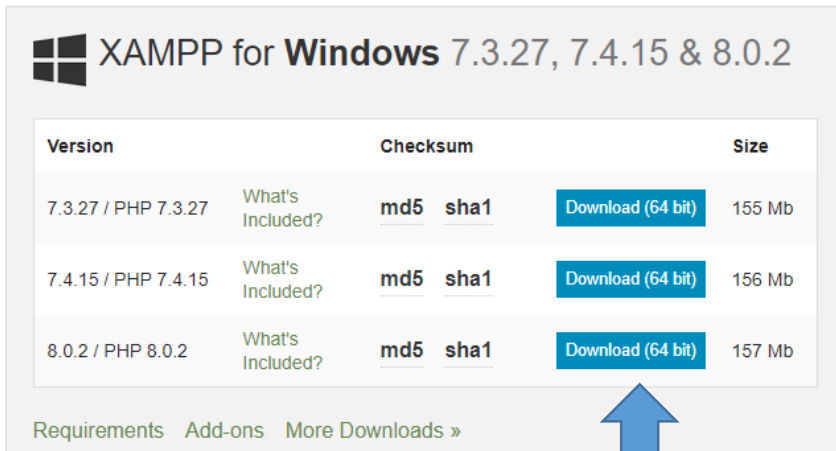
1. XAMPP

<https://www.apachefriends.org/download.html>

2. ngrok

<https://ngrok.com/download>

Both are uploaded in [Week 2 folder](#)



The screenshot shows the XAMPP for Windows download page. At the top, it says "XAMPP for Windows 7.3.27, 7.4.15 & 8.0.2". Below this is a table with three rows, each representing a different version of XAMPP. Each row has columns for Version, Checksum (md5 and sha1), a Download (64 bit) button, and Size. A blue arrow points to the Download (64 bit) button for the 8.0.2 / PHP 8.0.2 version.

Version	Checksum	Size
7.3.27 / PHP 7.3.27	What's Included? md5 sha1	Download (64 bit) 155 Mb
7.4.15 / PHP 7.4.15	What's Included? md5 sha1	Download (64 bit) 156 Mb
8.0.2 / PHP 8.0.2	What's Included? md5 sha1	Download (64 bit) 157 Mb

Requirements Add-ons More Downloads »

Download & setup ngrok

Get started in just a few seconds.

Download for Windows

MORE OPTIONS ▼



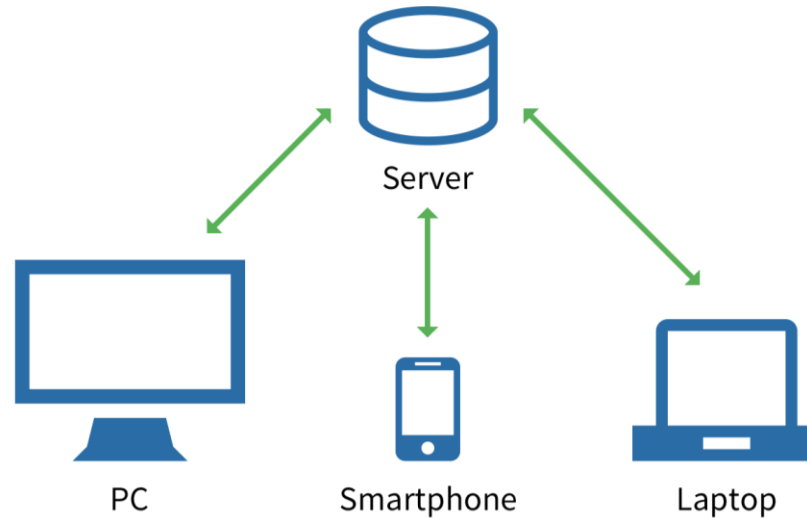
CRUD Operations

The clients will-

1. Create
2. Read
3. Update
4. Delete

-in the server.

Client-Server Model



We shall need to create the interface for the operations.

Initial Setup

XAMPP Control Panel v3.2.4 [Compiled: Jun 5th 2019]

XAMPP Control Panel v3.2.4

Modules

Service	Module	PID(s)	Port(s)	Actions
	Apache	3224 5412	80, 443	Stop Admin Config Logs
	MySQL	6084	3309	Stop Admin Config Logs
	FileZilla			Start Admin Config Logs
	Mercury			Start Admin Config Logs
	Tomcat			Start Admin Config Logs

Config Netstat Shell Explorer Services Help Quit

6:52:08 AM [main] All prerequisites found
6:52:08 AM [main] Initializing Modules
6:52:09 AM [main] Starting Check-Timer
6:52:09 AM [main] Control Panel Ready
6:52:15 AM [Apache] Attempting to start Apache app...
6:52:15 AM [Apache] Status change detected: running
6:52:21 AM [mysql] Attempting to start MySQL app...
6:52:22 AM [mysql] Status change detected: running

Database Creation

In your browser,

1. Open localhost/phpmyadmin
2. Go to SQL and
3. execute the following query-




```
create database db0;  
use db0;
```

```
create table t0 (  
    id INT(10) AUTO_INCREMENT,  
    f0 char(30),  
    f1 char(30),  
    PRIMARY KEY(id)  
);
```

```
insert into t0 values ( '', 'v00', 'v01' );  
insert into t0 values ( '', 'v10', 'v11' );  
select * from t0;
```




CRUD Template

1. Download crud.zip from Week 2 folder
2. Extract the files in the XAMPP htdocs folder (Usually C:\xampp\htdocs\)

My Drive > ... > CSE-322A Contents > Week 2 ▾		
Name ↑	Owner	Last modified
 Softwares	me	7:20 AM me
 crud.zip 	me	7:56 AM me

Task




Examine the codes in the crud folder

My Drive > ... > CSE-322A Contents > Week 2 ▾		
Name ↑	Owner	Last modified
 Softwares	me	7:20 AM me
 crud.zip 	me	7:56 AM me

Publish

You can quickly publish the localhost website to your client.

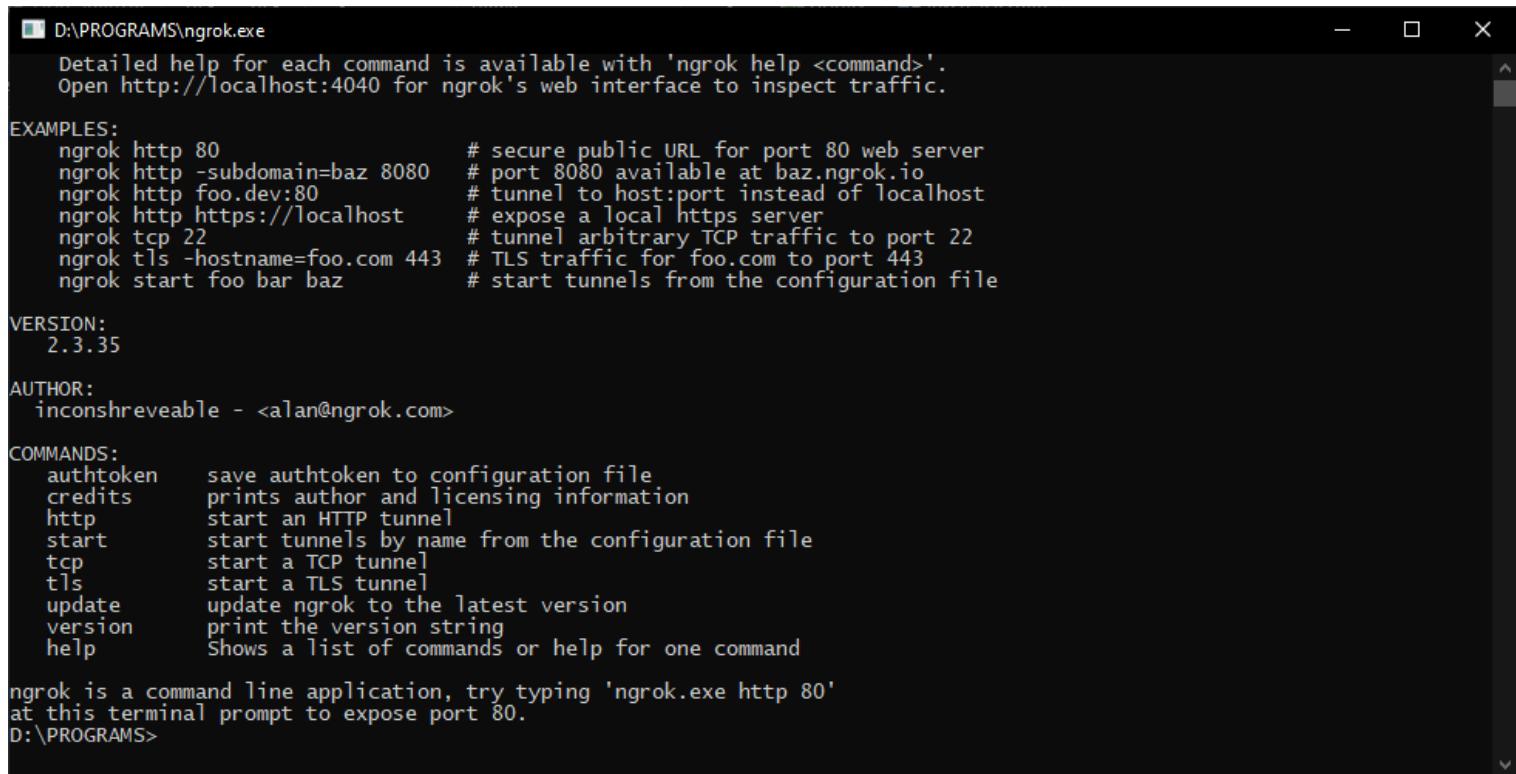
1. Download ngrok from the Softwares folder
2. Unzip and double-click the ngrok.exe

My Drive > ... > CSE-322A Contents > Week 2 ▾		
Name ↑	Owner	Last modified
 Softwares	me	7:20 AM me
 crud.zip 	me	7:56 AM me

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1. Download ngrok from the Softwares folder
2. Unzip and double-click the ngrok.exe



```
D:\PROGRAMS\ngrok.exe
Detailed help for each command is available with 'ngrok help <command>'.
Open http://localhost:4040 for ngrok's web interface to inspect traffic.

EXAMPLES:
ngrok http 80                # secure public URL for port 80 web server
ngrok http -subdomain=baz 8080 # port 8080 available at baz.ngrok.io
ngrok http foo.dev:80        # tunnel to host:port instead of localhost
ngrok http https://localhost # expose a local https server
ngrok tcp 22                 # tunnel arbitrary TCP traffic to port 22
ngrok tls -hostname=foo.com 443 # TLS traffic for foo.com to port 443
ngrok start foo bar baz      # start tunnels from the configuration file

VERSION:
2.3.35

AUTHOR:
inconshreveable - <alan@ngrok.com>

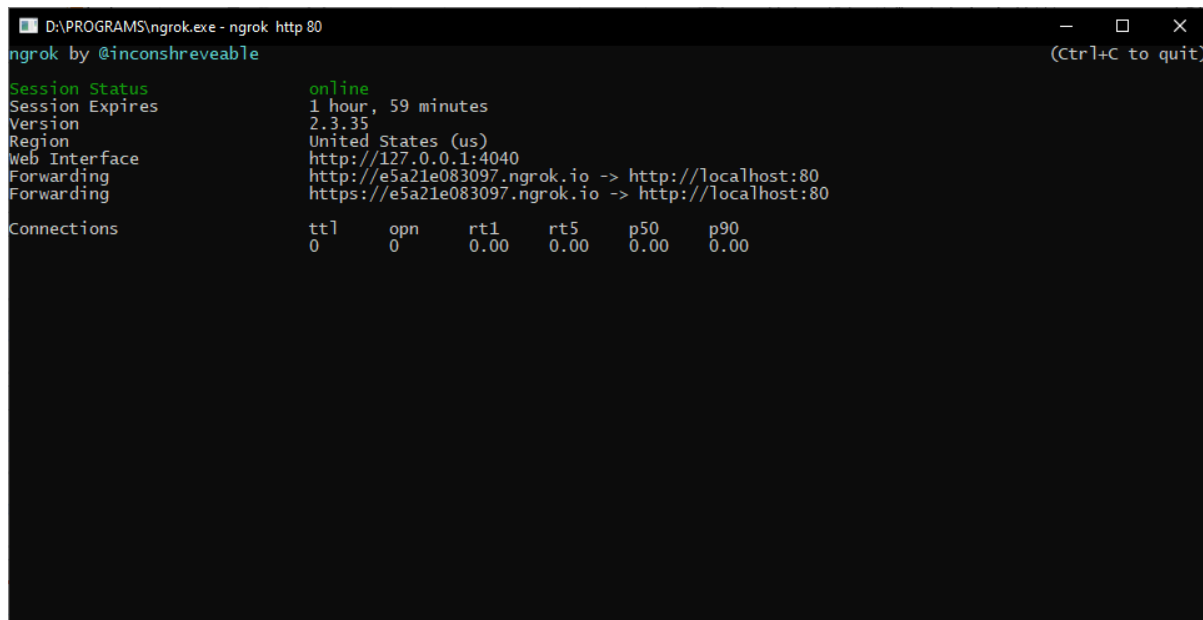
COMMANDS:
authtoken  save authtoken to configuration file
credits    prints author and licensing information
http       start an HTTP tunnel
start      start tunnels by name from the configuration file
tcp        start a TCP tunnel
tls        start a TLS tunnel
update     update ngrok to the latest version
version    print the version string
help       Shows a list of commands or help for one command

ngrok is a command line application, try typing 'ngrok.exe http 80'
at this terminal prompt to expose port 80.
D:\PROGRAMS>
```

Publish

You can quickly publish the localhost website to your client.

1. Download ngrok from the Softwares folder
2. Unzip and double-click the ngrok.exe
3. Type “ngrok http 80”, the htdocs folder will be served in the forwarding link.



The screenshot shows a Windows command prompt window titled "D:\PROGRAMS\ngrok.exe - ngrok http 80". The window displays the ngrok interface, which includes session status, session expiration, version, region, web interface, forwarding links, and a table of connections.

```
D:\PROGRAMS\ngrok.exe - ngrok http 80
ngrok by @inconshreveable

Session Status      online
Session Expires    1 hour, 59 minutes
Version             2.3.35
Region              United States (us)
Web Interface       http://127.0.0.1:4040
Forwarding           http://e5a21e083097.ngrok.io -> http://localhost:80
                    https://e5a21e083097.ngrok.io -> http://localhost:80

Connections
  ttl    opn    rt1    rt5    p50    p90
    0      0     0.00   0.00   0.00   0.00
```

Publish

You can quickly publish the localhost website to your client.

1. Download ngrok from the Softwares folder
2. Unzip and double-click the ngrok.exe
3. Type “ngrok http 80”, the htdocs folder will be served in the forwarding link.
4. The session is temporary and will terminate after a few hours (usually 2 hours)

Example Specifications

Modules:

Student, Teacher, Course, Payment

Database Specifications:

TABLE student: id, dept, name, nid, birth, address, etc.

TABLE teacher: id, dept, name, nid, birth, address, etc.

TABLE course: id, dept, title, credit, syllabus, etc.

TABLE payment: payment_id, student_id, amount, date, etc.

API Specifications

Every module has CRUD functions and some cross-module functions
CRUD: Create, Read, Update, Delete.

Example of cross-module function:

addCourseToTeacher(course_id, teacher_id)

Student

createStudent(id, dept, name, nid, birth, address)

readStudent(dept, batch)

updateStudent(id, dept, name, nid, birth, address)

deleteStudent(id)

Teacher

createTeacher(id, dept, name, nid, birth, address)

readTeacher(dept)

updateTeacher(id, dept, name, nid, birth, address)

deleteTeacher(id)

API Specifications

Course

createCourse(id, dept, title, credit, syllabus)
readCourse(dept, semester)
updateCourse(id, dept, title, credit, syllabus)
deleteCourse(id)

Payment

createPayment(payment_id, student_id, amount, date)
readPayment(student_id)
updatePayment(payment_id, student_id, amount, date)
deletePayment(payment_id)

Cross-Module API

createCourseToSemester(course_id, dept, semester)
removeCourseFromSemester(course_id, semester)
addCourseToTeacher(course_id, teacher_id)
removeCourseFromTeacher(course_id, teacher_id)

Task

Tables:

Teacher: teacher_id, name, course_id

Course: course_id, title

APIs to implement:

1. Read Teachers
2. Read Courses
3. Assign Teacher To Course