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### **Final Output**

> By the end of this course, you can see this Login form, Registration Form and Enrollment Forms with fully functional using Formik Library.







### **Introduction to Formik**

- ➤ Formik is a small group of React components and hooks for building forms in React and React Native. It helps with the three most annoying parts:
- 1) Getting values in and out of form state
- 2) Validation and error messages
- 3) Handling form submission
- > As Formik is using context api, it doesn't need any state management libraries like redux or flux.





#### **Formik Installation**

- > Create a new react application:
- > npx create-react-app formik-crash-course
- > Install formik:
- > npm i formik
- ➤ OR
- > yarn add formik
- import {useFormik} from 'formik';
- ➤ Reference: <a href="https://www.npmjs.com/package/formik">https://www.npmjs.com/package/formik</a>





#### Form State, Validation, Submission

- > useFormik a hook to use the formik library.
- > Form State:
- ➤ initialValues an object to define initial values of the form.
- > values values of the form for each input.
- > name a very important attribute to get and set the state values.
- > value state value
- > onChange input event for detecting input changes.





### Form State, Validation, Submission

- > Form Validation:
- validate a method which takes values as an argument to handle validation for each input field.
- > errors errors of the form for each input.
- > onBlur input event for detecting input touch
- > Form Submission:
- onSubmit a method which takes values as an argument to handle form submission





# Schema Validation with Yup

- > Install yup:
- > npm i yup
- > OR
- > yarn add yup
- > import \* as Yup from 'yup';
- > Reference: <a href="https://www.npmjs.com/package/yup">https://www.npmjs.com/package/yup</a>





## Schema Validation with Yup

- > validationSchema property used for form level validation schema using Yup.
- > Few import Yup validation methods:
- Yup.object({key:validation})
- Yup.string().required("Validation Message");
- Yup.string().email("Invalid email").required("Required");
- Yup.number().required().positive().integer();
- Yup.string().url()
- Yup.date().required().nullable()
- > Yup.number().min(18)
- Yup.array().required()
- Custom Validation: Yup.string().matches(RegularExpression,"Error Message");





### **Reducing Boilerplate**

getFieldProps() - it returns to you the exact group of onChange, onBlur, value, checked for a given field. You can then spread that on an input, select, or textarea.

getFieldProps() = onChange, onBlur and value.





#### **Formik Components**

- Formik has 4 main components.
- > Formik It is a replacement for useFormik() hook.
- Form it is a form to wrap the form elements. Simply form tag.
- Field input fields with name prop as mandatory. We can give custom inputs by using "as" prop or "component" prop. We can also do field level validation.
- ➤ ErrorMessage name prop is mandatory and render or component prop can be used to display the custom error message with style.





#### Formik Components Advanced

- > Render Props Pattern
- Nested Objects
- > Arrays
- > Advanced Formik Components:
- > FieldArray
- FastField
- Validation runs in 1.if any input changes, 2.when input touched, 3.on page load, 4.when form submitted. We can restrict it with validateOnChange and validateOnBlur props.
- Field level validation using **validate prop** in Field component.





# Formik Components Advanced

- > Manual Triggering Validation
- √ validateField(fieldName)
- √ validateForm()
- √ setFieldTouched(fieldName)
- ✓ setTouched({key:value})
- > Disabling submit button:
- ✓ Case-1: after clicking submit button if the form is invalid (!isValid)
- ✓ Case-2: On page load (validateOnMount)
- ✓ Case-3: On filling mandatory fields (!(dirty & isValid))
- ✓ Case-4: On pre populating default data
- ✓ Case-5: while form submission is in progress
- Load Saved Data and Reset Form





#### Summary

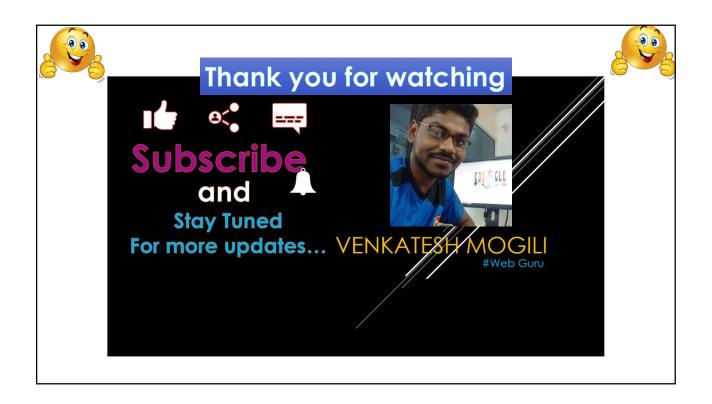
- ✓ We have seen how to save the form state, validation and form submission in traditional way and with formik components.
- ✓ We have learned Yup validation library.
- ✓ We have learned how to use formik core and advanced components like Formik, Form, Field, ErrorMessage, FieldArray and FastField.
- ✓ We have learned how to trigger the validation manually with different validation methods and we have seen all the cases where disable option will be used in the forms.
- ✓ Finally, we have learned how to load the saved data and how to reset the form.

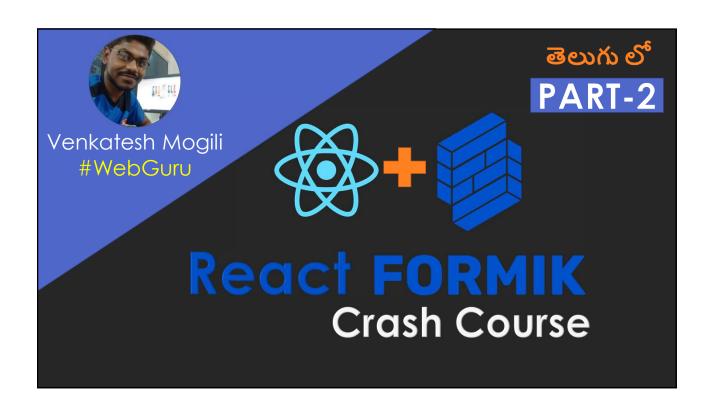












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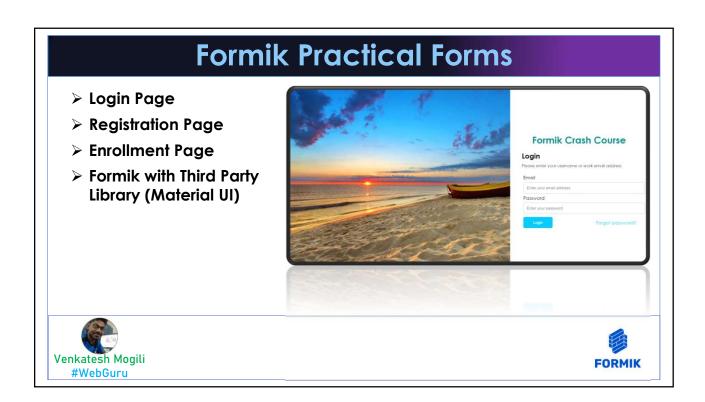


## Formik With Reusable Components

- > Formik Container and Formik Control
- > Reusable Formik Components:
- ✓ Input
- ✓ Textarea
- √ Select
- ✓ Radio
- √ Checkbox
- ✓ Date







## Formik with Third party libraries

- > We can bind formik with any third party libraries listed below.
- ✓ Ant Design
- √ Fabric
- √ Material UI
- ✓ Reactstrap
- ✓ Semantic UI 2.0
- √ Semantic UI





### Formik with Material UI

- > Install formik with material ui: (Including date pickers)
- npm i formik-material-ui @material-ui/core formik-material-ui-pickers @date-io/date-fns@1.x date-fns
- > Example:
- import {TextField} from 'formik-material-ui';
- > <Field component={TextField} name="email" label="Email"/>
- ➤ Reference: <a href="https://stackworx.github.io/formik-material-ui/">https://stackworx.github.io/formik-material-ui/</a>





#### Formik with Material UI

- > Date Pickers:
- > import { TimePicker, DatePicker, DateTimePicker } from 'formik-material-ui-pickers';
- import { MuiPickersUtilsProvider } from '@material-ui/pickers';
- import DateFnsUtils from '@date-io/date-fns';
- <MuiPickersUtilsProvider utils={DateFnsUtils}>
  - <Formik>
    - <Form>
    - <Field component={DatePicker} name="date" label="Date" />
    - </Form>
  - </Formik>
  - </MuiPickersUtilsProvider>





#### Summary

- ✓ We have learned how to create reusable components with Formik and how to use them for all kinds of form elements.
- ✓ We have designed practical forms like Login Form, Registration Form and Enrollment Form with all the validations.
- ✓ We have learned how to use UI Libraries with Formik like Material UI for stylish forms in less time.
- ✓ Finally, Formik will save a lot of time for designing forms in real world applications. It is easy to create, easy to change and easy manage.







