

PRACTICE INSTRUCTIONS

*Configure and
Run WPS & WRF
Using a Single
Domain*



TUTORIAL PRACTICE WEBSITE

www2.mmm.ucar.edu/wrf/OnLineTutorial/tutorial_practice_in-person/index.html

The Basic WRF Tutorial Practice Session

[Home](#)[Cheyenne HPC](#)[Case Studies](#)[Graphics](#)[Daily Quiz](#)[Useful Links](#)

- This website is specific to the hands-on practice sessions for the Basic WRF Tutorial.
- Use the links above to navigate around the website.
- All work will be done on NCAR's [Cheyenne HPC](#). Follow instructions in the link to get started.
- Once you have set up your Cheyenne environment and do not need assistance navigating to your practice directory, you can go directly to [Case Studies](#).

Begin
Exercises
:
Case
Studies

PRACTICE CASES

Important!
Read the notes!



Run WRF Case Studies

Important Notes – Please read!

- **Complete the Initial Exercise, and then the Single Domain Case before moving on to others.**
- The ★ rating is an estimate of difficulty.
- There is no expectation that you must complete all the cases. Experiment with cases you are more likely to use in your research.
- Once you are more comfortable running cases, try setting up your own domain, or play with different physical options (but can place a domain anywhere in the world).
- All code has been precompiled to save time. If you want to experiment with compiling the code, there is a separate exercise. For other exercises please use the pre-compiled code.
- You may find it handy to have a copy of the latest version of the [WRF-ARW User's Guide](#) open on your desktop.
- **You will need the output files from some cases (e.g., the Single Domain case) for future exercises. Please save those files before starting each new exercise.**

Standard Practice Cases

We recommend starting with these cases. Below you can see the difficulty rating and the suggested day to try each one.

[Initial Exercise](#) ★ ★ (Monday)

[Single Domain Run](#) ★ ★ (Monday)

STANDARD PRACTICE CASES

Once you've completed the *Initial Exercise*, complete the ***Single Domain Run***

Find the bugs

Set-up and Run Your Own Case

Standard Practice Cases

We recommend starting with these cases. Below you can see the difficulty rating and the suggested day to try each one.

[Initial Exercise](#) ★ ★ (Monday)

[Single Domain Run](#) ★ ★ (Monday)

[Restart the model](#) ★ ★ (Monday or Tuesday)

[Two-way Nested Domain](#) ★ ★ ★ (Tuesday)

[Find the Bugs](#) 🐛 🐛 🐛 (Tuesday)

[Set-up Case and Run Exercise](#) ★ ★ ★ ★ (Wednesday or Thursday)

Stars:
Estimation of
Difficulty

Cases with Specific Options

| Case Name | Difficulty Rating |
|--|-------------------|
| Idealized cases | ★ ★ ★ |
| Setting up WRF for Climate Simulations | ★ ★ ★ |
| Vortex Following Case | ★ ★ ★ ★ |
| Compute a diagnostic variable | ★ ★ ★ ★ ★ |
| Increasing Frequency of WRF Output Variables | ★ ★ ★ |
| Output Additional Variables in History Files | ★ ★ ★ |
| Output Time Series Data at Station Locations | ★ ★ ★ |
| Running with Adaptive Time Step | ★ ★ ★ |
| Spectral Nudging | ★ ★ ★ |
| One-way nested run using ndown | ★ ★ ★ ★ |

Compile Code

[WRF & WPS for Real Data Cases](#)

[WRF for Idealized Cases](#)

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- [WRF Users' Guide](#)
- [Namelist Best Practices](#)
- [WRF Flow Chart](#)
- [Tutorial Presentations](#)
- [UNIX Commands](#)
- [Input & Output Data](#)
- [NCAR Supercomputers](#)

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- WRF Users' Guide
- Recorded tutorial presentations
- UNIX commands
- Input & output data
- Access to Cheyenne from your home institution

USEFUL
LINKS



Daily Quiz

After the lectures have been completed for each day, there will be a quiz available. The quizzes are fairly short, and are basically a way for us to determine if you grasped the key components from the lectures through the day. Please complete these quizzes each day. Once you submit your answers, you will be given your results, with an explanation for the correct answer to each one. If you have any questions about them, please let us know. The answers will all be confidential. We will only get results in total numbers.

Monday: [Click here to access daily quiz.](#)

Tuesday: [Click here to access daily quiz.](#)

Wednesday: [Click here to access daily quiz.](#)

Thursday: [Click here to access daily quiz.](#)

Friday: [Click here to access daily quiz.](#)

DAILY QUIZ

NOTES

- Refer to the Users' Guide and tutorial lectures during practices and quizzes.
- Instructors are available for questions.
- Pay attention to wiring in the classroom.
- HAVE FUN!!

QUESTIONS?



