



ns-3 examples and usability

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Purpose of this session

- Revisit examples
 - ~298 examples
 - Spread in different locations
 - Some are outdated and not actively used/maintained
 - Some examples are too big!
- Revisit the usability aspects
 - Update tutorial and figure out a process to keep it up-to-date
 - Explore the need to provide more helper APIs
- Proposed plan/approach
 - Develop examples that help the users learn gradually
 - Expectations from this effort
 - Tentative timeline

Revisit examples

- Large number of examples, spread into two directories
 - examples/
 - src/<module-name>/examples
- Directions to navigate through different examples are missing
 - Beginners find it difficult to navigate through the examples; increases the time-to-learn
 - Examples are not developed in incremental order of complexity; developed by different teams
- Clean up effort required
 - To carefully remove the unused examples
 - To provide a README for every sub-directory inside examples/
 - To explain what is the purpose of every example (within the example itself as comments at the top of the file) to set the expectations of the user correctly

Revisit the usability aspects

- Update the tutorial
 - Usually gets out of sync when the examples are updated
 - Should it be updated to reflect more recent changes to ns-3?
 - A process that automatically updates the tutorial, when examples are updated, would be good!
- APIs
 - Do we need to develop more helper APIs?
 - Topology helpers?
 - Trace helpers?
 - Application helpers?
 - Is there a need to revisit the functionalities of the existing APIs?

Proposed plan/approach

- Develop examples that help the users learn gradually
 - Draw a lineage that a user can follow to learn ns-3
 - Have multiple entry points for the users
 - Example: beginner starts from the beginning of the lineage, others can start in-between
- Expectations from this effort
 - Clean up of examples
 - Flatten the learning curve for beginners
 - Provide useful examples for advanced level users
 - Identify issues with the APIs
- Tentative timeline
 - Beginner level examples: start rolling out by the end of September 2022
 - Advanced level