

Q&A Efficient model running with automation

#	Question	Answer(s)
1	Where are all these awesome pieces of artwork from in Jaap's presentation?	<p>The images are all AI generated. We can ask him at the end.</p> <p>Jaap: I used a commercial MidJourney account and in my prompting, I tried to come up with scenes that matches the subject thematically, while using style references from some of my favourite anime - others who love the genre will likely be able to spot some of the references. The images are all in the public domain and can be used accordingly.</p>
2	we have license problems when we are using version AE, do you have any suggestion?	<p>Please email sales@tuflow.com, our team will be able to assist.</p>
3	Might be a silly question but is TUFLOW supported on non-Intel CPUs such as AMD? Follows different syntax than P & E cores I believe	<p>Yes - TUFLOW runs on both Intel and AMD CPUs just fine. The restriction is around the type of GPU - this has to be a CUDA enabled NVidia GPU.</p> <p>Jaap: Note that the remark about P&E cores was specific to recent Intel chips, but that the remark about counting physical cores instead of logical ones applies to AMD and Intel alike. Both may have BIOS support for turning off hyperthreading as well, if you're configuring a machine that is exclusively used for model running. On machines that are used for normal desktop work, we don't recommend this.</p>
	So even newer AMD GPUs would be off the table?	<p>Unfortunately yes. We are interested in supporting AMD GPUs in the future, but the coding effort to convert our codebase to use OpenCL syntax is quite large.</p> <p>Jaap: sadly, yes. TUFLOW have investigated building for both major platforms. One solution is to develop using frameworks that allow us to compile to both platforms, but this hurts performance somewhat and we (and we think our users) value performance over portability, especially considering the current power and popularity of NVIDIA GPUs. The other solution is do develop targeted native solutions for both platforms, but this adds substantial development and maintenance cost, and we (and again, our users) value developing improvements on the one platform over added portability. However, if you have strong arguments in favour of portability, or questions about design choices, you can ask TUFLOW Support and they may provide an answer, or public some background on the wiki.</p>
4	Does this automation support traditional hydrological model?	<p>Automation can benefit any type of model, however it becomes increasingly important depending on the model application. Things to keep in mind include how long the model needs to run, how many events/scenarios do you need to run, how reproducible does your modelling need to be?</p> <p>Generally I'd say yes, setting up automation can be of benefit for any model type if you think it can help with managing any of the issues specific to your application (like the examples above).</p> <p>Jaap: I would note that, yes it does, but automation may prove harder or more limited for model software that only runs from a GUI. TUFLOW has the strength (as do some of the alternatives) that it runs purely as an engine, and an engine that can operate without any user interaction, which makes it very suited to automation.</p>
5	Can we get an example script of running Tuflow using the P-cores?	<p>I don't have one handy right now. Feel free to email this request to support@tuflow.com and we will reply with one.</p> <p>Jaap: we're likely to put up some articles on the TUFLOW wiki to address this, but do feel free to ask Support, and they may direct you to those, or notify you when they are available.</p>

Q&A Efficient model running with automation

#	Question	Answer(s)
6	Can we get some examples of scripted automation	<p>We'll discuss at the end. We can see if Jaap can add a couple of simple examples to the presentation PDF before it gets sent out.</p> <p>Jaap: I avoided adding examples in the presentation, because it would mean either picking batch, PowerShell, or Python - or too much on screen to track. A point I wanted to make was that, given the right things to ask about, use of an LLM would probably get you more than what I could squeeze onto a presentation slide.</p> <p>However, it's a fair question, and in the space of something like our Wiki, something we do want to make available. Including a few snippets in the presentation won't do it just, so I recommend you sign up to the TUFLOW User Group on LinkedIn as we will be sure to announce on there where to find some new material in a few weeks.</p>
7	Great Presentation! Gotta run! thanks very much!	<p>Thanks for listening!</p> <p>Jaap: thanks, I appreciate the attention and am glad the subject was well received - I care a lot about it.</p>
8	Could you please talk about how we can get results when the model is running? Should we read log file or there is a way to access the data in RAM before it is written to a file?	<p>This might be something we touch on live.</p> <p>In the world of TUFLOW FV, we like to use simple outputs as well as the more detailed outputs from the model. For example, we have a point file outputting data at several key locations that is simple ascii text csv file. We can "watch" this file grow throughout the model simulation and track some variables that we understand to make sure that it is running correctly.</p> <p>We also use the model log. The key things to keep an eye on there are that the simulation timesteps are remaining sensible, and that the model is continuing to progress at a fairly consistent rate.</p> <p>Jaap: there's several ways to approach this. Something you can do to get information on the fly is to pipe the text output from TUFLOW into a script that looks for the information you're interested in and sends that off to another file or application, while just printing everything to the screen like TUFLOW does as well. You can also write a PowerShell script or Python script that watches files for change, which is a solution that works for files that have content that doesn't appear on screen like the log files do. There's no need to interfere with the process itself - all the information you want is likely already getting written to a file, or to the screen. We'll be sure to include an example of this on the Wiki article I mentioned above. Watch that space.</p>
9	Historically I've used batch files with loops to post-process results (pre ARR19). Is this still a contemporary method? Or are more ppl using python scripts these days? Particularly in context of ARR19 and ROC methods	<p>live answered</p> <p>Jaap: to summarise - batch files still work, and they will continue to do so in Windows 11's lifetime. However, it may be worth looking into PowerShell if you want to be able to do a bit more without having to deal with installing Python everywhere to use Python instead. For post-processing though, I think Python is quickly taking over, and it is entirely worth your time to become familiar with it. There are great libraries, both specific to TUFLOW and for data processing in general, that can save you a lot of time.</p>
10	That was most interesting, thank you all for the presentation! I recommend including a few sentences to explain and guide how to check or enforce the use of e- or p-cores in the next issue of the TUFLOW manual.	<p>Yes - we will add that to our wiki!</p>