

IPDB

# Introduction

- ▶ The Integrated Infectious Pathogens Database (IPDB), developed by 3BIGS, is a centralized repository of infectious disease pathogen genetic information. IPDB utilizes a unique approach by assigning an IPDB registration number to each infectious pathogen gene, revolutionizing the management, retrieval, and sharing of gene data.

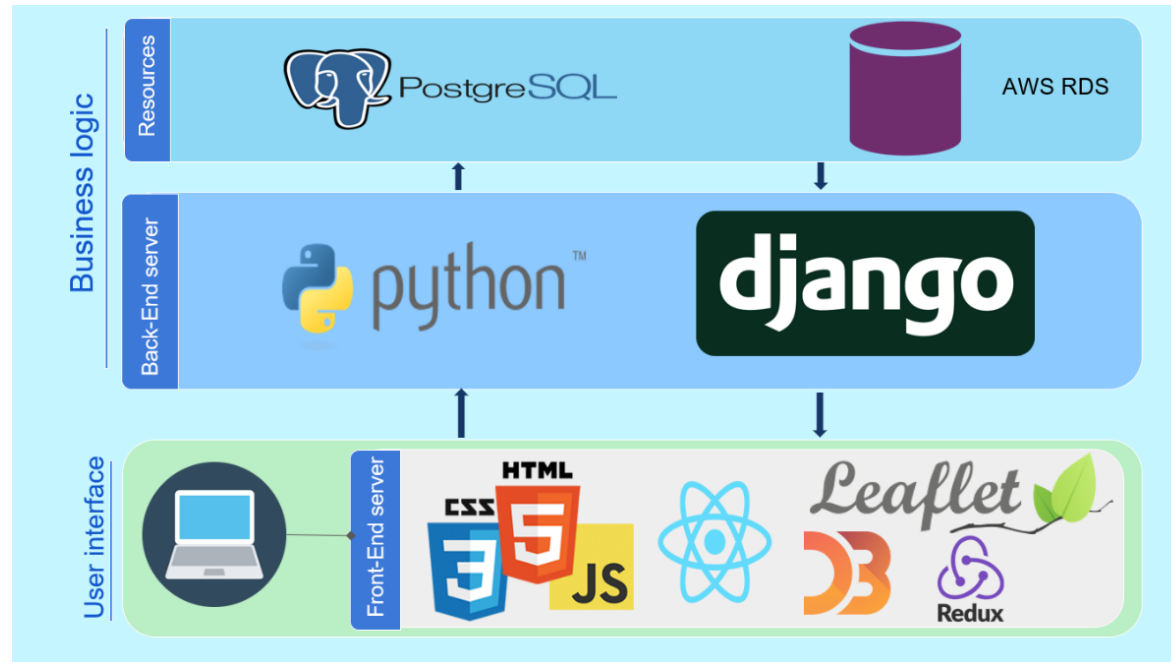
# CLIENT

- National Cancer center (NCC)
- Korea Disease Control and Prevention Agency
- Korea Health Industry and Development Institute
- South korea

# 3BIGS Approach

- ▶ 3BIGS primary objective of this case study is to showcase the key features and functionalities of IPDB and highlight its significance in advancing infectious disease research, surveillance, and response. By examining the integrated analysis tools and benefits of IPDB, we aim to demonstrate how this comprehensive database empowers researchers, healthcare professionals, and policymakers in combating infectious pathogens effectively.

# 3BIGS Approach



# SOFTWARE SERVICES

- **Database Access and User Management:** Develop and provide software services that allow users to access and navigate the IPDB, including member registration, login functionality, and personalized user profiles. This service ensures secure and controlled access to the database's resources.
- **User Interface Development:** Design and develop a user-friendly interface for IPDB, ensuring intuitive navigation, efficient data retrieval, and seamless utilization of the database's features and functionalities. Focus on creating a responsive and visually appealing interface that enhances the user experience.
- **API Development and Integration:** Build and maintain an application programming interface (API) for IPDB, enabling users to integrate its functionalities into their own software applications. This service allows users to leverage IPDB's genetic analysis tools and data within their existing research or surveillance systems.

# SOFTWARE SERVICES

- **Genetic Analysis Tool Integration:** Integrate additional genetic analysis tools with IPDB to expand its capabilities and cater to a broader range of infectious pathogens. This service involves developing interfaces and workflows for seamless integration of tools such as Nextclade, Pangolin, and Muscle, ensuring they can be accessed and utilized within IPDB.
- **Data Visualization and Interpretation:** Develop software services that enable users to visualize and interpret the results of genetic analysis performed within IPDB. This may involve generating interactive visualizations, such as phylogenetic trees, mutation heatmaps, or lineage distribution charts, to aid in understanding and communicating complex genetic information effectively.
- **Reporting and Exporting:** provide software services that allow users to generate comprehensive reports summarizing their genetic analysis results within IPDB. Enable customizable report templates and exporting options to different file formats (e.g., PDF, Excel, CSV), ensuring flexibility and ease of interpretation for researchers, healthcare professionals.

# SOFTWARE SERVICES

- **Training and Support:** Offer training materials, tutorials, and documentation to assist users in effectively utilizing IPDB and its software services. Provide dedicated customer support channels, such as email, live chat, or a ticketing system, to address user queries, troubleshoot technical issues, and guide users in maximizing the benefits of IPDB.
- **Continuous Improvement and Updates:** Regularly update and improve the software services provided with IPDB based on user feedback, emerging research needs, and technological advancements. This includes incorporating new analysis tools, enhancing performance and security, and ensuring compatibility with evolving data formats and standards.



# RESULTS

## IPDB browsing and analysis

- You can download genetic information by clicking the View Details button.
- Click the Analysis button to start the analysis process, and check the analysis results on the Analysis Results Management screen.

HOME > IPDB browsing and analysis > View all

View all SARS-CoV-2 Influenza

### Filters

<b>pathogen name</b> <input type="text" value="Select pathogen name"/>	<b>harvesting country</b> <input type="text"/>	<b>collection area</b> <input type="text" value="Additional local information"/>
<b>collection day</b> <input type="text" value="dd-mm-yyyy"/>	<b>Publication start date</b> <input type="text" value="dd-mm-yyyy"/>	<b>gender</b> <input type="text" value="Please select your gender"/>
<b>age</b> <input type="text" value="Please enter your age"/>		
<input type="button" value="filter reset"/>		<input type="button" value="search"/>

select	IPDB ID	pathogen name	sequence type	collection day	Expected release date	harvesting country	region	age	gender
<input type="checkbox"/>	IPDB-INFLU-230102-9999	Influenza	A	2008.01.12	2023.01.30	Korea, Republic of	Gyeongnam	14	Male
<input type="checkbox"/>	IPDB-INFLU-230102-9998	Influenza	A	1999.11.11	2023.02.01	Korea, Republic of	Busan	15	Male
<input type="checkbox"/>	IPDB-INFLU-230102-9997	Influenza	A	2008.10.10	2023.02.01	Korea, Republic of	Gyeongnam	13	Male
<input type="checkbox"/>	IPDB-INFLU-230102-9996	Influenza	A	2009.09.09	2023.01.30	Korea, Republic of	Incheon	14	Male
<input type="checkbox"/>	IPDB-INFLU-230102-9995	Influenza	A	2008.08.08	2023.01.31	Korea, Republic of	Daegu	28	Male
<input type="checkbox"/>	IPDB-INFLU-230102-9994	Influenza	A	2018.07.07	2022.12.25	Korea, Republic of	Chungbuk	34	Female
<input type="checkbox"/>	IPDB-INFLU-230102-9993	Influenza	A	2013.08.06	2023.01.30	Korea, Republic of	Gyeonggi	14	Male
<input type="checkbox"/>	IPDB-INFLU-230102-9992	Influenza	A	2009.05.05	2023.02.01	Korea, Republic of	Jeju	3	Male
<input type="checkbox"/>	IPDB-INFLU-230102-9991	Influenza	A	2008.04.04	2023.01.31	Korea, Republic of	Gyeongnam	28	Male
<input type="checkbox"/>	IPDB-INFLU-230102-9990	Influenza	A	2009.03.03	2023.01.30	Korea, Republic of	Korea	14	Male
<input type="checkbox"/>	IPDB-INFLU-230102-9989	Influenza	A	2010.02.02	2023.02.01	Korea, Republic of	Chungbuk	3	Male
<input type="checkbox"/>	IPDB-INFLU-230102-9988	Influenza	A	2009.01.01	2023.02.01	Korea, Republic of	Gyeonggi	5	Male
<input type="checkbox"/>	IPDB-INFLU-230102-10495	Influenza	A	2019.11.12	2023.01.30	Australia	Victoria	40	Male
<input type="checkbox"/>	IPDB-INFLU-230102-10487	Influenza	A	2009.08.20	2023.01.31	Korea, Republic of	Incheon	28	Male
<input type="checkbox"/>	IPDB-INFLU-230102-10486	Influenza	A	2007.07.19	2023.02.01	Korea, Republic of	Chungnam	91	Male
<input type="checkbox"/>	IPDB-INFLU-230102-10485	Influenza	A	2012.06.18	2023.01.30	Korea, Republic of	Ulsan	14	Male
<input type="checkbox"/>	IPDB-INFLU-230102-10484	Influenza	A	2006.05.17	2022.12.25	Korea, Republic of	Jeju	34	Female
<input type="checkbox"/>	IPDB-INFLU-230102-10483	Influenza	A	2009.04.16	2023.01.31	Korea, Republic of	Incheon	28	Male
<input type="checkbox"/>	IPDB-INFLU-230102-10482	Influenza	A	2007.03.15	2023.01.30	Korea, Republic of	Busan	14	Male

# RESULTS

질병관리청 IPDB KDCIA Integrated Infectious Pathogens Database

IPDB reading and analysis data management **analysis result management**

Korea Centers for Disease Control and Prevention Emerging Pathogen Analysis Division root\_kdca

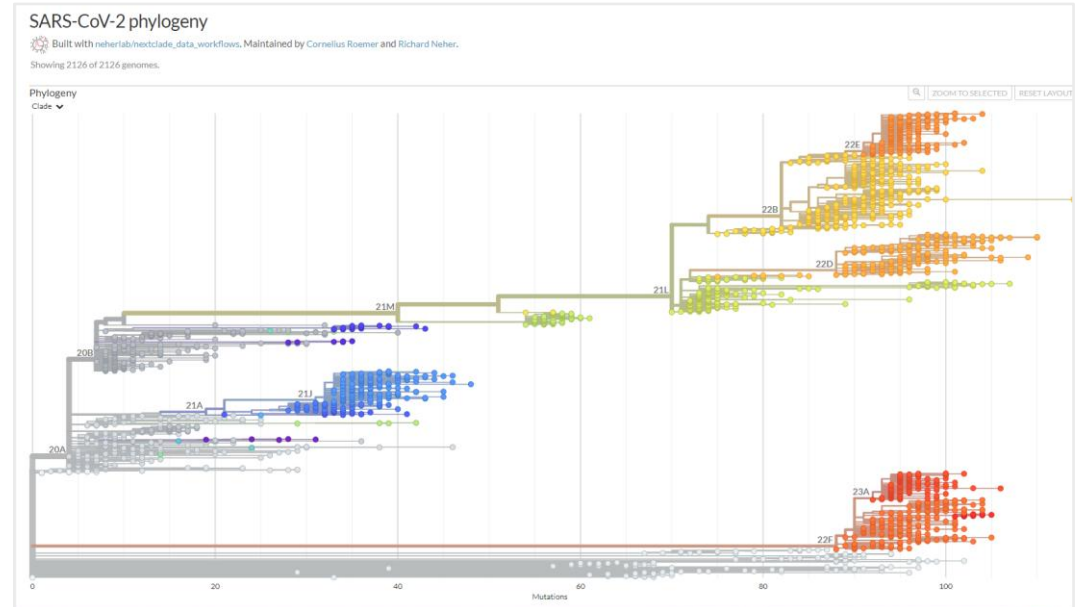
My log out

HOME > Analysis result management

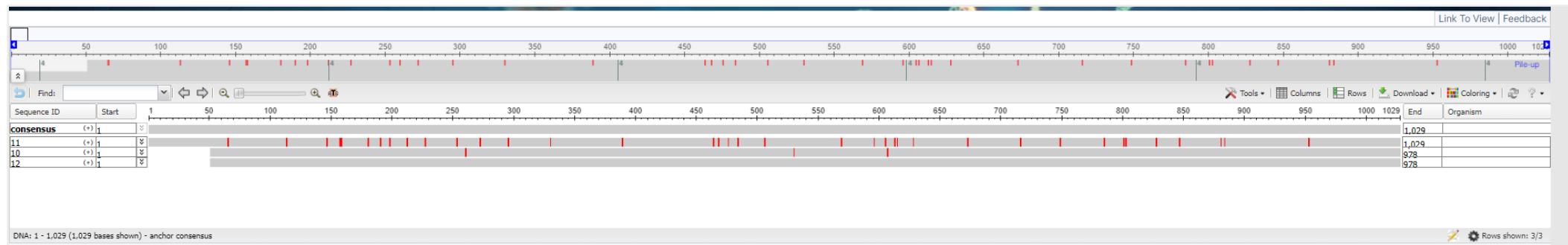
filter reset Delete

Show 100 entries

select	analysis program	Progress
<input type="radio"/>	muscle	completed
IP DB data registration number		
Date and time of analysis request 2023-06-20 10:30:28.276		
analysis start date 2023-06-20 10:30:28.358		
Analysis completion date 2023-06-20 10:30:28.372		
Estimated time 10		
<input type="radio"/>	pangolin	completed
IP DB data registration number		
Date and time of analysis request 2023-06-20 10:29:17.250		
analysis start date 2023-06-20 10:29:17.307		
Analysis completion date 2023-06-20 10:29:18.205		
Estimated time 10		



# RESULTS



RESULTS

**THANK YOU**