

EPANET 2.2

Introduction

EPANET is used to perform extended-period simulation of the hydraulic and water quality behavior within drinking water distribution systems (e.g., pressurized pipe networks), which consist of pipes, nodes (junctions), pumps, valves, storage tanks, and reservoirs. It can be used to track the flow of water in each pipe, the pressure at each node, the height of the water in each tank, a chemical concentration, the age of the water, and source tracing throughout the network during a simulation period.

EPANET was developed as a tool for understanding the movement and fate of drinking water constituents within distribution systems, and can be used for many different kinds of applications in distribution systems analysis. Today, engineers and consultants use EPANET to design and size new water infrastructure, retrofit existing aging infrastructure, optimize operations of tanks and pumps, reduce energy usage, investigate water quality problems, and prepare for emergencies. EPANET can also be used to model contamination threats and evaluate resilience to security threats or natural disasters.

Description

This repository was established to provide U.S. EPA's official release of 2.2.0. The last official release of EPANET was version 2.00.12, dated 2008. The release of EPANET 2.2.0 represents a significant step forward in two important ways. First, the EPANET 2.2.0 release represents a new, open source software project in collaboration with the community at OpenWaterAnalytics (<<https://github.com/OpenWaterAnalytics/EPANET>>) to maintain and extend EPANET. The EPANET developers' community at OWA (<<http://community.wateranalytics.org>>) is composed of dedicated volunteers from around the world who have a passion for EPANET. Second, EPANET 2.2.0 includes major updates to the hydraulic and water quality engines of EPANET 2.00.12.

This repository is being set up to bring together the EPANET engine contributions from the EPA/OWA's release of EPANET 2.2.0 (<<https://github.com/OpenWaterAnalytics/EPANET/releases/tag/v2.2>>) along with U.S. EPA's effort to update the Delphi-based user interface, user's manual, and the integrated Help manual, which resides within the Delphi-based EPANET graphical user interface.

This repository is for archiving the source code and document files associated with the EPA/OWA EPANET 2.2.0 release. Anyone interested in examining these files can peruse the appropriate folder in this repository.

Intended Audience

The intended audience for this repository is anyone working on water distribution system modeling and interested in knowing more about the source code and documentation associated with the official release of EPANET 2.2.0.

License

EPANET is released under the MIT license. See the LICENSE.txt file.

Contributing

EPANET has an active open source software community including consulting engineers, students, researchers, software companies, professional organizations, other interested members of the public, and EPA partners. An Open Source EPANET Initiative is at <http://community.wateranalytics.org>. Anyone wanting to contribute to the open source, collaborative project for EPANET should go to <https://github.com/OpenWaterAnalytics/EPANET>. Everyone is welcome to participate in the EPANET project. Whether you are helping others to resolve issues, reporting a new unknown issue, suggesting a new feature that would benefit your workflow, or writing code, we value and appreciate your time and effort. The path for contribution starts with entering an issue at <https://github.com/OpenWaterAnalytics/EPANET/issues>. Examine the open issues at this link and the conversation around them, and then get engaged!

Finally, the issues identified and resolved here were the result of U.S. EPA's efforts to coordinate beta testing of the EPA/OWA EPANET version 2.2.0.

Documentation

The "Read the Docs" version of the EPANET User's Manual is available here at <https://epanet22.readthedocs.io/en/latest/>. Alternatively, an Acrobat PDF version is available for download within the User Manual folder https://github.com/USEPA/EPANET2.2/tree/master/User_Manual.

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