Workflow Elements

This section contains detailed description of all workflow elements presented in the Workflow Designer.

For each element you can find:

- Description of the parameters used in the GUI
- Corresponding parameters names used in a workflow file
- Information about input and output ports

The type of a parameter can be one of the following:

string

A string.

numeric

A number.

boolean

A boolean data type. Available values are: true / false, 0 / 1 and yes / no.

A port's slot type can be one of the following:

sequence

Biological sequence

msa

Multiple sequence alignment

text

A text

annotation-table

Table of annotations

annotation-table-list

A list of different tables of annotations

ebwt-index

Bowtie index

hmm2-profile

A HMM profile of HMMER2 package

fmatrix

Frequency matrix

wmatrix

Weight matrix

sitecon-model

SITECON model

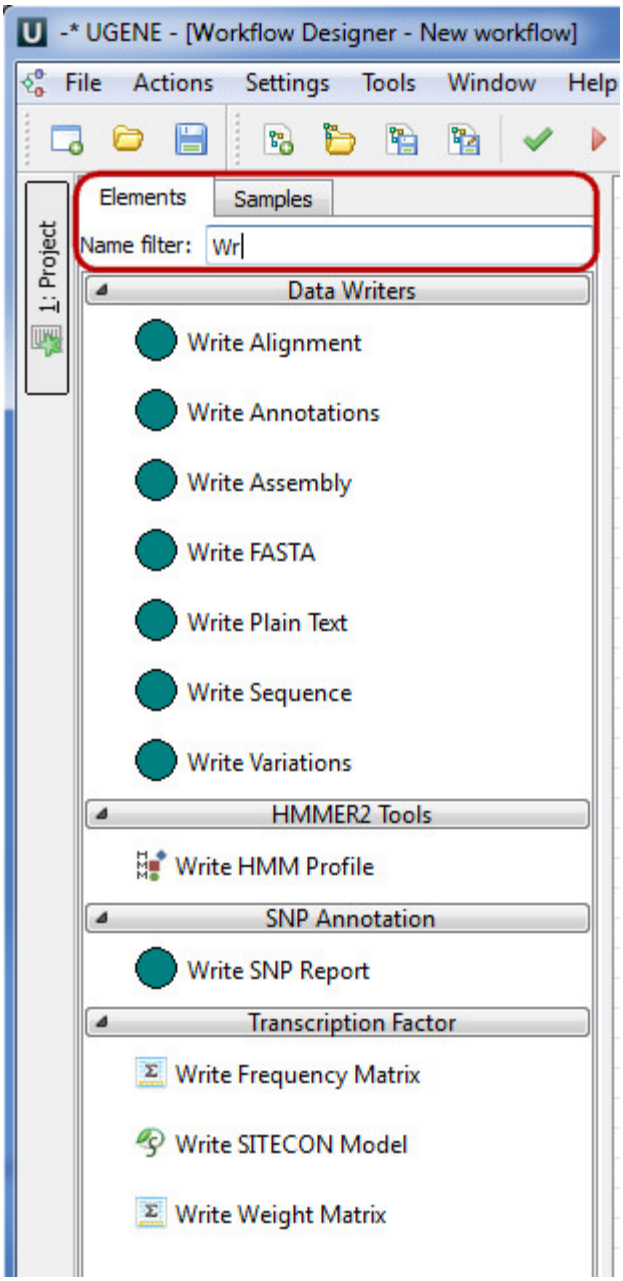
assembly

Assembly

variation

Variation track

To search an element use the name filter or press the *Ctrl+F* shortcut that moves you to the name filter also:


-* UGENE - [Workflow Designer - New workflow]
File
Actions
Settings
Tools
Window
Help
1: Project
Elements
Samples
Name filter:
Wr
Data Writers
Write Alignment
Write Annotations
Write Assembly
Write FASTA
Write Plain Text
Write Sequence
Write Variations
HMMER2 Tools
Write HMM Profile
SNP Annotation
Write SNP Report
Transcription Factor
Write Frequency Matrix
Write SITECON Model
Write Weight Matrix

- Data Readers
  - File List Element
  - Read Alignment Element
  - Read Annotations Element
  - Read Assembly Element
  - Read from DAS Element
  - Read from Remote Database Element
  - Read Plain Text Element
  - Read Sequence Element
  - Read Variations Element
- Data Writers
  - Write Alignment Element
  - Write Annotations Element
  - Write Assembly Element
  - Write FASTA Element
  - Write Plain Text Element
  - Write Sequence Element
  - Write Variations Element
- Data Flow
  - Filter Element
  - Grouper Element
  - Multiplexer Element
  - Sequence Marker Element
- Basic Analysis
  - Amino Translations Element
  - Annotate with DAS Element
  - Annotate with UQL Element
  - CD-Search Element
  - Collocation Search Element
  - Export PHRED Qualities Element
  - Fetch Sequences by ID From Annotation Element
  - Filter Annotation by Name Element
  - Filter Annotations by Qualifier
  - Find Correct Primer Pairs Element
  - Find Pattern Element
  - Find Repeats Element
  - Gene-by-gene approach report
  - Get Sequences by Annotations Element
  - Group Primer Pairs Element
  - Import PHRED Qualities Element
  - Intersect Annotations Element
  - Local BLAST Search Element
  - Local BLAST+ Search Element
  - Merge Annotations Element
  - ORF Marker Element
  - Remote BLAST Element
  - Smith-Waterman Search Element
- Data Converters
  - Convert bedGraph Files to bigWig Element
  - Convert Text to Sequence Element
  - File Format Conversion Element
  - Reverse Complement Element
  - Split Assembly into Sequences Element
- DNA Assembly
  - Assembly Sequences with CAP3
- HMMER2 Tools
  - HMM Build Element
  - HMM Search Element
  - Read HMM Profile Element
  - Write HMM Profile Element
- HMMER3 Tools
  - HMM3 Build Element
  - HMM3 Search Element
  - Read HMM3 Profile
  - Write HMM3 Profile
- Includes
  - Script-Get the First Half of Sequence Element
  - Script-Get the Second Half of Sequence Element
- Multiple Sequence Alignment
  - Align Profile to Profile with MUSCLE Element
  - Align to Reference Element
  - Align with ClustalO Element
  - Align with ClustalW Element
  - Align with Kalign Element
  - Align with MAFFT Element
  - Align with MUSCLE Element
  - Align with T-Coffee Element
  - Extract Consensus from Alignment as Sequence

- Extract Consensus from Alignment as Text
- In Silico PCR Element
- Join Sequences into Alignment Element
- Split Alignment into Sequences Element

- NGS: Align Short Reads
  - Align Reads with Bowtie Element
  - Align Reads with Bowtie2 Element
  - Align Reads with BWA Element
  - Align Reads with BWA-MEM Element
  - Align Reads with UGENE Genime Aligner Element
- NGS Basic
  - Assemble Genomes with SPAdes Element
  - CASAVA FASTQ Filter Element
  - Cut Adapter Element
  - Extract Consensus from Assembly Element
  - Extract Coverage from Assembly Element
  - FASTQ Merger Element
  - FASTQ Quality Trimmer Element
  - FastQC Quality Control Element
  - Filter BAM/SAM Files Element
  - Genome Coverage Element
  - Merge BAM Files Element
  - Remove Duplicates in BAM Files Element
  - Slopbed Element
  - Sort BAM Files Element
- NGS: ChiP-Seq Analysis
  - Annotate Peaks with peak2gene Element
  - Build Conservation Plot Element
  - Collect Motifs with SeqPos Element
  - Conduct GO Element
  - Create CEAS Report Element
  - Find Peaks with MACS Element
- NGS: RNA-Seq Analysis
  - Assembly Transcripts with Cufflinks Element
  - Extract Transcript Sequences with gffread Element
  - Find Splice Junction with TopHat Element
  - Merge Assemblies with Cuffmerge Element
  - Test for Diff. Expression with Cuffdiff Element
- NGS: Variant Analysis
  - Call Variants with SAMtools Element
  - Change Chromosome Notation for VCF Element
  - Create VCF consensus
  - SnpEff Annotation and Filtration Element
- SNP Annotation
  - Annotate variations with SNPToolbox Element
  - Detect Transcription Factors with rSNP-Tools Element
  - Determine SNP effect on TATA-boxes Element
  - ProtStability1D Element
  - ProtStability3D Element
  - SNP Chip Tools Element
  - SNP Effect on PDB sites Element
  - Write SNP Report Element
- Transcription Factor
  - Build Frequency Matrix Element
  - Build SITECON Model Element
  - Build Weight Matrix Element
  - Convert Frequency Matrix Element
  - Read Frequency Matrix Element
  - Read SITECON Model Element
  - Read Weight Matrix Element
  - Search for TFBS with SITECON Element
  - Search for TFBS with Weight Matrix Element
  - Write Frequency Matrix Element
  - Write SITECON Model Element
  - Write Weight Matrix Element
- Utils
  - DNA Statistics Element
  - Generate DNA Element
- Custom Elements With Script
  - CASAVA FASTQ Filter Script Element
  - Dump Sequence Info Element
  - FASTQ Trimmer Element
  - Get the First Half of Sequence Element
  - Get the Second Half of Sequence Element
  - LinkData Fetch Element
  - Quality Filter Element
  - Read One Sequence Element