

## C MainWindow

```
□ Ui::MainWindow *ui;  
□ int qualityFactor;  
□ int blockSize;  
□ QBuffer *buffer;  
□ QImage *image;  
□ QImage *imageCompressed;  
□ BlockManager *blockManager;  
□ double scaleFactor;  
□ long int horizontalScrollValue;  
□ long int verticalScrollValue;  
□ QSize *currentPixmapSize;
```

```
● MainWindow(QWidget *parent = nullptr);  
● ~MainWindow();
```

```
■ void on_loadButton_clicked();  
■ void on_sliderQuality_valueChanged(int value);  
■ void onCompressionFinished();  
■ void on_blockSize_editingFinished();  
■ void on_zoomIn_clicked();  
■ void on_zoomOut_clicked();  
■ void on_horizontalScrollBar_valueChanged(int value);  
■ void on_verticalScrollBar_valueChanged(int value);  
■ void resizeEvent(QResizeEvent *event);  
■ void startCompression();  
■ void updateMaximalValues();  
■ void updateImageSize(double scaleFactor);  
■ void updateScrollBar();
```

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## C BlockManager

```
○ int rows;  
○ int columns;  
○ int imgWidth;  
○ int imgHeight;
```

```
□ int threadsCount;  
□ int cutDimension;  
□ double *values;  
□ int blockSize;  
□ std::thread** workers;  
□ fftw_plan dctPlan;  
□ fftw_plan idctPlan;  
□ fftw_plan dctPlanLastRow;  
□ fftw_plan idctPlanLastRow;  
□ fftw_plan dctPlanLastColumn;  
□ fftw_plan idctPlanLastColumn;  
□ fftw_plan dctPlanLastElement;  
□ fftw_plan idctPlanLastElement;
```

```
● void updateImage(const QImage &image);  
● BlockManager(const QImage *image, int blockSize, int cutDimension);  
● ~BlockManager();  
● double* getBlock(int row, int column);  
● void setCutDimension(int dimension);  
● QImage* compress();
```

```
■ int getBlockWidth(int i, int j) const;  
■ int getBlockHeight(int i, int j) const;  
■ fftw_plan selectDctPlan(int i, int j);  
■ fftw_plan selectIdctPlan(int i, int j);  
■ void cutValues(int row, int column);  
■ void parallelTask(const std::function<void(int, int)> &function, bool wait = true);
```