MANUAL

INL/EXT-21-63222-Rev000
Revision 0
Printed October 27, 2021

Tool for Economic AnaLysis (TEAL) User Guide

Economics plug-in for RAVEN

Elizabeth Worsham...

Prepared by
Idaho National Laboratory
Idaho Falls, Idaho 83415

The Idaho National Laboratory is a multiprogram laboratory operated by
Battelle Energy Alliance for the United States Department of Energy
under DOE Idaho Operations Office. Contract DE-AC07-05ID14517.

Approved for unlimited release.

Issued by the Idaho National Laboratory, operated for the United States Department of Energy by Battelle Energy Alliance.

NOTICE: This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government, nor any agency thereof, nor any of their employees, nor any of their contractors, subcontractors, or their employees, make any warranty, express or implied, or assume any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represent that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government, any agency thereof, or any of their contractors or subcontractors. The views and opinions expressed herein do not necessarily state or reflect those of the United States Government, any agency thereof, or any of their contractors.

Printed in the United States of America. This report has been reproduced directly from the best available copy.

INL/EXT-21-63222-Rev000
Revision 0
Printed October 27, 2021

Tool for Economic AnaLysis (TEAL) User Guide

Economics plug-in for RAVEN

Elizabeth Worsham, ...

Contents

1 Introduction 6
2 Installation 7
3 Command Line Basics 8
4 Getting Started 9
References 9

1 Introduction

Tool for Economic AnaLysis is a RAVEN plug-in for performing cash flow analyses.

2 Installation

These installation instructions assume that you have already successfully installed RAVEN. For RAVEN Installation instructions, visit https://github.com/idaholab/raven/wiki. To install TEAL as a plug-in for RAVEN:

- Navigate to raven/plugins
- Clone TEAL using git Clone
- Register TEAL plugin with raven: raven/scripts/install_plugins.py -s TEAL
- To update TEAL, navigate to raven/plugins/TEAL and use git pull

3 Command Line Basics

Hopefully, through the installation process, you will have become familiar with some basics of navigating the command window.

cd : Change Directory. Use this command to navigate to different folders. Ex. cd Documents/-path/to/file You can navigate backwards in the directory by using cd .. Ex. cd ../../folder

ls : List Directory. Displays the names of files contained in the current directory.

./ : Execute

conda activate raven_libraries : This is a raven specific command which will allow you to use raven and its associated dependencies in the terminal. It is good practice to activate these libraries before you start using TEAL. Execute a TEAL file: To execute a TEAL program in conjunction with RAVEN, you must type the filepath to raven_framework, followed by the RAVEN xml filename. The RAVEN file is the file that starts and ends with the ¡Simulation¿ block. /Documents/path/to/raven/raven_framework CashFlow_file_name.xml

4 Getting Started

Now that you know the basics, let's get started with the simulation of a single cash flow. We will begin by writing the TEAL (or ¡Economics¿) block and then create the RAVEN (or ¡Simulation¿) block.

Extensive Markup language (XML) is a language for encoding documents in a format that is both human-readable and machine readable. In the context of RAVEN, the XML format essentially groups and labels the data, variables and options required for the simulation.

Economics block: This is the outer block of the TEAL file, which contains all other blocks required to run TEAL. Remember to add a second tag to close the block at the end. You can use an option here to specify the amount of output you want to see as the program runs.

```
<Economics>

</Economics>
```

Global block: This block will contain information that applies to every component in the simulation.

```
<Economics>
    <Global>

    </Global>
</Economics>
```

INL
Idaho National Laboratory