

R for Data Science

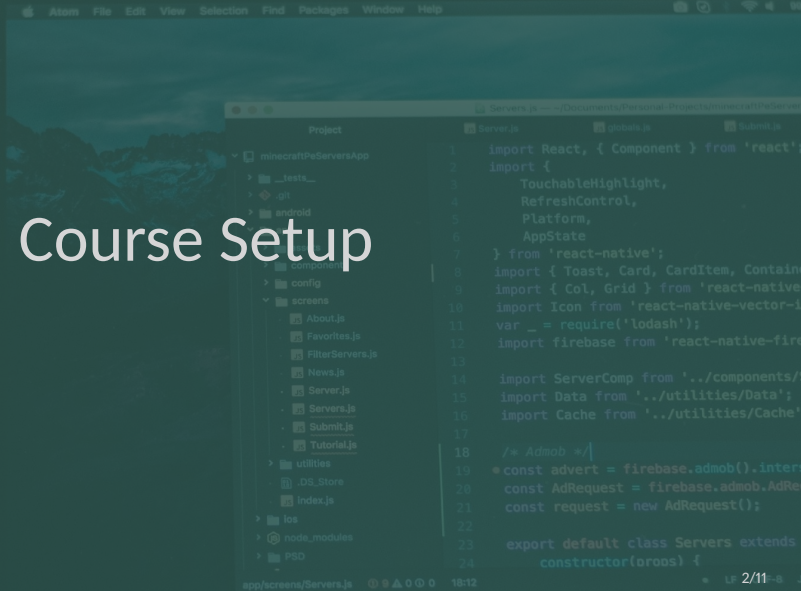
Lecture 1

R Fundamentals, Data Types and Operators

Outline of Today's Session

1. Course Setup
2. Introducing R
3. Programming Environments
4. R Fundamentals

Course Setup



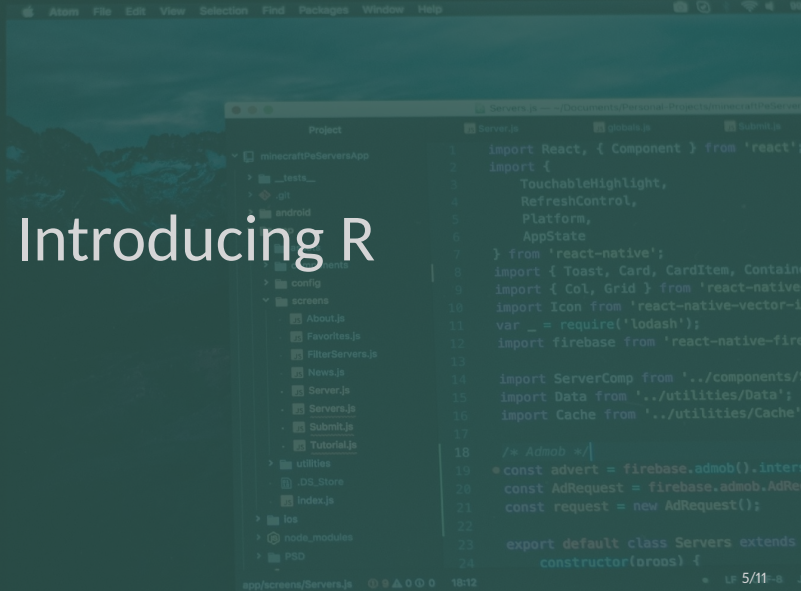
Course Setup

- Two classes per week ([Google calendar](#))
 - Start of each session is a lecture style
 - End of each session is time to work on assignments
- Content available on [Github](#)
- Communication via [Slack](#)

Teaching Philosophy and Rules

- Power of diversity
- Collaborative learning
 - Learn by doing
 - Learn by teaching
 - Enjoy the journey
- Collaboration is *encouraged*, copying is *forbidden*

Introducing R



What is R?

- Programming language & free software environment
- Statistical computing & visualization
- First appeared: August 1993
- Written in C, Fortran and R itself

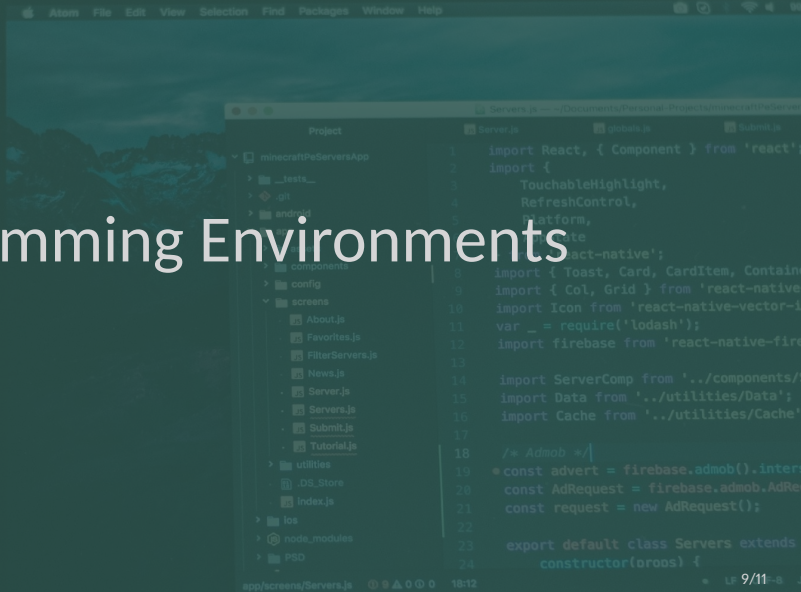
What can R be used for?

- Data manipulation
- Data visualization
- Data analytics
 - Advanced statistical methods
 - Machine learning
- And much more!

Why should you learn R for data science?

- R can be learnt relatively quickly
- Very powerful & sufficient for most tasks
- Popular in academia
- Excellent package support
- Open source

Programming Environments



Programming Environments

- Integrated development environment (IDE): **RStudio**
 - **Download RStudio** or use **RStudio Cloud**
 - Available on all computers at the EUR
 - Preferably work on a Windows computer
- Jupyter Notebook
 - Local environment, e.g. using **Anaconda**
 - Online environment, e.g. using **Google Colab** with **IRkernel**
 - » **Introduction to Google Colab**
 - » **Markdown Guide**
- **Command line**

R Fundamentals

Atom File Edit View Selection Find Packages Window Help

Project

▼ minecraftPeServersApp

► __tests__

► .git

► android

► ios

► node_modules

► PSD

► config

▼ screens

► About.js

► Favorites.js

► FilterServers.js

► News.js

► Server.js

► Servers.js

► Submit.js

► Tutorial.js

► utilities

► .DS_Store

► index.js

► ios

► node_modules

► PSD

app/screens/Servers.js

Servers.js — | Documents/Personal Projects/minecraftPeServersApp

Server.js

globals.js

Submit.js

```
1 import React, { Component } from 'react';
2 import {
3   TouchableHighlight,
4   RefreshControl,
5   Platform,
6   AppState
7 } from 'react-native';
8 import { Toast, Card, CardItem, Container } from 'react-native-elements';
9 import { Col, Grid } from 'react-native-gesture-handler';
10 import Icon from 'react-native-vector-icons';
11 var _ = require('lodash');
12 import firebase from 'react-native-firebase';
13
14 import ServerComp from '../components/ServerComp';
15 import Data from '../utilities/Data';
16 import Cache from '../utilities/Cache';
17
18 /* Admob */
19 const advert = firebase.admob().interstitial();
20 const AdRequest = firebase.admob.AdRequest;
21 const request = new AdRequest();
22
23 export default class Servers extends Component {
24   constructor(props) {
```