# Bristol Infectious Disease Dynamics Modelling Course

[![develVersion](data:image/svg+xml;charset=utf-8;base64,)](https://github.com/bristolmathmodellers/biddmodellingcourse) [![Course Website](data:image/svg+xml;charset=utf-8;base64,)](https://bristolmathmodellers.github.io/biddmodellingcourse/) [![badge](data:image/svg+xml;charset=utf-8;base64,)](https://mybinder.org/v2/gh/bristolmathmodellers/biddmodellingcourse/master?urlpath=rstudio) [Travis-CI Build Status](https://travis-ci.org/bristolmathmodellers/biddmodellingcourse) [AppVeyor Build Status](https://ci.appveyor.com/project/bristolmathmodellers/biddmodellingcourse)

The biddmodellingcourse package contains the practicals for the [BIDD](http://www.bristol.ac.uk/social-community-medicine/research/groups/bidd/) modelling short course at the University of Bristol. It also contains the functions required to run the practicals and solutions.

## Getting Started - On The Day

### Getting up and running

* The practicals and code should be on the memory stick given to you at the start of the the course as a zip. Copy the zip to your home directory, unzip it, and then open the biddmodellingcourse folder.
* Verify that you have a working installation of both [R](https://www.r-project.org/) and [Rstudio](https://www.rstudio.com/products/rstudio/download/#download) (if on the course computers you do), then click on the biddmodellingcourse.Rproj project. This should open an instance of Rstudio.
* You are now ready to start the practicals (see the handouts or the course website (<https://bristolmathmodellers.github.io/biddmodellingcourse/>)). For practicals that require coding, follow along interactively using the provided notebooks (available in the vignettes folder).

### Using the course code

* To run the shiny application in practical 2 run the following code,

shiny::runGitHub("exploreidmodels", "seabbs")

* The course practicals make use of [R notebooks](https://rmarkdown.rstudio.com/r_notebooks.html), these allow text and code to be intermingled in a single document. Code is highlighted and separated from the text using ```. To run the code in these chunks click on the green arrow in the right hand side of the chunk, or select the chunk and press enter. To run all code chunks above a given chunk press the grey arrow pointing downwards. The output from each code chunk will be displayed below the code chunk.
* **Are you having a problem running something locally?**
  + For Practical 2 use the following link to start the shiny app remotely: <http://bit.ly/bidd-practical-2>
  + For practical 3 use the following link to start a remote Rstudio session: <http://bit.ly/bidd-practical-3>

## Getting Started - Remote Set-up

* Download the package folder from <https://github.com/bristolmathmodellers/biddmodellingcourse/archive/master.zip> or use git clone, as follows, in the command line (not the R terminal).

git clone https://github.com/bristolmathmodellers/biddmodellingcourse.git

* Now follow the getting started on the day instructions above.

### Docker

This package was developed in a docker container based on the [tidyverse](https://hub.docker.com/r/rocker/tidyverse/) docker image. Docker containers are lightweight, stand-alone, executable packages of a piece of software that includes everything needed to run it (see [here](https://www.docker.com/what-container) for details). To run the docker image run (with an active docker daemon running):

docker run -d -p 8787:8787 --name biddmodellingcourse -e USER=biddmodellingcourse -e PASSWORD=biddmodellingcourse seabbs/biddmodellingcourse

The rstudio client can be found on port :8787 at your local machines ip. The default username:password is biddmodellingcourse:biddmodellingcourse, set the user with -e USER=username, and the password with - e PASSWORD=newpasswordhere. The default is to save the analysis files into the user directory.