Hiring Task Documentation

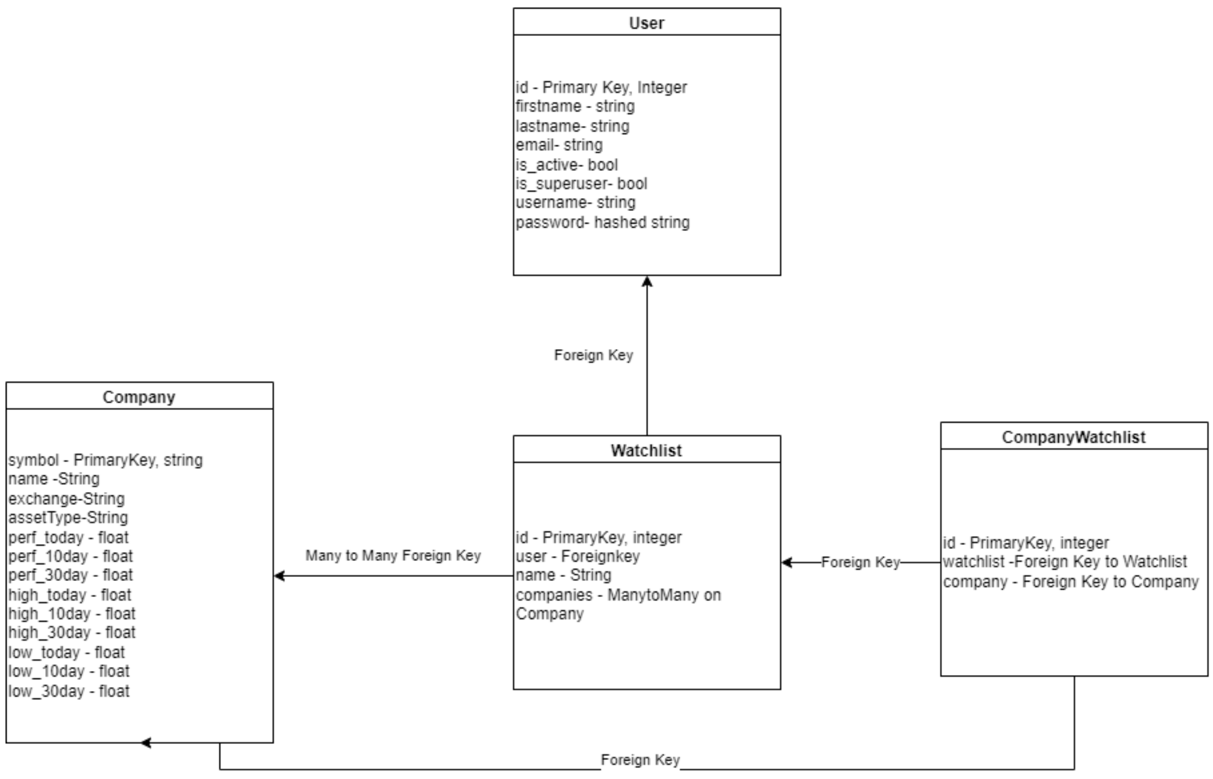
Project directory Structure:

```
Base_dir
        |-backend
        |       |-backend           – Contains Project Settings
        |       |- authentication   – Contains Authentication APIs
        |       |- user_api         – Contains User related APIs
        |
        |-frontend
        |       |-src
        |          |- Pages         - Contains folder for each page
        |          |- Component     - Contains folder for each component
```

Backend:

Models:

1. User: Default Django.auth.user
2. Company: Defined in .\backend\user_api\views.py
3. Watchlist: Defined in .\backend\user_api\views.py
4. WatchlistCompany: Defined in .\backend\user_api\views.py



APIs:

1. Login API

URL	http://127.0.0.1:8000/auth/signin/
File	.\backend\authentication\views.py
Request Type	POST

Body	{
	 “username”: username,
	 “Password”:password
	 }

Input parameters	• username – string • password – string

Response	{
	 “message”: message
	 “access”: access token
	 “refresh”: refresh token
	 }

Response parameters	message: string -login status access: string - JWT access token refresh: string - JWT refresh token

2. Sign Up API

URL	http://127.0.0.1:8000/auth/signup/
File	.\backend\authentication\views.py
Request Type	POST

Body	{
	 firstName: firstName,
	 lastName: lastName,
	 email: email,
	 username: username,
	 password: password,
	 confirmPassword: confirmPassword,
	 }

Input parameters	• firstName - string • lastName - string • email – string - email • username - string • password - string • confirmPassword - string

Response	{
	 “status”: “success”
	 }
	 Or
	 {
	 “error”: error message
	 }

Response parameters	status: string

	error: string

3. Check Username Availability API

URL	http://127.0.0.1:8000/auth/check_username/<username>/
File	.\backend\authentication\views.py
Request Type	GET
Body	username
Input parameters	Username - String
Response	{'available': True or false}
Response parameters	'available': boolean

4. Logout API

URL	http://127.0.0.1:8000/auth/logout/
File	.\backend\authentication\views.py
Request Type	GET
Body	-
Input parameters	-
Response	{ “message”: logout status }
Response parameters	message: string – success or fail

5. Get CSRF token API

URL	http://127.0.0.1:8000/auth/get_csrf/
File	.\backend\authentication\views.py
Request Type	GET
Body	-
Input parameters	-
Response	{'csrfToken': token}
Response parameters	token: string – csrf token

6. Dashboard Data API

URL	http://127.0.0.1:8000/user/dashboard/
File	.\backend\user_api\views.py
Request Type	GET
Body	-
Input parameters	-
Response	{ 'user' : username, 'watchlists' : user watchlists, 'watchlist_companies': companies in watchlist, 'allCompanies': companies list, 'perf_metrics': performance metrics for overall companies

	}

Response parameters	User – string
	watchlists – List of Dictionaries of watchlist data
	watchlist_companies – dictionary-
	{
	watchlist name: [companies1, company2], ….
	}
	allCompanies – list of Dictionary
	perf_metrics – Dictionary
	{
	"Max_perf_today": { },
	"Min_perf_today": { },
	"Max_perf_10day": { },
	"Min_perf_10day": { },
	"Max_perf_30day": { },
	"Min_perf_30day": { }
	
	}

7. Create New Watchlist

<u>URL</u>	http://127.0.0.1:8000/user/addWatchlist/
<u>File</u>	.\backend\user_api\views.py
<u>Request Type</u>	POST
<u>Body</u>	{ name: new watchlist name}
Input parameters	name - string

Response	{'msg':success or failed}
	Or
	{'error': 'Method not allowed'}

Response parameters	message – string error - string

8. Get performance metrics of current watchlist API

<u>URL</u>	http://127.0.0.1:8000/user/getWatchlistPerf/
<u>File</u>	.\backend\user_api\views.py
<u>Request Type</u>	POST
<u>Body</u>	{'watchlist': id of watchlist}
Input parameters	watchlist- integer

Response	{
	'max_perf_today': {},
	'min_perf_today': {},
	'max_perf_10day': {},
	'min_perf_10day': {},
	'max_perf_30day': {},
	'min_perf_30day': {}
	}

Response parameters	max_perf_today – Dictionary of company data min_perf_today – Dictionary of company data max_perf_10day– Dictionary of company data

	min_perf_10day– Dictionary of company data max_perf_30day– Dictionary of company data min_perf_30day– Dictionary of company data

9. Delete a Watchlist API

URL	http://127.0.0.1:8000/user/removeWatchlist/
File	.\backend\user_api\views.py
Request Type	POST
Body	{ selectedWatchlists: list of watchlist names }
Input parameters	selectedWatchlists – String[]

Response	{'msg':success or failed}
	Or
	{'error': 'Method not allowed'}

Response parameters	message – string error - string

10. Add Company to Watchlist API

URL	http://127.0.0.1:8000/user/addCompanyToWatchlist/
File	.\backend\user_api\views.py
Request Type	POST

Body	{
	'companydata': type WatchlistCompanies,
	'updatedwatchlist': name of watchlist to add company
	}

Input parameters	companydata - type WatchlistCompanies updatedwatchlist - string

Response	{'msg':success or failed}
	Or
	{'error': 'Method not allowed'}

Response parameters	message – string error - string

11. Get Data for Company Graph and Company performance Metrics

URL	http://127.0.0.1:8000/user/getCompanyGraph/
File	.\backend\user_api\views.py
Request Type	POST
Body	{ 'selectedCompany': symbol of selected company}
Input parameters	selectedCompany – string

Response	{
	'candlestick_data': data to plot Graph,
	'perf_metrics': company performance metrics
	}

Response parameters	candlestick_data – Dictionary
	{
	x: Timestamp
	y: [Open, high, low, close]
	}

	perf_metrics: type PerfMetricsCompany

Frontend:

Pages:

1. Home: Landing Page
    a. Functions
        i. -
2. Dashboard: User specific page reached after login
    a. Functions
        i. get_data(): Fetch dashboard API and set data
        ii. showCompanies(id): Expand / Collapse watchlist
        iii. displayCheckboxes(): Display/Hide checkbox when editing watchlist
        iv. updateSelectedList(): Add or remove watchlist from list sent to remove watchlist api
        v. getcsrftoken(): Fetch csrf token from server
        vi. update_watchlists(): Send list from updateSelectedList to server
        vii. handleaddwatchlist(): Handle create new watchist
        viii. isCompanyInWatchlist(symbol): Checks if symbol is in current selected watchlist
        ix. updatewatchlistcompanies(): add or remove company from current watchlist (on Frontend only)
        x. updatecompaniesinwatchlist(): Send updatewatchlistcompanies list to server
        xi. getWatchlistPerf(): Get performance metrics of current watchlist

3. Login: Page for users to log in
    a. Functions
        i. handleUsernameChange(): Update username state
        ii. handlePasswordChange(): Update Password State
        iii. handleSubmit(): Send username and password to server to login

4. SignUp: Page for Users to sign up
    a. Functions
        i. handleCheckAvailability – check from server if username is available
        ii. check_params – check if all parameters are filled
        iii. handleSubmit – submit signup form to server

Components

1. Navigation Bar: Top Navigation Bar
    a. Functions
        i. Logout(): sign out current user from server
    b. Called in – Base Page

2. Base Page: Template rendered by all pages
    a. Functions
        i. None

    b. Called in: All Pages

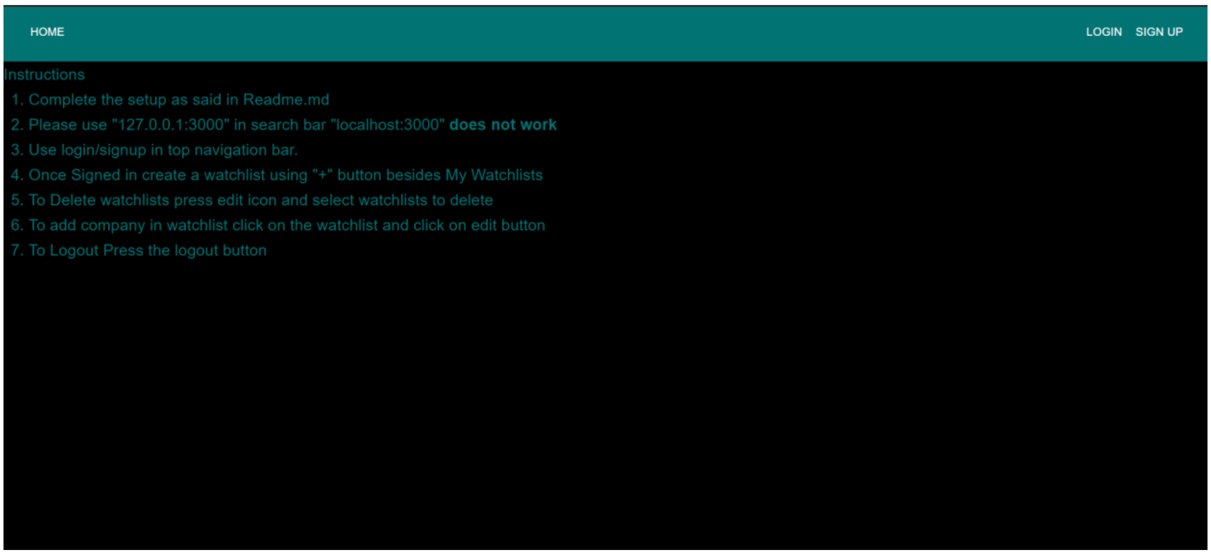
3. Default Performance Page: Performance Cards on default dashboard
    a. Functions
        i. None
    b. Called in: Dashboard Page

4. Watchlist Performance Page: Performance cards for specific watchlist
    a. Functions
        i. getCompanyGraph(): Fetch Compang graph data API
    b. Called in: Dashboard Page

5. Graph Plotter: Plots Candlestick chart from company data
    a. Funstions
        i. None
    b. Called in: Watchlist Performance Page

ScreenShots

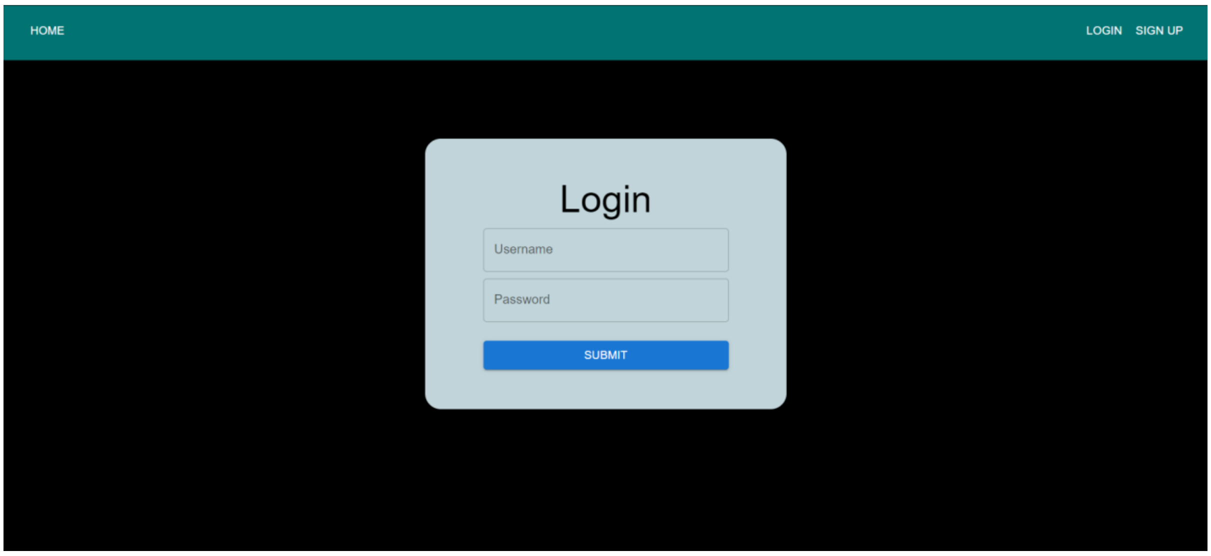
Landing Page



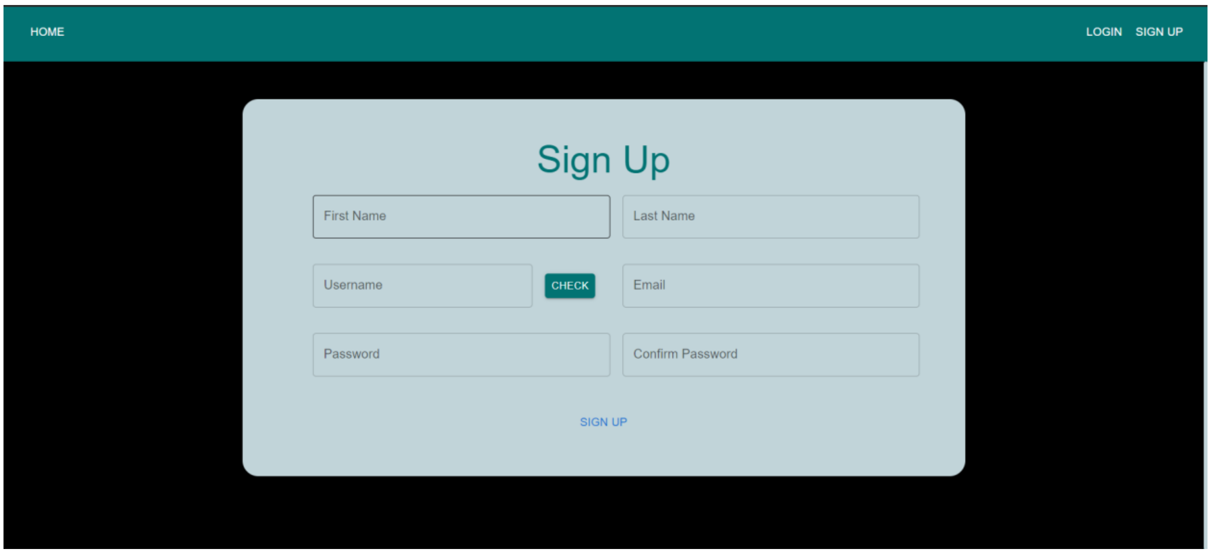
Instructions

1. Complete the setup as said in Readme.md
2. Please use "127.0.0.1:3000" in search bar "localhost:3000" **does not work**
3. Use login/signup in top navigation bar.
4. Once Signed in create a watchlist using "+" button besides My Watchlists
5. To Delete watchlists press edit icon and select watchlists to delete
6. To add company in watchlist click on the watchlist and click on edit button
7. To Logout Press the logout button

Login Page



Signup Page


HOME LOGIN SIGN UP

Sign Up

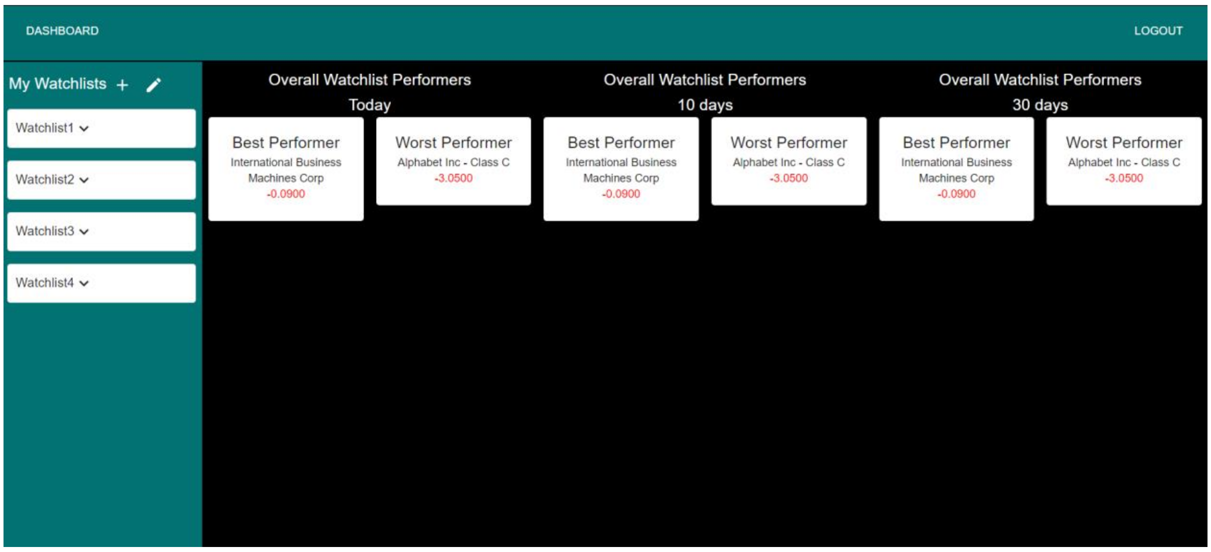
First Name | Last Name

Username CHECK | Email

Password | Confirm Password

SIGN UP

Dashboard Page

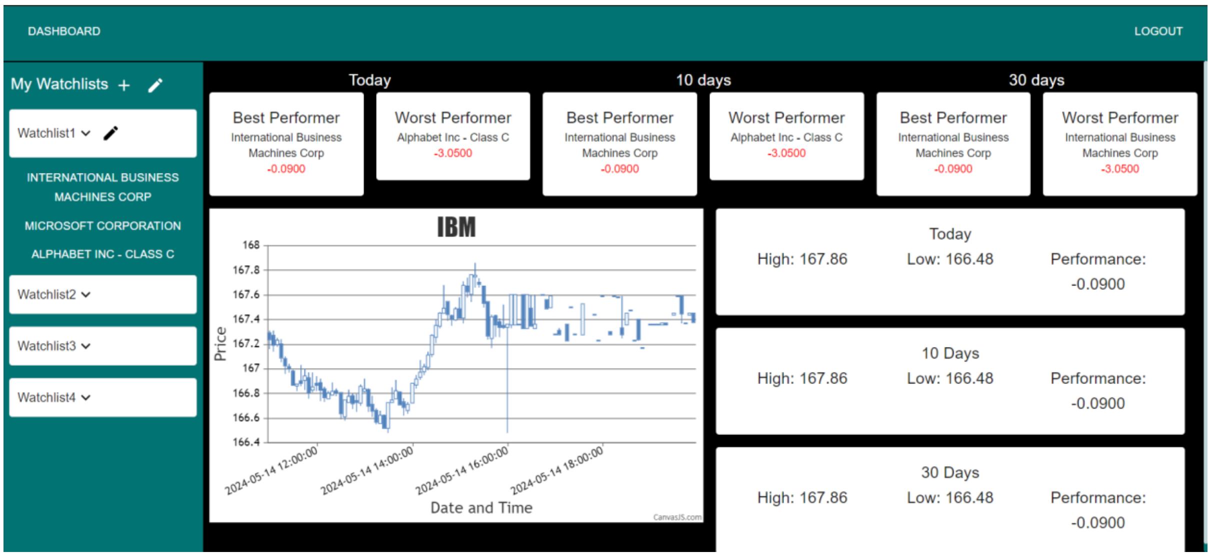

DASHBOARD LOGOUT

My Watchlists

Watchlist1
Watchlist2
Watchlist3
Watchlist4

Overall Watchlist Performers Today		Overall Watchlist Performers 10 days		Overall Watchlist Performers 30 days	
Best Performer	Worst Performer	Best Performer	Worst Performer	Best Performer	Worst Performer
International Business Machines Corp	Alphabet Inc - Class C	International Business Machines Corp	Alphabet Inc - Class C	International Business Machines Corp	Alphabet Inc - Class C
-0.0900	-3.0500	-0.0900	-3.0500	-0.0900	-3.0500

Dashboard page watchlist and company selected


DASHBOARD LOGOUT

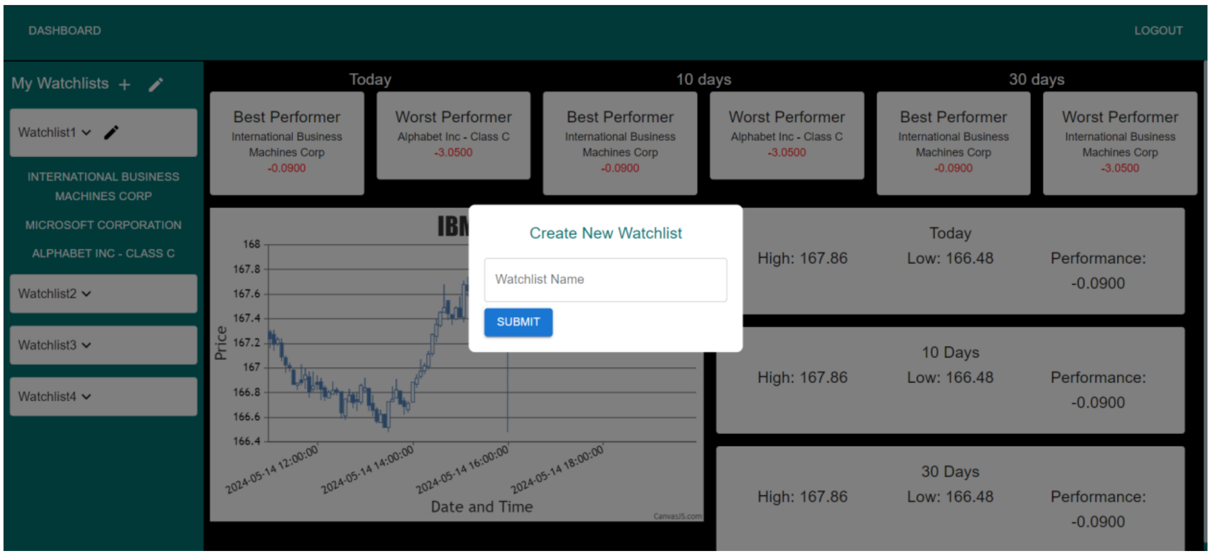
My Watchlists

Watchlist1
INTERNATIONAL BUSINESS MACHINES CORP
MICROSOFT CORPORATION
ALPHABET INC - CLASS C
Watchlist2
Watchlist3
Watchlist4

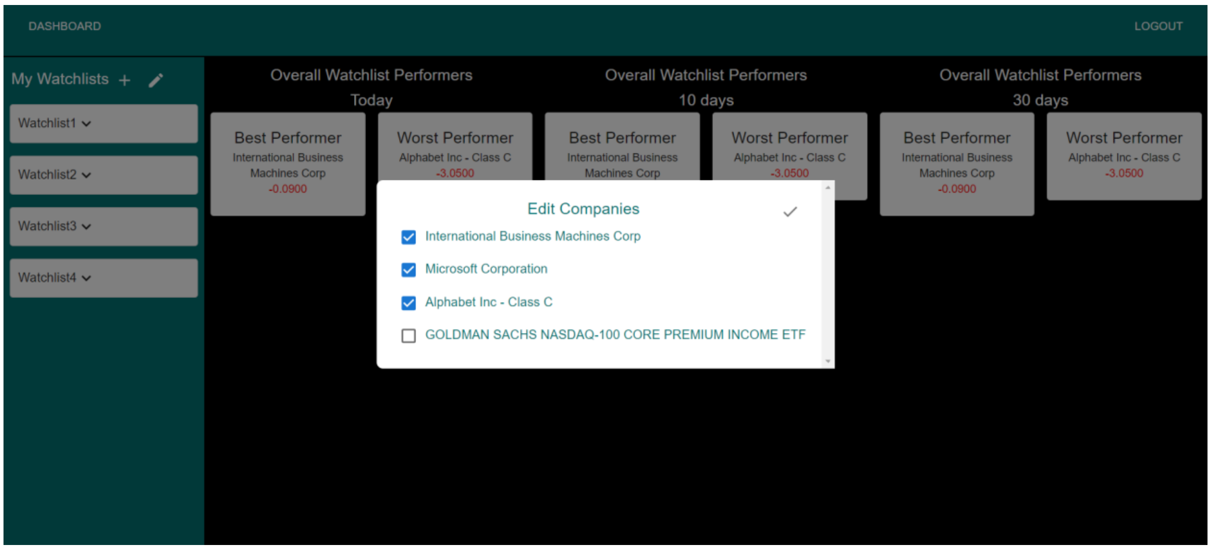
Today		10 days		30 days	
Best Performer	Worst Performer	Best Performer	Worst Performer	Best Performer	Worst Performer
International Business Machines Corp	Alphabet Inc - Class C	International Business Machines Corp	Alphabet Inc - Class C	International Business Machines Corp	International Business Machines Corp
-0.0900	-3.0500	-0.0900	-3.0500	-0.0900	-3.0500

	Today	
High: 167.86	Low: 166.48	Performance: -0.0900
	10 Days	
High: 167.86	Low: 166.48	Performance: -0.0900
	30 Days	
High: 167.86	Low: 166.48	Performance: -0.0900

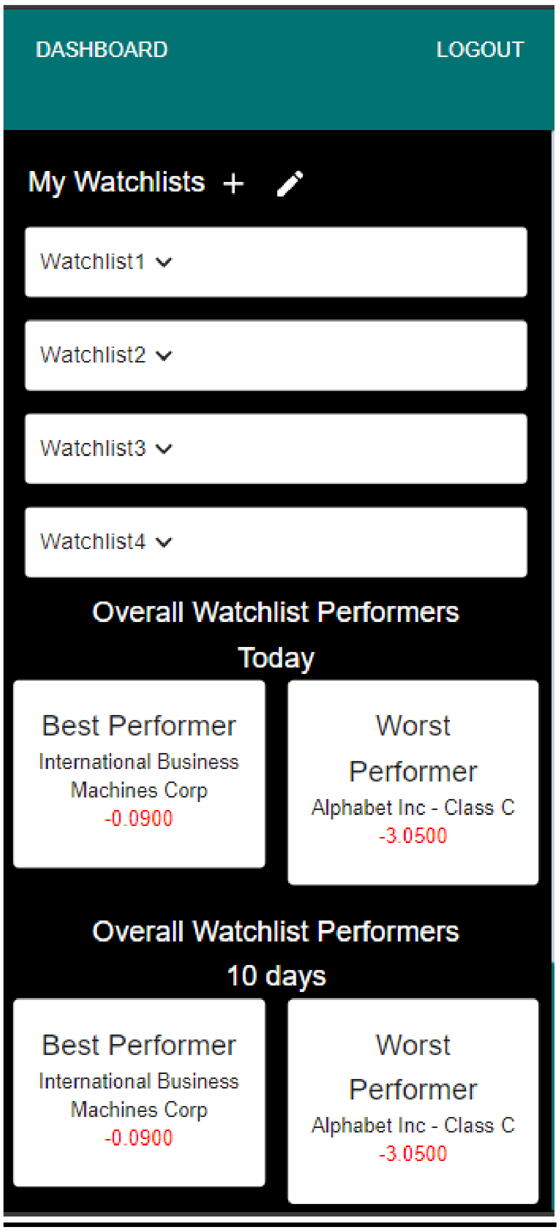
Add Watchlist



Edit Companies in Watchlist



Mobile View

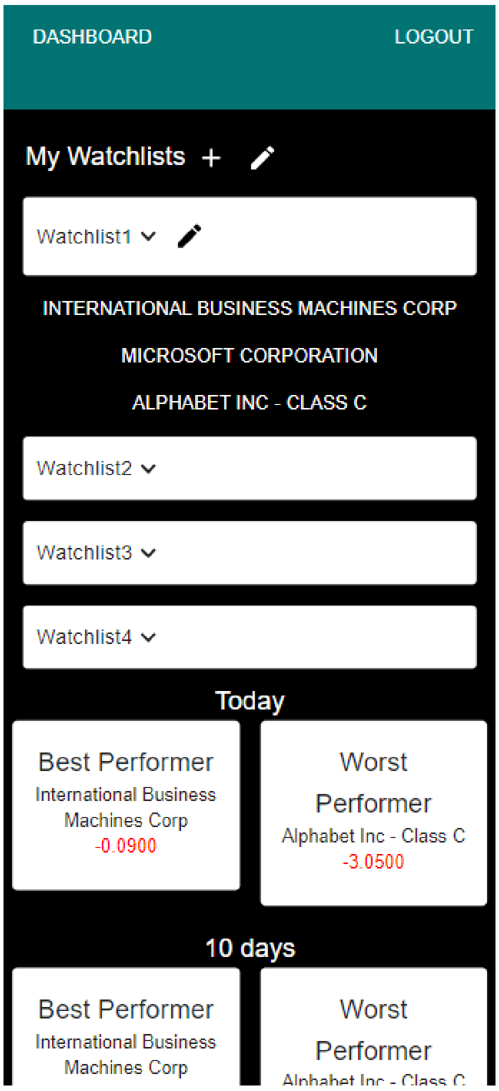


Overall Watchlist Performers Today

Best Performer	Worst Performer
International Business Machines Corp	Alphabet Inc - Class C
-0.0900	-3.0500

Overall Watchlist Performers 10 days

Best Performer	Worst Performer
International Business Machines Corp	Alphabet Inc - Class C
-0.0900	-3.0500


DASHBOARD LOGOUT

My Watchlists +

Watchlist1

INTERNATIONAL BUSINESS MACHINES CORP

MICROSOFT CORPORATION

ALPHABET INC - CLASS C

Watchlist2

Watchlist3

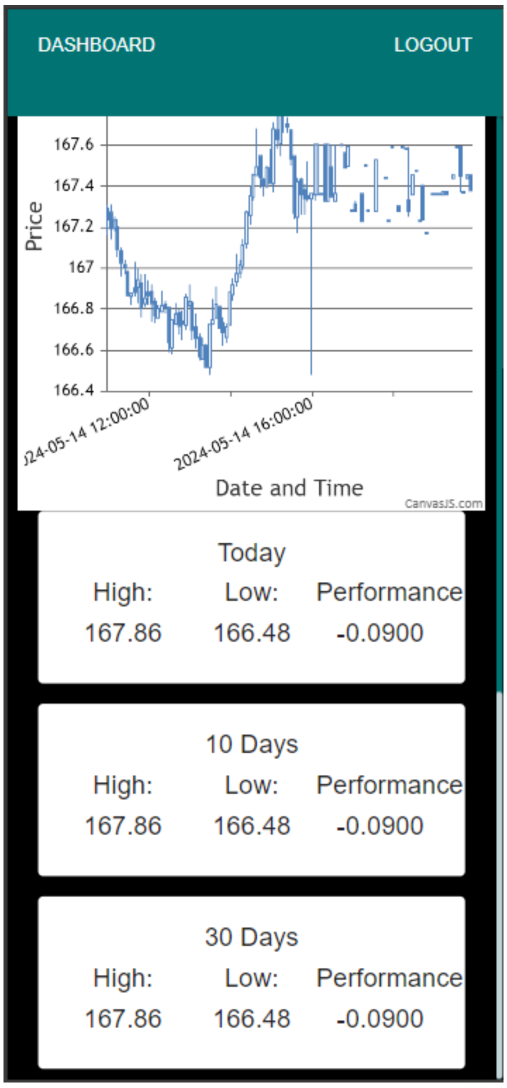
Watchlist4

Today

Best Performer	Worst Performer
International Business Machines Corp	Alphabet Inc - Class C
-0.0900	-3.0500

10 days

Best Performer	Worst Performer
International Business Machines Corp	Alphabet Inc - Class C



DASHBOARD LOGOUT

Today

High:	Low:	Performance
167.86	166.48	-0.0900

10 Days

High:	Low:	Performance
167.86	166.48	-0.0900

30 Days

High:	Low:	Performance
167.86	166.48	-0.0900